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"The comparative study on Physical Fitness of residential and non-residential school male students."

Abstract :

The fitness of an individual, a society, a civilization and a government is very important in the life of the nation. If a nation is to remain strong physically, mentally, spiritually, and socially, education for Physical Fitness must be undertaken. It is self-evident that the fit citizens are nation's best assets and weak ones are liabilities. The wealth of the nation resides in the health and vitality of its people.

The objective of the present study was to compare the Physical Fitness of residential and non-residential school male students. With the assistance and help of the experts in the field of Physical Fitness, Physical Education, Sports and previous researches on these areas a comprehensive and suitable AAHPERED Youth Physical Fitness Test was select for Physical Fitness score. 285 from residential and 335 from non-residential schools male students were randomly selected from ten residential and eleven non-residential schools. The average age of the subjects were eighteen years, ranging from 17-20 years. For this research, AAHPERED Youth Physical Fitness Test was organized for the purpose of to find out the Physical Fitness of residential and non-residential school male students.

The obtained Physical Fitness score of residential and non-residential school male students were analyzed by using group statistic and independent samples't' test, with the help of SPSS-11 software.

The Physical Fitness Components score compared among residential and non-residential school male students and results found that there is significant mean difference in 50 yard dash run, Standing Broad Jump, Pull-ups, Sit-ups and Distance run, where as there is no significant difference in Shuttle Run.

Key words:*Physical Fitness, residential, non-residential*

INTRODUCTION:

One of the important, remarkable, beautiful, valuable and priceless things that God has created particularly on the earth is human life. Therefore, it is necessary to protect and maintain human life in order to achieve higher goals and objectives and also to live a happy and meaningful life. The fitness of an individual, a society, a civilization and a government is very important in the life of the Nation. If a Nation is to remain strong physically, mentally, spiritually, and socially, education of Physical Fitness must be undertaken. It is self-evident that the fit citizens are nation's best assets and weak ones are liabilities. The wealth of the nation resides in the health and vitality of its people.

Physical Fitness is essential not only in terms of general health but also special physical requirement for competitive sports and certain highly specialized and demanding occupation.

It is universally accepted that success in various activities of games and sports mainly depends upon the Physical Fitness of its participants.

The AAHPERED Youth Physical Fitness Test has tremendously gained in importance and has been recognized as one of the major Physical Fitness Tests, variables such as strength, endurance, speed, power, flexibility, cardio-vascular endurance seem to play an important role to determine success in

sports.

Significance of the study:

Even though increasing recognition to Physical Fitness for health and efficiency is forth coming all over the world, still a lot of promotional and educative efforts are called for to bring about desirable attitudes especially in the youth, college going students towards physical activities and sports to develop Physical Fitness. Physical Fitness is the basic need for participation in games & sports. The fitness level of various Physical Fitness components is most important to choice of the sport event. The basic level of fitness has a vital role in improving any sports performance but there seems to be a lack of specific knowledge regarding the Physical Fitness of residential and non-residential school male students.

The purpose of the present study was to compare the Physical Fitness of residential and non-residential school male students.

Methodology:

- **Subject:**

  Subjects selected for this study were 285 from residential and 335 from non-residential schools male students were randomly selected from ten residential and eleven non-residential schools. The average age of the subjects were eighteen years, ranging from 17-20 years.

- **Variables:**

  The research scholar has selected AAHPERED Youth Physical Fitness Test, which contain with major Physical Fitness components like speed, endurance, strength, flexibility and agility.

- **Independent variable:** AAHPERED Youth Physical Fitness Test:

  1. 50 Yards Dash Run.
  2. Standing Broad Jump.
  3. Shuttle Run.
  4. Sit-ups.
  5. Pull-ups.
  6. Distance Run.

- **Statistical Analysis:**

  The data obtained by AAHPERED Youth Physical Fitness Test score was subjected to the statistical methods in order to compare with residential and non-residential school male students. As per statistical study by the use of SPSS-11 software, Group Statistics and Independent samples't' tests were done. 'F' and significance score were found by Levene's Test for Equality of Variances. 't' and significant score found of t-test for equality of means. The level of significant 'p' was kept at 0.05

- **Findings:**

  We shall here examine whether there is any difference in physical fitness components score by the residential and non-residential school male students. Independent sample 't'test is chosen because the respondents of two different groups are independent of each other (residential and non-residential school male students). Moreover, the variables 50 yard dash, standing broad jump, pull-ups, sit-ups, shuttle run and distance run are ratio data.

  The first table-Group Statistics displays the summary measures (N, Mean, Std. Deviation, Std. Error Mean) of the variable (Score) selected for the independent sample 't' test for both the groups, residential and non-residential school male students.

Table-1

Group Statistics

Variable	SCHOOL	N	Mean	Std. Deviation	Std.Error Mean
50 Yard Dash	Residential	285	06.5967	0.38330	.02270
	Non-residential	335	06.7363	0.60444	.03302

Standing Broad Jump	Residential	285	01.7918	0.20565	.01218
	Non-residential	335	02.1042	0.44824	.02449
Pull-ups	Residential	285	11.1263	2.75109	.16296
	Non-residential	335	10.8418	3.54721	.19380
Sit-ups	Residential	285	30.8351	5.37510	.31839
	Non-residential	335	29.5791	6.90519	.37727
Shuttle Run	Residential	285	08.9261	0.65882	.03903
	Non-residential	335	09.1425	0.65381	.03572
Distance Run	Residential	285	08.6254	0.63000	.03732
	Non-residential	335	08.9310	0.71343	.03898

Second table- Independent Sample Test contains the statistics that are critical to the research question. This table contains two sets of information from analysis;

The first assumes equal variances and second does not. To assess whether the variances of two groups are equal or not, we are required to use the significant level associated with the value under the heading, Levene's Test for Equality of Variances.

