

International Journal of Physiology, Nutrition and Physical Education



ISSN: 2456-0057
IJPNPE 2019; 4(1): 876-879
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www.journalofsports.com
Received: 21-11-2018
Accepted: 22-12-2018

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A study on physical characteristics of university male physical education student

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Abstract

An urban area is the region surrounding a city. Most inhabitants of urban areas have non-agricultural jobs. Urban areas are very developed, meaning there is a density of human structures such as houses, commercial buildings, roads, bridges, and railways. Rural areas are the opposite of urban areas. Rural areas, often called "the country," have low population density and large amounts of undeveloped land. Usually, the difference between arural area and an urban area is clear. But in developed countries with large populations, such as Japan, the difference is becoming less clear. In the United States, settlements with 2,500 inhabitants or more are defined as urban.

Purpose of The Study: 1. To find out whether any difference of physical fitness between rural physical education and urban physical education students at university level. 2. To analysis the status of skinfold measurement between rural physical education and urban physical education students at university level.

Materials and Methods: The total 40 male physical education students (20 students from rural and 20 from urban area.) were selected from University of Kalyani, West Bengal, India. There were range from 20 to 25 years who are actively involved in daily practice for their respective physical education course curriculum. Mean, SD and "t"-test for observing the differences of mean between the selected groups. The level of significance was at 0.05 level of confidence.

Result and Discussion: The calculated t-value for urban physical education students and rural physical education students were Biceps- 0.01, Triceps-1.41, Sub-scapula- 1.06, Supra-iliac- 0.51, Mid-thigh-1.68, Medial calf- 0.54, Abdomen- 0.54 which are less than the tabulated t-value ($t_{0.0538}=2.02$). Therefore, the difference in height between two groups was statistically not-significant. The calculated t-value for rural physical education and urban physical education students were Shuttle run 0.07, Sit up 0.70, Pullup 0.72, 50 yard dash 1.06, VO_2 Max 0.95 and Standing broad jump (SBJ) 1.35, which are less than the tabulated t-value ($t_{0.0538}=2.02$). Therefore, the difference in physical fitness measurements between two groups was statistically not-significant.

Conclusions: There were no significant difference found in any skinfold measures between rural physical education and urban physical education male students. There were no significant difference found in any physical fitness measures between rural and urban physical education male students.

Keywords: Physical fitness, skinfold, rural, urban

Introduction

We are born in any environment, it may be rural and urban. Generally, in rural and urban environment have various discrimination. Even human physical characteristics depends on environment. Better environment helps to develop the human physical characteristics and also it is closely related to the physical fitness. An urban area is the region surrounding a city. Most inhabitants of urban areas have non-agricultural jobs. Urban areas are very developed, meaning there is a density of human structures such as houses, commercial buildings, roads, bridges, and railways. Rural areas are the opposite of urban areas. Rural areas, often called "the country," have low population density and large amounts of undeveloped land. Usually, the difference between arural area and an urban area is clear. But in developed countries with large populations, such as Japan, the difference is becoming less clear. In the United States, settlements with 2,500 inhabitants or more are defined as urban. In Japan, which is far more densely populated than the U.S., only settlements with 30,000 people or more are considered urban. Anthropometry refers to the measurement of the human individual. Anthropometry involves the systematic measurement of the physical properties of the human body, primarily dimensional descriptors of body size and shape.

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Anthropometric measurements are useful in many fields. For example, athletes understand that body size and composition are important factors in sports performance. For example, a petite man with a low percentage of body fat will be more successful as a jockey in the Kentucky Derby than he would be as a defensive lineman in the National Football League. Sports coaches can also use these measurements to monitor an athlete's body to ensure they stay in peak physical shape. The analysis of physical fitness population has shown in the last decades a greater interest, because the recognition of the associations that can be established with habitual physical activity, health and well-being. Therefore, it seems essential for students to evaluate physical fitness in any physical activity program or Physical Education (PE) classes, establishing their baseline in order to achieve the healthy zone and supervise its progress. Physical fitness is a set of attributes that people have or achieve. Oxygen Uptake/Maximum Oxygen Consumption/VO₂ max. VO₂ max reflects physical fitness of an athletic individual. It is the best indicator of cardio-respiratory endurance and aerobic fitness. VO₂ max determine performance of an individual on the field of different sports.

Statement of the Problem

The present study has been entitled as "A Study on Physical characteristics of University Male Physical Education Student from Rural and Urban Areas.

