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Nagaraja Y

Research Scholar, Department of PG Studies & Research in Physical Education Kuvempu University, Shanakaraghatta, Shivamogga, Karnataka, India

Nagaraja D

MP. Ed, Department of PG Studies & Research in Physical Education Kuvempu University, Shanakaraghatta, Shivamogga, Karnataka, India

A comparative study on physical fitness components between residential and non-residential high school boys

Nagaraja Y and Nagaraja D

Abstract

Introduction: Physical fitness comprises two related concepts: general fitness (a state of health and well-being) and specific fitness (a task-oriented definition based on the ability to perform specific aspects of sports or occupations). In previous years, fitness was commonly defined as the capacity to carry out the day's activities without undue fatigue. Physical fitness is defined as the ability of body to function efficiently and effectively, to enjoy leisure, to be healthy, to resist disease, and to cope with emergency situations.

Purpose: The purpose of the study was to "A comparative study on physical fitness components between residential and non-residential high school boys".

Methodology: The main purpose of this study was to compare the selected physical Fitness components between residential and non residential high school boys of channagiri taluk. In order to achieve the purpose of the study data was collected (100 students from 50 Residential High School Boys 50 Non Residential High School Boys. Balance, agility, speed, strength, reaction time.

Hypothesis: It was hypothesized that there will be a difference in physical fitness between Residential and Non-Residential High School Boys.

Keywords: fitness, physical fitness, physical fitness components, health related, skill related fitness

1. Introduction

World Health Organization [5] defines physical fitness as "a condition of absolute physical, mental and social wellbeing not only the nonexistence of disease". In developing nations, working parents prefer residential school for their children but decision to attend the boarding school is not easy. Despite quality of resources, activities and academics offered by residential school, physical fitness is important concern of parents and administration of school. Physical fitness is defined as ability to carry out daily tasks with vigor and alertness without undue fatigue with ample energy to enjoy leisure time pursuits, to meet unusual situations and unforeseen emergencies [3]. The health benefits of regular physical activity (PA) for school-aged children have been well documented, including promoting growth and development and improving physical fitness [1, 2]. Physical fitness means the functional capacity of a person to perform certain kinds of tasks requiring muscular activity (Fleishman, 1964). Now a day, physical fitness may be defined as "the ability to carry out daily tasks with vigorous and alertness, without undue fatigue and with ample energy to enjoy leisure time pursuits and to meet unusual situation and unforeseen emergencies" or the degree ability to as specific task under ambient condition. That means Fitness has the necessary qualities for doing something [4]. Along with the modernization of the world, most of the technologies nowadays have made people less active. They do less work but achieve more output as this is what we call efficiency, to do something with little input but bring out more input. As the technologies becoming more advanced, people are less making work and this resulting in the decrement of fitness. (Chandu Lamani, 2016).

2. Methodology

The main purpose of this study was to a comparative study on physical fitness components between residential and non-residential high school boys of channagiri taluk davanagere

Correspondence

Nagaraja Y

Research Scholar, Department of PG Studies & Research in Physical Education Kuvempu University, Shanakaraghatta, Shivamogga, Karnataka, India

district. In order to achieve the purpose of the study data was collected (100 students from 50 Residential High School Boys 50 Non Residential High School Boys).

2.1 Description of the Test

- Balance - Stork balance
- Agility - 10 second Burpee Test
- Speed - 30 Meter Fly Start
- Strength - Pull ups

Table 1: Mean value \pm Standard deviation and 't' score of the Balance (Stork Balance)

Variables	Group	N	Mean \pm SD	't'	'df'	sig (2- tailed)
Balance	Residential	50	29.52 \pm 1.66	.622	98	.536
	Non-Residential	50	29.30 \pm 1.88			

* Significant at 0.05 level.

Summary of 't' test on difference on balance among Residential and Non Residential Hyderabad Karnataka High school boys. Table 1 show that balance the mane and standard deviation of Residential High school boys as been found to be 29.52 and 1.66 and Residential High school boys as been found to be 29.30 and 1.88 respectively.

