



ISSN Print: 2664-7249
ISSN Online: 2664-7257
IJPEPE 2024; 6(1): 76-78
www.physicaleducationjournals.com
Received: 02-11-2023
Accepted: 05-12-2023

Okram David Singh
Research Scholar, Department
of Physical Education, Panjab
University, Chandigarh, India

Thingnam Nandalal Singh
Department of Physical
Education, Panjab University,
Chandigarh, India

Rastam Thingnam
Pediatric Ophthalmologist
Research Scholar, Department
of Physical Education, Panjab
University, Chandigarh, India

Corresponding Author:
Okram David Singh
Research Scholar, Department
of Physical Education, Panjab
University, Chandigarh, India

A comparative study of flexibility and body composition between residential and non-residential school students of Manipur

Okram David Singh, Thingnam Nandalal Singh and Rastam Thingnam

DOI: <https://doi.org/10.33545/26647249.2024.v6.i1b.94>

Abstract

The purpose of the present study was to compare the flexibility and body composition between residential and non-residential school students. To achieve the objective of the study, one thousand two hundred (n=1200) i.e. six hundred (n=600) residential school boys and six hundred (n=600) non-residential school boys from Manipur were taken randomly as subjects for the study. The age of the subjects ranged between 13-15 years. Flexibility was measured by using Sit & Reach Test and body composition was measured by using Skinfold Caliper (Biceps, Triceps, Subscapular and Suprailiac). To determine the significant difference on flexibility and body composition, an independent 't' test was applied with the help of SPSS software. The level of significance was set at 0.05. Statistical calculation on gathered data showed that there was significant difference on flexibility and body composition. The residential school boys had shown significantly higher in flexibility than non-residential school boys. On the other hand, non-residential school boys had shown significantly higher in body composition than the residential school boys.

Keywords: Flexibility, body composition, residential school, non-residential school, sit and reach test and skinfold caliper

Introduction

A sound mind in a sound body is a short but full description of a happy state in this world, he that has these two, has little more to wish for" (Nixon *et al.*, 1974) ^[5]. Miller and Allen (1989) ^[4] explain that in modern age there are numerous labour-saving devices. Our physical activity has been reduced drastically. People are experiencing weaker bodies with many physical and mental disorders. Hundred years ago, only six percent of mechanical energy was used in producing goods. The rest ninety four percent was generated by human or animal muscular power. Today, ninety six percent of all energy used is mechanical and seventy percent of the working population performs non-physical tasks.

"If you are physically fit, your body system functions efficiently. You have sufficient strength to engage in vigorous physical activity. You recover quickly from fatigue. You have reserves of strength, energy and stamina for emergencies". To be a totally fit, a person must also possess emotional maturity, high ethical standards and ability to *get along* with others (Charles, 1965) ^[1]. Charles and Williams (1985) ^[2], elaborates fitness is a broad term denoting dynamic qualities that will satisfy the needs regarding mental and emotional stability, social consciousness and adaptability, spiritual and mental and organic health consistent with heredity. Physical fitness means that the organic system of the body is healthy and functions efficiently so as to enable the fit person to engage in vigorous tasks and leisure activities beyond organic development, muscular strength and endurance. Physical fitness means efficient performance in exercise.

Flexibility is referred to as the ability to perform movements with greater amplitude and range. Flexibility is helpful for the achievement of greater range of movement without undue stress on the joints and muscles. Flexibility also prevents chances of injury related to a muscle or joint as greater flexible joints and muscle can easily bear the shock of injury (Singh, 1991) ^[6]. Body Composition is referred to as the weight of body fat and lean body weight or it can also be defined as the percentage contribution of fat and lean body tissues

to the total weight of the body.

Body composition is an important component of fitness or wellness. People whose body composition is optimal tend to be healthier, can move efficiently, and feel better about them. To reach wellness, one must determine what body composition is right for him and then work to achieve it. Successful management of body composition requires co-ordination of many aspects of a wellness program, including proper nutrition, adequate exercise and stress management (Thomas *et al.* 1994) [7].