Purpose of the study

- To find out whether any difference of physical fitness between rural physical education and urban physical education students at university level.
- To analysis the status of skinfold measurement between rural physical education and urban physical education students at university level.

Significance of the Study

- The result should be helpful for providing information about selected physical fitness variables of male students between rural and urban population and as well as physical education students.
- The study enlightens the physical fitness and anthropometric characteristics (skinfold) of university level male physical education students.

Table 2: Statistical presentation of the data of two groups on Skinfold (mm).

Group and Comparison	Physical Education Student		t-value
	Mean ± SD		
Biceps	Rural	8.08 ± 3.86	0.01NS
	Urban	8.09 ± 2.94	
Triceps	Rural	15.45 ± 7.15	1.41NS
	Urban	12.83 ± 4.26	
Sub-scapula	Rural	18.10 ± 7.56	1.06NS
	Urban	15.85 ± 5.72	
Supra-iliac	Rural	13.95 ± 5.52	0.51NS
	Urban	14.83 ± 5.43	
Mid-thigh	Rural	21.75 ± 9.35	1.68NS
	Urban	17.40 ± 6.86	
Medial calf	Rural	10.10 ± 3.85	0.54NS
	Urban	9.46 ± 3.77	
Abdomen	Rural	15.10 ± 6.06	0.54NS
	Urban	14.13 ± 5.32	

* Significant at 0.05 level ($t = 0.0538 = 2.02$), NS not-significant at 0.05 level ($t = 0.0538 = 2.02$)

Materials and Methods

The following methodology were taken in this study-

The Subject

The total 40 male physical education students (20 students from rural and 20 from urban area.) were selected from University of Kalyani, West Bengal, India. There were range from 20 to 25 years who are actively involved in daily practice for their respective physical education course curriculum.

Criterion measures to conduct the present study the following measurements were taken-

Anthropometric Variables (Skinfold)		Physical Fitness Variables
Biceps		Pull-up
Triceps		Sit-up
Sub-scapular		Shuttle Run
Suprailiac		Standing Broad Jump
Mid-thigh		50- yards dash
Mid-calf		Queen's College Step Test
Abdomen		

For the purpose of data analyses, the employed statistical procedures were

Mean, SD and "t"-test for observing the differences of mean between the selected groups. The level of significance was at 0.05 level of confidence.

Result and Discussion

Personal Data

Table 1: Mean and Standard Deviation (SD) of personal data (age, height and weight).

Groups	Age (Year)		Standing Height(cm)		Body Weight (kg)	
	Mean	SD	Mean	SD	Mean	SD
RMPE	23.75	±1.12	168.05	±6.05	60.74	±7.56
UMPE	24.35	±1.66	167.78	±3.71	58.51	±5.23