To find out balance deference between two groups 't' test was applied, the 't' test has been found to be 0.536 being in Significant at 0.05 levels it indicates that there is on Significant deference in the balance. Between Residential and Non Residential hyderabadha Karnataka High school boys. The above results are graphically illustrated in Figure – 1.

- Reaction Time - Knox Penny cup test

3. Statistical analysis

They were subjected to five different tests to assess five physical fitness components. The tests were conducted on standard procedure. Mean, standard deviation and 't' values of all five components are presented in different tables.

4. The analysis, interpretation and results of study

Table 2: Mean value \pm Standard deviation and 't' score of the Agility (10 seconds Burpe Test)

Variables	Group	N	Mean \pm SD	't'	'df'	sig (2- tailed)
Agility	Residential	50	5.27 \pm 1.28	-4.455	98	.000
	Non-Residential	50	6.70 \pm 0.89			

* Significant at 0.05 level.

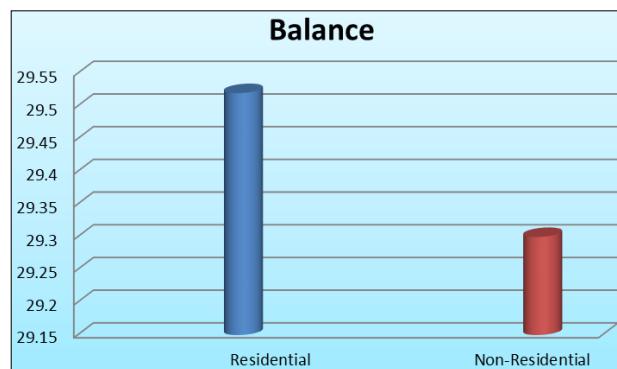


Table 3: Mean value \pm Standard deviation and 't' score of the Strength (Pull ups)

Variables	Group	N	Mean \pm SD	't'	'df'	sig (2- tailed)
Strength	Residential	50	9.16 \pm 3.39	.561	98	.576
	Non-Residential	50	8.84 \pm 2.18			

* Significant at 0.05 level.

Summary of 't' test on difference on balance among Residential and Non Residential Hyderabad Karnataka High school boys. Table 2 show that balance the mane and standard deviation of Residential High school boys as been found to be 5.27 and 1.28 and Residential High school boys as been found to be 6.70 and 0.89 respectively,

To find out balance deference between two groups 't' test was applied, the 't' test has been found to be .000 being in Significant at 0.05 levels it indicates that there is significant deference in the balance. Between Residential and Non-Residential Hyderabad Karnataka High school boys. The above results are graphically illustrated in Figure – 2.

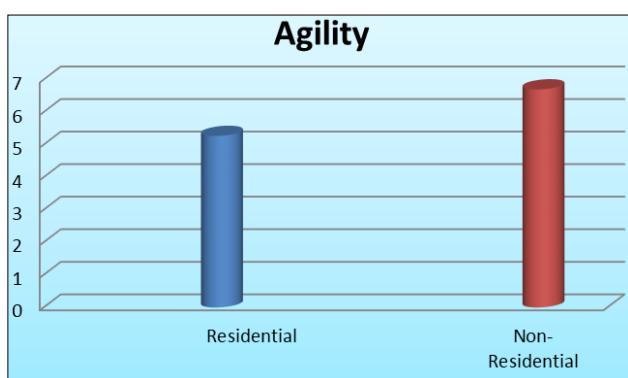


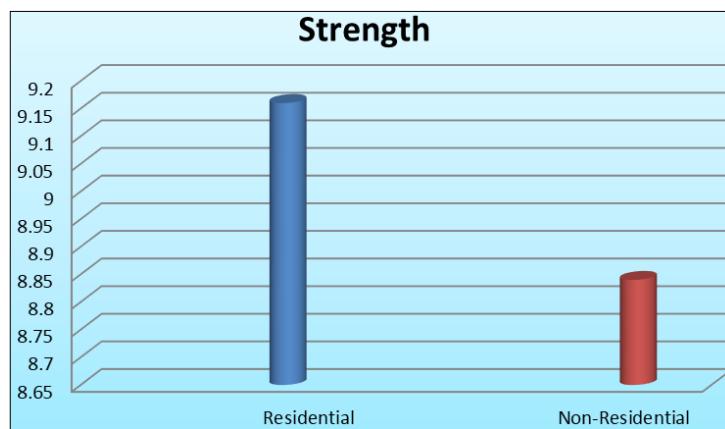
Table 4: Mean value \pm Standard deviation and 't' score of the Speed (30 Meter Fly Start)