Objective of the study

The main objective of the present study was to compare flexibility and body composition between residential and non-residential school students of Manipur.

Methods and Procedure

Table 1: A Descriptive analysis of flexibility (sit and reach test) between residential and non-residential school students of Manipur

Variable	Group	N	Mean	SD	't'-value	P-value
Flexibility (Sit and Reach Test)	Residential School	600	10.94	1.42	12.08*	.000
	Non-Residential School	600	9.95	1.42		

*Significant at .05 level

't'.05 (1198) = 1.96

From the table-1 significant difference was found between residential and non-residential school students of Manipur on flexibility (sit and reach test), since the calculated 't' value 12.08 was greater than tabulated 't' value 1.96 at 0.05 level of significance. The residential school boys were

For the purpose of the study, one thousand two hundred (n=1200) i.e. six hundred (n=600) residential school boys and six hundred (n=600) non-residential school boys from Manipur were taken randomly as a subject for the study. The age of the subjects ranged between 13-15 years. Flexibility was measured by using sit & reach test and body composition was measured by using Skinfold Caliper (Biceps, Triceps, Subscapular and Suprailliac). To find out the significance difference between the school students of Manipur on flexibility and body composition, independent 't' was applied with the help of SPSS software. For testing hypothesis, the level of significance was set at 0.05.

Results and Findings

Analysis of all the collected data, their results and discussion are systematically presented as follows.

found higher flexibility than non-residential school boys of Manipur.

Mean scores of flexibility between residential and non-residential school students of Manipur is depicted graphically in figure-1.

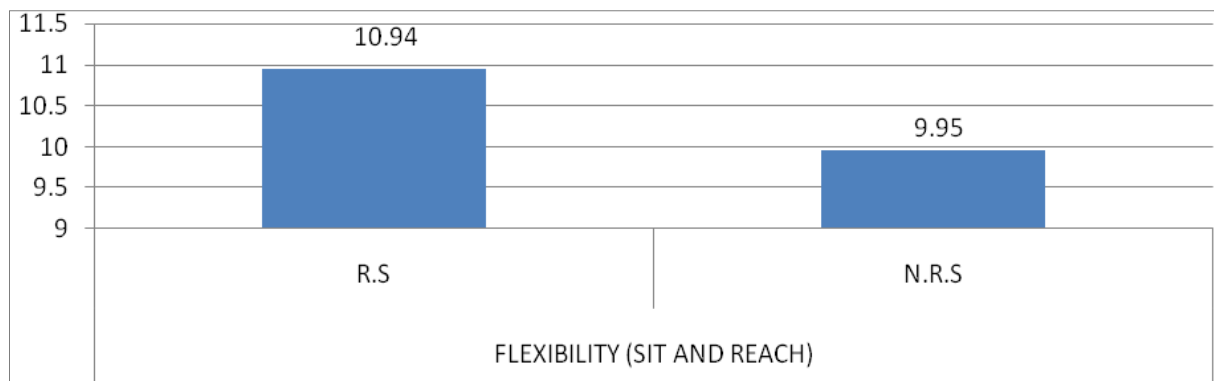


Fig 1: The Graphical Representation of Mean Scores of Flexibility (Sit and Reach Test) between Residential and Non-Residential School Students of Manipur

Table 2: Descriptive Analysis of Body Composition between Residential and Non-Residential School Students of Manipur

Variables	Group	N	Mean	SD	't'-value	P-value
Body composition (Biceps, Triceps, Subscapular & Suprailliac)	Residential School	600	16.63	1.92	4.95*	.000
	Non-Residential School	600	17.20	2.03		

*Significant at .05 level

't'.05 (1198) = 1.96

Table-2 reveals that significant differences was found between residential and non-residential school boys of Manipur on body composition, since the calculated 't' value 4.95 was higher than tabulated 't' value 1.96 at 0.05 level of significance. The non-residential school boys were found

higher body composition than the residential school boys of Manipur.

Mean scores of body composition between residential and non-residential school students of Manipur is depicted graphically in Fig 2.

