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## A STUDY ON MOTOR FITNESS AND SOCIO-ECONOMIC STATUS BETWEEN RURAL AND URBAN SCHOOL BOYS OF THE UNION TERRITORY OF PONDICHERRY

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**Abstract:-** The present study was undertaken to investigate the impact of motor fitness and socio-economic status between rural and urban school boys of the Union Territory of Pondicherry. The present study will enable us to estimate the motor fitness variables such as abdominal strength and endurance, arm strength, explosive power of leg extensors and speed. The study was delimited to the school boys studying from seventh standard to ninth standard based on their school records i.e. from 12 to 14 years. The study was confined to only 400 boys from rural schools and 400 boys from urban schools of middle, high and higher schools, selected at random in various areas in Puducherry, Karaikal, Mahe and Yanam. To achieve this purpose the scores for each test item and socio-economic status (SES) were analysed. Analysis of variance (ANOVA) was applied in order to find out significance of differences among all regions on different items for the above said variables. The 'F' ratio was employed to find out significance of differences among the regions. The calculated 'F' ratio was tested for significance at 0.05 level of confidence. Scheff's post-hoc test was applied to study the significance of differences between the paired means. 't' ratio was employed separately for each motor fitness variable and socio-economic status between rural and urban school boys of Union Territory of Pondicherry. The calculated 't' ratio was tested for significance at 0.05 level of confidence. This study showed that the overall motor fitness was better in urban school boys than the rural school boys of the Union Territory of Pondicherry. This may be due to better health nutrition, balanced diet, availability of sports facility and an opportunity to participate in sports and games competitions.

**Keywords:** Motor Fitness, Socio-Economic, Union Territory.

### INTRODUCTION

To be physically fit, for a human body, certain basis standards should be maintained. Motor fitness and motor ability are essential top human development. When motor behavior in team and individual sport is highly coordinate, the team 'athletic ability' can be applied. The motor ability has a great effect on athletic performance. There is a positive inter relationship between traits of personal and social adjustment and level of motor correlated. The speed of performance is a rather stable motor element. Motor skill learning will be effective in well developed motor ability. Motor fitness is one of the major components of physical fitness. The present study will enable us to estimate the socio-economic status and the motor fitness variables such as explosive power of leg extensors, arm and shoulder girdle co-ordination, flexibility and balance. Health related motor fitness was assessed in all subjects of both rural and urban boys of the Union Territory of Pondicherry, for which Puducherry town is the headquarters. It is formed as an administrative unit with the other former French enclaves in India; Karaikal within Tamilnadu, Mahe within Kerala and Yanam within Andhrapradesh.

MATERIALS AND METHODS

Selection of subjects

To achieve the purpose of this study, 400 students were randomly selected from rural school and 400 students from urban school in Pondicherry. The subjects' age ranged between 12 to 14 years as per the school records.

ANALYSIS OF DATA AND RESULTS OF THE STUDY

The purpose of the study was to statistically determine the impact of motor fitness and socio-economic status between rural and urban school boys of the Union Territory of Pondicherry. ANOVA was applied in order to find out significance of differences among all regions on different items for the above said variables. The obtained "F" ratio was found significance of difference among the regions. Scheffe's post-hoc test was applied to study the significance of differences between the paired means. 't' ratio was employed separately for each motor fitness variables and socio-economic status between rural and urban school boys of Union Territory of Pondicherry. The tables I, III, V and VII show that the mean values of all regions of Pondicherry's school boys on abdominal muscular strength and endurance, arm strength, explosive power of leg extensors and speed are significant. The obtained "F" ratio values are 43.258, 16.16, 90.90, 22.98 which is greater than the required table value 2.60 for significance with df 3 and 76 at 0.05 level. Scheffe's post-hoc test was applied to study the significant difference between the paired means of various region's on bent knee sit-ups, push-ups, standing broad jump and speed have been demonstrated. The tables II, IV, VI and VIII show that the mean difference between each region are found to be higher than the confidence interval significance at 0.05 level and this study indicates that Puducherry region school boys are better than the other three regions.

Analysis of variance of the mean differences of subjects belonging to different regions of the Union Territory of Pondicherry

Table-I  
Bent knee sit-ups (Abdominal strength and endurance)

	Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	S O V	sum of squares	df	Mean square	'F' ratio
Mean	30.30	28.89	27.24	26.10	B	2045.49	3	681.83	43.258*
S.D	2.90	5.10	4.03	3.51	W	12546.47	796	15.76	
						14591.96	799		

\*Significant at 0.05 as well as 0.01

(The table value required for significant at 0.05 level of confidence with df 3 and 796 is 2.60)

Scheffe's test for differences between the paired mean among Puducherry, Karaikal, Mahe and Yanam regions of school boys

Table-II  
Bent knee sit-ups (Abdominal strength and endurance)

Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	Mean Difference	Confidence interval
30.30	28.89			1.41*	1.11
30.30		27.24		3.06*	1.11
30.30			26.10	4.2*	1.11
	28.89	27.24		1.65*	1.11
	28.89		26.10	2.79*	1.11
		27.24	26.10	1.14*	1.11

\*Significant at 0.05 level

**Table-III**  
**Push-ups (Arm strength)**

	Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	SOV	sum of squares	df	Mean square	‘F’ ratio
Mean	28.68	27.37	26.62	25.67	B	971.01	3	323.67	16.16*
S.D	4.91	2.30	4.68	4.04	W	13449.55	796	16.89	
						14420.56	799		

\*Significant at 0.05 as well as 0.01

**Table-IV**  
**Scheffe’s test for Push-ups (Arm strength)**

Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	Mean Difference	Confidence interval
28.68	27.37			1.31*	1.15
28.68		26.62		2.06*	1.15
28.68			25.67	3.01*	1.15
	27.37	26.62		0.75	1.15
	27.37		25.67	1.7*	1.15
		26.62	25.67	0.95	1.15

\*Significant at 0.05 level  
N.S= Not Significant

**Table-V**  
**Standing Broad Jump (Explosive Power)**

	Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	S O V	sum of squares	df	Mean square	‘F’ ratio
Mean	1.79	1.68	1.60	1.50	B	9.43	3	3.14	90.90*
S.D	0.18	0.20	0.18	0.18	W	27.52	796	0.04	
						36.95	799		

\*Significant at 0.05 as well as 0.01

**Table-VI**  
**Scheffe’s test for Standing Broad Jump (Explosive Power)**

Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	Mean Difference	Confidence interval
1.79	1.68			0.11*	0.052
1.79		1.60		0.19*	0.052
1.79			1.50	0.29*	0.052
	1.68	1.60		0.08*	0.052
	1.68		1.50	0.18*	0.052
		1.60	1.50	0.10*	0.052

\*Significant at 0.05 level

**Table-VII**  
**50 Yard Run (Speed)**

	Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	S O V	sum of squares	df	Mean square	'F' ratio
Mean	7.97	8.05	8.19	8.34	B	15.81	3	5.27	22.98*
S.D	0.40	0.43	0.51	0.56	W	182.54	796	0.23	
						198.35	799		

\*Significant at 0.05 as well as 0.01

**Table-VIII**  
**Scheffe's test for 50 Yard Run (Speed)**

Yanam Region	Mahe Region	Karaikal Region	Puducherry Region	Mean Difference	Confidence interval
8.34	8.19			0.15*	0.134
8.34		8.05		0.29*	0.134
8.34			7.97	0.37*	0.134
	8.19	8.05		0.14*	0.134
	8.19		7.97	0.22*	0.134
		8.05	7.97	0.08*s	0.134

\*Significant at 0.05 level  
N.S= Not Significant

The table IX shows that the 't' ratio value employed separately calculated value is, 3.104 for abdominal strength and endurance, 6.208 for arm strength, 9.610 for explosive power of leg extensors and 33.087 for speed, which is higher than the tabulated value at 0.05 level of confidence at 798 degrees of freedom is 1.96 and the mean difference of abdominal strength and endurance are 0.86, arm strength are 1.84, explosive power of leg extensors are 0.10 and speed are 0.64, which are found to be a significant difference and the mean value is also greater for urban school boys as compared to rural school boys

**Table-IX**  
**Comparison of Rural and Urban School Boys of Union Territory of Pondicherry on bent knee sit-ups, push-ups standing broad jump and speed**

Groups	Mean	Standard deviation	Standard error mean	Mean difference	df	“t” ratio
Sit-ups						
Urban	28.56	5.41	0.271	0.86	399	3.104*
Rural	27.07	2.63	0.131			
Push-Ups						
Urban	28.00	5.35	0.27	1.84	399	6.208*
Rural	26.16	2.41	0.12			
Standing Broad Jump						
Urban	1.69	0.211	0.011	0.10	399	9.610*
Rural	1.60	0.208	0.01			
50 Yard Dash						
Urban	7.82	0.42	0.02	0.64	399	33.087*
Rural	8.46	0.34	0.02			

**CONCLUSION**

This study showed that Puducherry region school boys were better in socio-economic status and motor fitness variables than the other three regions namely Karaikal, Mahe and Yanam. Karaikal region school boys were

better in motor fitness variables than the other two regions namely Mahe and Yanam. Mahe region school boys were better in their socio-economic status than the other two regions namely Karaikal and Yanam. This study showed that the overall motor fitness and socio-economic status was better in urban school boys than the rural school boys of the union Territory of Pondicherry. It was also observed from the analysis of the variances that the socio-economic status had its impact on the motor fitness performances. This may be due to better healthy nutrition, balanced diet, availability of sports facilities and an opportunity to participate in sports and games.

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