Variables	Group	N	Mean \pm SD	't'	'df'	sig (2- tailed)
Speed	Residential	50	10.20 \pm 1.50	-.200	98	.840
	Non-Residential	50	10.40 \pm 1.80			

* Significant at 0.05 level.

Summary of 't' test on difference on balance among Residential and Non Residential Hyderabad Karnataka High school boys. Table 2 show that balance the mane and standard deviation of Residential High school boys has been found to be 9.16 and 3.39 and Residential High school boys has been found to be 8.84 and 2.18 respectively.

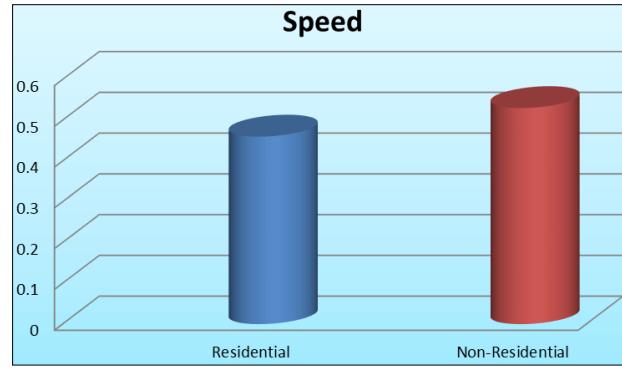
To find out balance deference between two groups 't' test was applied, the 't' test has been found to be 0.576 being in Significant at 0.05 levels it indicates that there is on Significant deference in the balance. Between Residential and Non-Residential Hyderabad Karnataka High school boys. The above results are graphically illustrated in Figure – 3.

**Table 4:** Mean value ± Standard deviation and 't' score of the Speed (30 mtr Fly start)

Variables	Group	N	Mean ± SD	't'	'df'	sig (2- tailed)
Speed	Residential	50	0.46 ± 0.08	-4.173	98	.000
	Non-Residential	50	0.53 ± 0.09			

* Significant at 0.05 level.

Summary of 't' test on difference on balance among Residential and Non Residential Hyderabad Karnataka High school boys. Table 2 show that balance the mane and standard deviation of Residential High school boys as been found to be 0.46 and 0.08 and Residential High school boys as been found to be 0.53 and 0.09 respectively, To find out balance deference between two groups 't' test was applied, the 't' test has been found to be .000 being in Significant at 0.05 levels it indicates that there is no Significant deference in the balance. Between Residential and Non-Residential Hyderabad Karnataka High school boys. The above results are graphically illustrated in Figure 4.

**Table 5:** Mean value ± Standard deviation and 't' score of the Reaction Time (Knox Penny cup test)

Variables	Group	N	Mean ± SD	't'	'df'	sig (2- tailed)
Reaction time	Residential	50	0.49 ± 0.11	-4.941	98	.000
	Non-Residential	50	0.40 ± 0.08			

* Significant at 0.05 level.

Summary of 't' test on difference on balance among Residential and Non Residential Hyderabad Karnataka High school boys. Table 2 show that balance the mane and standard deviation of Residential High school boys as been found to be 0.49 and 0.11 and Residential High school boys as been found to be 0.40 and 0.08 respectively.