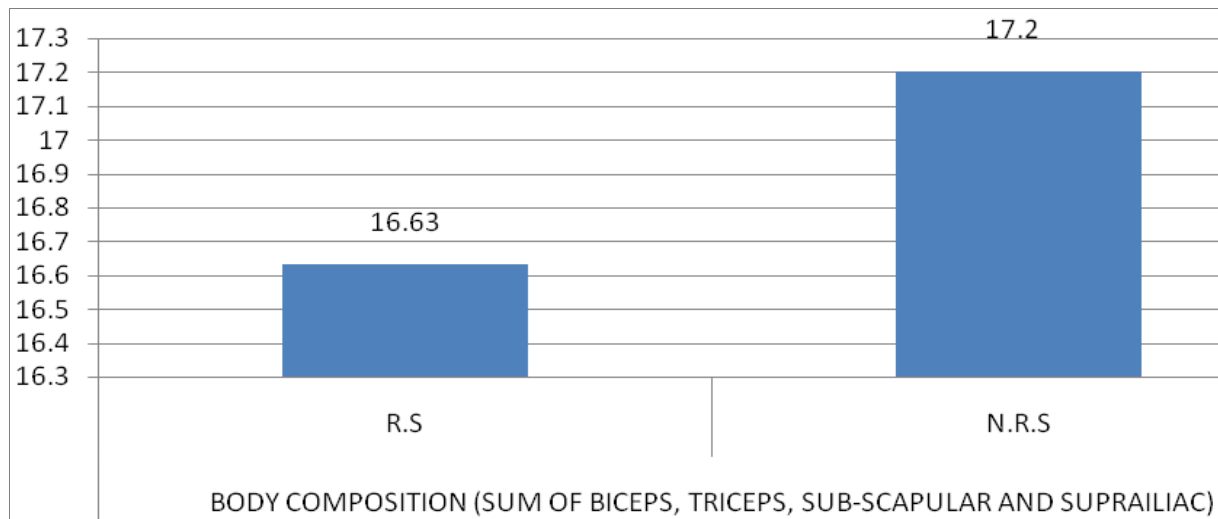


Fig 2: The graphical representation of mean scores of body composition between residential and non-residential school students of Manipur

Discussion of Findings

The findings of study confirmed that there was significant difference was obtained between the residential and non-residential school boys of Manipur on flexibility (sit and reach test) and body composition. The findings of this study support the results of all previous researches i.e. Dhanula & Chaudhary (2012) shows that there was significant difference on flexibility and body composition between the Kabbadi and Kho-Kho players. The results showed a statistically significant difference in flexibility and body composition which was similar to the findings obtained by Yadav (2017) who conducted a study on health-related physical fitness components between North and West Zone Volleyball female players.

Conclusions

Based on the research findings, the following conclusions were drawn:

1. Residential school boys had shown significantly higher than non-residential school boys on flexibility.
2. Non-residential school boys were found significantly higher than residential school boys on body composition.

References

1. Charles BA. Foundations of Physical Education. The C.V. Mosby Company; c1965.
2. Charles BA, William EP. Fitness for Colleges and Life. Toronto: C.V. Mosby Company; c1985.
3. Dhanula DK, Chaudhary VG. Comparative Study of Body Composition, Flexibility and Muscular Endurance between Kabbadi & Kho-Kho Players. International Journal of Health, Physical Education and Computer Science in Sports. ISSN 2231-3265. 2012;7(1):145-147.
4. Miller DK, Allen TE. Fitness: A Lifetime Commitment. 4th ed. Macmillan USA; c1989. p. 2.
5. Nixon J, Jewett AE. An Introduction to Physical Education. 6th ed. Philadelphia: W.B. Saunder Co; c1969. p. 196.
6. Singh HS. Sports Anthropometry. Mohali, India: Anova Publications; c1991.
7. Thomas D, Fahey PM, Insel P, Walton TR. Fit and Well. California: Mayfield Publishing Company; c1994. p. 97.
8. Yadav S. Comparison of health-related physical fitness components between North and West Zone Volleyball female players. International Journal of Physical Education, Sports and Health. 2017;4(2):157-159.