The null and alternative hypothesis for examining the difference in Physical Fitness components scored of residential and non-residential school male students are as follow:

Ho: Variances of two groups (residential and non-residential school male students) are equal.

H1: Variances of two groups (residential and non-residential school male students) are unequal.

Graph

Table-2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
50 Yard Dash	Equal variances assumed	39.573	.000	-3.364	618	.001	-.1395	.04148	-.22099	-.05807
	Equal variances not assumed			-3.482	573.644	.001	-.1395	04008	-.21825	-.06082
Standing Broad Jump	Equal variances assumed	108.960	.000	-10.835	618	.000	-.3124	.02883	-.36904	-.25579
	Equal variances not assumed			-11.422	484.822	.000	-.3124	.02735	-.36616	-.25867
Pull-ups	Equal variances assumed	11.396	.001	1.101	618	.271	.2845	.25835	-.22283	.79188
	Equal variances not assumed			1.124	612.922	.262	.2845	.25321	-.21274	.78179
Sit-ups	Equal variances assumed	23.379	.000	2.494	618	.013	1.2560	.50355	.26710	2.24486
	Equal variances not assumed			2.544	613.310	.011	1.2560	.49367	.28650	2.22547

Shuttle Run	Equal variances assumed	.707	.401	-4.093	618	.000	-.2164	.05287	-.32023	-.11257
	Equal variances not assumed			-4.090	600.701	.000	-.2164	.05291	-.32030	-.11250
Distance Run	Equal variances assumed	7.597	.006	-5.608	618	.000	-.3056	.05450	-.41268	-.19860
	Equal variances not assumed			-5.664	617.131	.000	-.3056	.05396	-.41161	-.19967

- **Result and Discussion:**

In our study, we have taken six variances (Physical Fitness variables i.e. 50 yard dash run, standing broad jump, pull-ups, sit-ups, shuttle run and distance run) in two groups (residential and non-residential school male students).

If the 'p' value is less than the significance level set up by us for the test, we reject the null hypothesis. Otherwise, we accept the null hypothesis.

The analysis of each variable of both groups done as below:

1. Physical Fitness component – 50 yard dash:

In our research study, we reject the null hypothesis (at the 95% confidence level), since the F-value is 39.573 and its associated significant value is 0.00(<0.05). This means that the variances of the two groups are unequal.

Therefore we reject the null hypothesis for equality of means. In common parlance we can say that there is statistically significant difference in the performance of 50 yard dash by the residential and non-residential school boy students.

2. Physical Fitness component – Standing broad jump:

In our research study, we reject the null hypothesis (at the 95% confidence level), since the F-value is 108.960 and its associated significant value is 0.000(<0.05). This means that the variances of the two groups are unequal.

Therefore we reject the null hypothesis for equality of means. In common parlance we can say that there is statistically significant difference in the performance of standing broad jump by the residential and non-residential school boy students.

3. Physical Fitness component – Pull-ups:

In our research study, we reject the null hypothesis (at the 95% confidence level), since the F-value is 11.396 and its associated significant value is 0.001(<0.05). This means that the variances of the two groups are unequal.

Therefore we reject the null hypothesis for equality of means. In common parlance we can say that there is statistically significant difference in the performance of pull-ups by the residential and non-residential school boy students.

4. Physical Fitness component – Sit-ups:

In our research study, we reject the null hypothesis (at the 95% confidence level), since the F-value is 23.379 and its associated significant value is 0.000(<0.05). This means that the variances of the two groups are unequal.

Therefore we reject the null hypothesis for equality of means. In common parlance we can say that there is statistically significant difference in the performance of sit-ups by the residential and non-residential school boy students.

5. Physical Fitness component – Shuttle run:

In our research study, we fail to reject the null hypothesis (at the 95% confidence level),

since the F-value is 0.707 and its associated significant value is 0.401(>0.05). This means that the variances of the two groups are equal. We therefore use t-value with equal variances to test the equality of means.

The t-value is -4.093 and associated significant value is 0.000, therefore we do not reject the null hypothesis for equality of means. In common parlance we can say that there is no statistically significant difference in the performance of shuttle run by the residential and non-residential school boy students.

6. Physical Fitness component – Distance Run:

In our research study, we reject the null hypothesis (at the 95% confidence level), since the F-value is 7.597 and its associated significant value is 0.006(<0.05). This means that the variances of the two groups are unequal.

Therefore we reject the null hypothesis for equality of means. In common parlance we can say that there is statistically significant difference in the performance of distance run by the residential and non-residential school boy students.

Conclusion:

The Physical Fitness Components score compared among residential and non-residential school male students and results found that there is significant mean difference in 50 yard dash run, Standing Broad Jump, Pull-ups, Sit-ups and Distance run, where as there is no significant difference in Shuttle Run.

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