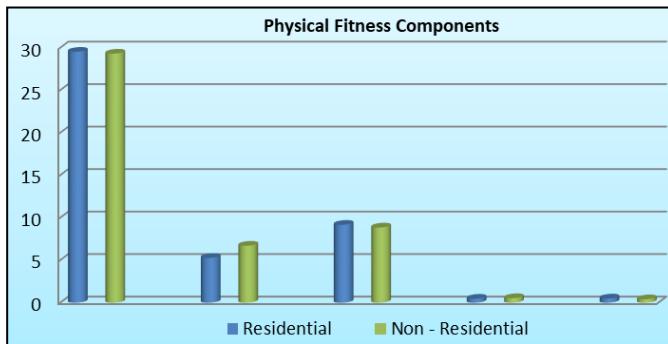
To find out balance deference between two groups 't' test was applied, the 't' test has been found to be .000 being in Significant at 0.05 levels it indicates that there is no Significant deference in the balance. Between Residential and Non-Residential Hyderabad Karnataka High school boys. The above results are graphically illustrated in Figure – 5.

**Table 6:** Mean value ± Standard deviation and 't' score of the Balance, Agility, Strength, Speed, and Reaction Time.

Variables	Group	N	Mean ± SD	't'	'df'	sig (2- tailed)
Balance	Residential	50	29.52 ± 1.66	.622	98	.536
	Non-Residential	50	29.30 ± 1.88			
Agility	Residential	50	5.27 ± 1.28	-4.455	98	.000
	Non-Residential	50	6.70 ± 0.89			
Strength	Residential	50	9.16 ± 3.39	.561	98	.576
	Non-Residential	50	8.84 ± 2.18			
Speed	Residential	50	0.46 ± 0.08	-4.173	98	.000
	Non-Residential	50	0.53 ± 0.09			
Reaction time	Residential	50	0.49 ± 0.11	-4.941	98	.000
	Non-Residential	50	0.40 ± 0.08			

*Significant at 0.05 level.

Graphically representation of mean score balance on Residential and Non Residential Hyderabad Karnataka High school boys. From table-6 it is evident that there is significant deference found in agility, Speed and Reaction time and also there are no significant deference found in Balance and strength Between, Residential and Non Residential Hyderabad Karnataka High school boys. It is observed that the agility and speed is higher in Residential school boys, and also Reaction time is higher in Non-Residential High school boys. The above results are graphically illustrated in figure-1.



5. Summary

The purpose of this study was to evaluate and compare the selected physical fitness components of Residential and Non Residential high school boys of Hagaribommanahalli Taluk. To achieve this purpose, the investigation was conducted on 50 Residential and 50 Non Residential High School boys of Hagaribommanahalli Taluk. The subjects selected were tested with five tests, which measure five components of physical fitness. The data collected from these tests were analyzed by calculating ‘t’ value to find out the difference in physical fitness between Residential and Non Residential high school boys of Hagaribommanahalli Taluk.

6. Conclusions

Based on the findings and discussion of the present study, It can be concluded that the physical fitness components plays a vital role in high school boys in their physical fitness level, healthy life style, skill development, ensuring the playing ability and enhances the performance to achieve the student's goal.

1. Non Residential boys have better in Strength, Agility and Reaction time.
2. Residential boys are superior in Balance, speed.
3. It is observed that the agility and speed is higher in Residential school boys,
4. Reaction time and speed is higher in Non-Residential High school boys.
5. It was proved that fitness has a significant and healthy impact on the life style of individuals.
6. Physical fitness is an important component to leading a healthy lifestyle. The inclusion of regular fitness activity helps students maintain fitness, develop muscular strength and improve cardiovascular health. A regular fitness activity improves the absorption of nutrients by the body, improves digestive processes and increases physiological processes.
7. The participation in physical education in high school provides a positive influence on a student's personality, character and self-esteem. In addition, the team-building process enhances communication skills, and the skills required to get along and cooperate with students of varying ethnic backgrounds and personalities.

8. High school students have substantial amounts of stress due to curriculum, homework, families and peer pressures. Involvement in sports, recreational activities or other forms of physical fitness offers a method of stress relief.
9. Hand-eye coordination is improved, as well as good body movements, which helps in the development of a healthy body posture.

7. References

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