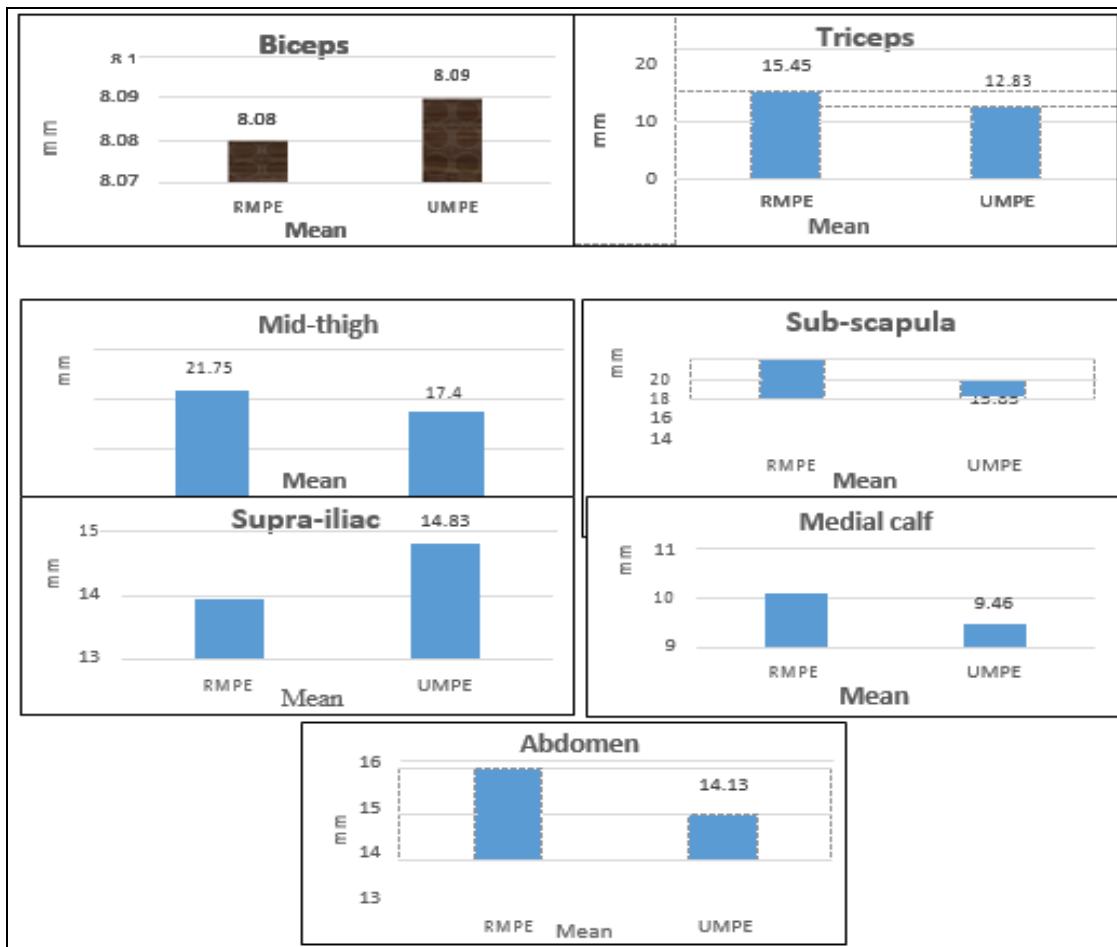
RMPE = Rural Male Physical Education; UMPE = Urban Male Physical Education.

Table 1 reveals the mean and standard deviation of personal data (age in years, height in cm and weight in kg) of the selected groups.

Skinfold

Table 2 represents the skinfold measurements of the Physical Education Students was Biceps 8.08 ± 3.86 mm, Triceps 15.45 ± 7.15 mm, Sub-scapula 18.10 ± 7.56 mm, Supra-iliac 13.95 ± 5.52 mm, Mid-thigh 21.75 ± 9.35 mm, Medial calf 10.10 ± 3.85 mm and Abdomen 15.10 ± 6.06 mm. (mean \pm SD) for rural area and Biceps 8.09 ± 2.94 mm, Triceps 12.83 ± 4.26 mm, Sub-scapula 15.85 ± 5.72 mm, Supra-iliac 14.83 ± 5.43 mm, Mid-thigh 17.40 ± 6.86 mm, Medial calf 9.46 ± 3.43 mm, Mid-thigh 21.75 ± 9.35 mm, Medial calf 10.10 ± 3.85 mm and Abdomen 15.10 ± 6.06 mm. (mean \pm SD)

3.77 mm and Abdomen 14.13 ± 5.32 mm. (mean \pm SD) for urban area. Table also shows the calculated t-value for urban physical education students and rural physical education students were Biceps- 0.01, Triceps-1.41, Sub-scapula- 1.06, Supra-iliac- 0.51, Mid-thigh- 1.68, Medial calf- 0.54, Abdomen- 0.54, which are less than the tabulated t-value ($t_0.0538=2.02$). Therefore, the difference in height between two groups was statistically not- significant.



(RMPE= Rural Male Physical Education, UMPE= Urban Male Physical Education)

Plate 1: Graphical representation of skinfold measurement of male physical education students for rural and urban category.

Physical Fitness

Physical Fitness of physical education students for rural and urban category is presented in bellow

Group and Comparison	Physical Education Student		t-value
	Mean \pm SD		
Shuttle Run (Agility)	R	10.39 ± 0.47	0.07 NS
	U	10.38 ± 0.50	
Sit Up (Abdominal muscular endurance)	R	41.40 ± 7.49	0.70 NS
	U	43.15 ± 8.29	
Pull Up (muscular strength & endurance)	R	10.20 ± 4.91	0.72 NS
	U	11.20 ± 3.76	
50 yards dash (speed)	R	7.19 ± 0.51	1.06 NS
	U	7.04 ± 0.36	
VO ² Max	R	56.31 ± 5.89	0.95 NS
	U	54.25 ± 7.72	
SBJ (Explosive strength)	R	2.35 ± 0.16	0.95 NS
	U	2.42 ± 0.15	

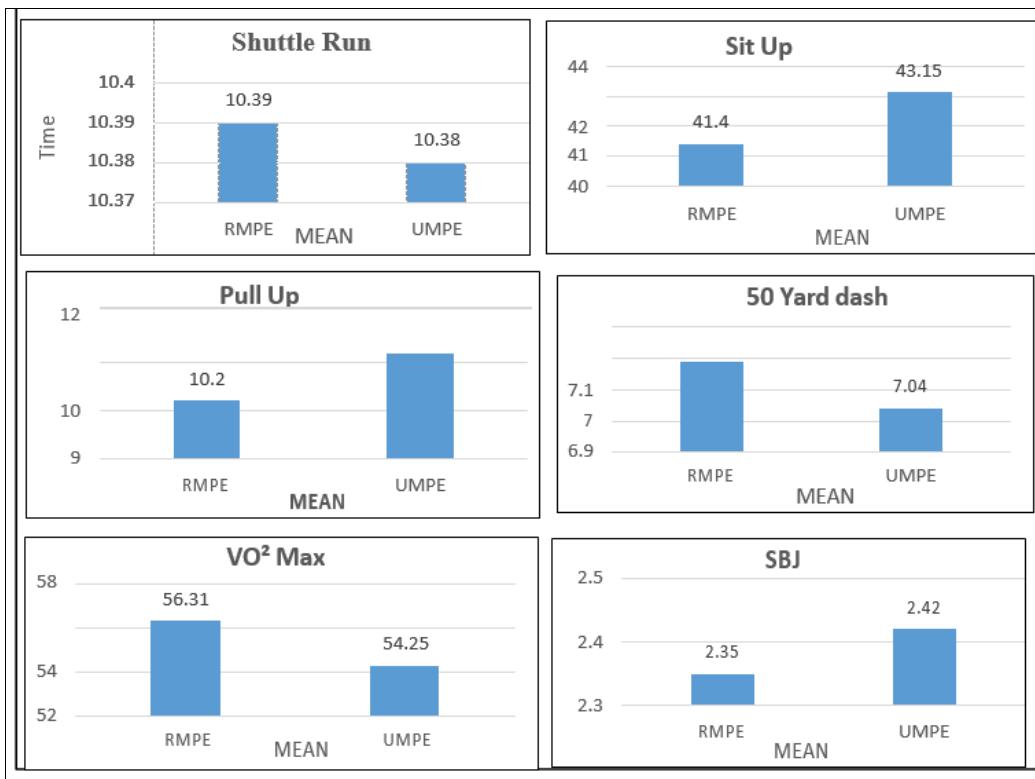
*Significant at 0.05 level ($t 0.0538 = 2.02$), NS not-significant at 0.05 level ($t 0.0538 = 2.02$)

The physical fitness of the Physical Education students was Shuttle run 10.39 ± 0.47 , Sit up 41.40 ± 7.49 , Pull up 10.20 ± 4.91 , 50 yard dash 7.19 ± 0.51 , VO² Max 56.31 ± 5.89 and

Standing broad jump (SBJ) 2.35 ± 0.16 (mean \pm SD) for rural area and Shuttle run 10.38 ± 0.50 , Sit up 43.15 ± 8.29 , Pullup 11.20 ± 3.76 , 50yard dash 7.04 ± 0.36 , VO² Max 54.25

± 7.72 and Standing broad jump (SBJ) 2.42 ± 0.15 (mean \pm SD) for urban area. The calculated t-value for rural physical education and urban physical education students were Shuttle run 0.07, Situp 0.70, Pull up 0.72, 50yard dash 1.06,

$VO_2\text{Max}$ 0.95 and Standing broad jump (SBJ) 1.35, which are less than the tabulated t-value ($t_{0.0538}=2.02$). Therefore, the difference in physical fitness measurements between two groups was statistically not-significant.



(RMPE= Rural Male Physical Education, UMPE= Urban Male Physical Education)

Plate 2: Graphical representation of physical fitness measurement of male physical education students for rural and urban category.

Conclusions

In the end of the study it is observed that the study has yielded certain results obtain through standard statistical procedure. The conclusion of the study are following in below:

- There were no significant difference found in any skinfold measures between rural physical education and urban physical education male students.
- There were no significant difference found in any physical fitness measures between rural and urban physical education male students.

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