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"The comparative study on Physical Fitness of below and above poverty line family's 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 below and above poverty line family's 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. 403 from below and 217 from above poverty line family's school male students were randomly selected from twenty one 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 below and above poverty line family's school male students.

The obtained Physical Fitness score of below and above poverty line family's school male students were analyzed by using group statistic and independent samples test with the help of SPSS-11 software.

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

Key Word: Physical Fitness, Below poverty line and Above poverty line

Introduction:

Physical fitness is a crucial pillar contributing a lot for the health of an individual so that it affects our ability to function and be physically active and, at poor levels, is associated with such health outcomes as diabetes and cardiovascular diseases (Institute of Medicine, 2012).

Children are the future of a nation. For an emerging and developing country like India, development of underprivileged children holds the key to the progress of the nation itself. Education for underprivileged

Children is the key whether we are addressing healthcare, poverty, population control, unemployment or human rights issues. Youth is an integral part of democratic society and future asset of Mankind. It is universally recognized that Sport is an effective way for channelizing the energies of Youth for productive & meaningful purposes. Fitness has proved as a powerful but highly undervalued and under exploited tool for promoting solidarity and in contributing to an atmosphere of tolerance and understanding to the special population as an undefined part of the society.

Physical Fitness and health depends upon not only physical activities but also on nutrition. If the proper balanced diet is not providing to the children, it is difficult to improve health and fitness. There are many socio-economic factors affect to support the development of child's physical fitness. One of the poverty level of the family is very important factor which affect on the physical fitness of the child.

Below Poverty Line is an economic benchmark and poverty threshold used by the government of India to indicate economic disadvantage and to identify individuals and households in need of government assistance and aid. It is determined using various parameters which vary from state to state and within states.

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:

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 below and above poverty line family's school male students.

The purpose of the present study was to compare the Physical Fitness of below and above poverty line family's school male students.

Hypothesis:

The null and alternative hypothesis for examining the difference in Physical Fitness components scored of below and above poverty line family's school male students are as follow:

H_o: Variances of two groups (below and above poverty line family's school male students) are equal.

i.e. $\mu_1=\mu_c$

H_1: Variances of two groups (below and above poverty line family's school male students) are unequal.

i.e. $\mu_1\neq\mu_c$

Methodology:

A: Procedure of the study:

The procedure of this study has been semi experimental and the tests have been carried out in almost equal conditions.

B: Procedure and the way of data collection:

In order to gather data for the physical fitness 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. AAHPERED Youth Physical Fitness Test variables are as below:

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

C: Statistical sample:

Samples selected for this study were 403 from below and 217 from above poverty line family's school male students were randomly selected from twenty one schools. The average age of the subjects were eighteen years, ranging from 17-20 years.

D: Statistical method for data analysis:

With respect to the type of study and the scales for it, Independent Samples Test was used for the investigation of Physical Fitness variables of below and above poverty line family's school male students, by the use of spss software. Then based on the use of SPSS Software, significant and no significant were considered with the ($p < .5$).

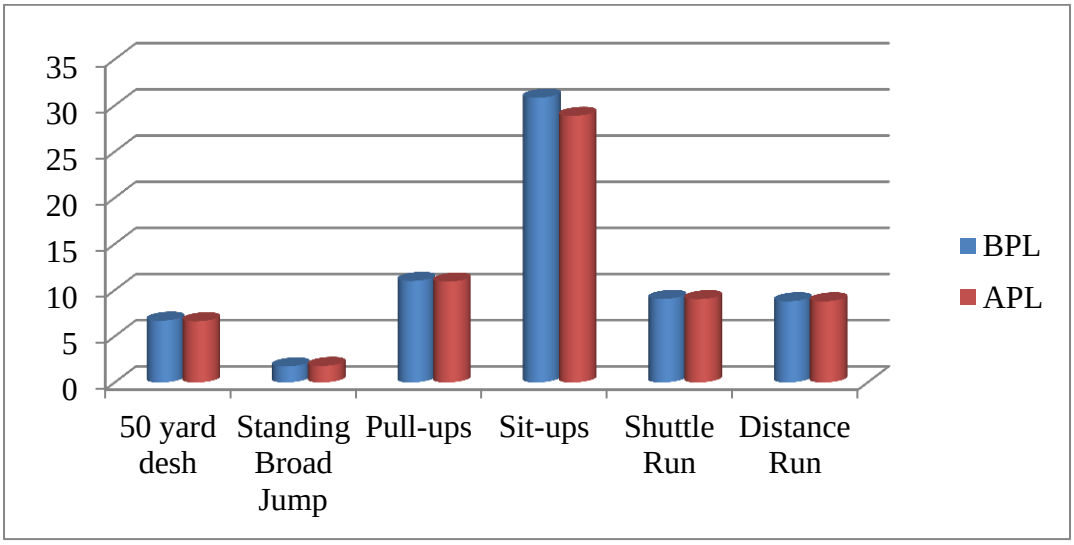
E: Discussion and the result of the study:

Analysis and comparison of selected IQ in between BPL and APL family's college male students.

The first table- group statistic displays the summary measures (N, Mean, Std. deviation, Std. Error Mean) of physical fitness variables score selected for the Independent Sample t-test for both the groups- BPL and APL family's school male students.

:Graph:

Mean and Standard deviation of BPL and APL family's school male students



:TABLE:1 Group Statistics of BPL and APL family's school male students

Methodology:

The first table- group statistic displays the summary measures (N, Mean, Std. deviation, Std. Error Mean) of IQ and academic achievement variable (score) selected for the Independent Sample t-test for both the groups- BPL and APL family's college male students.

Table- 1 Group Statistics of below and above poverty line family's school male students

	CARD	N	Mean	Std. Deviation	Std. Error Mean
50 Yard dash	BPL	403	6.6958	.52156	.02598
	APL	217	6.6282	.51258	.03480
Standing Broad Jump	BPL	403	1.7409	.24773	.01234
	APL	217	1.7944	.24685	.01676
Pull-ups	BPL	403	11.0000	3.20292	.15955
	APL	217	10.9217	3.22007	.21859
Sit-ups	BPL	403	30.8412	6.11007	.30436
	APL	217	28.8848	6.39231	.43394
Shuttle run	BPL	403	9.0529	.67999	.03387
	APL	217	9.0248	.63560	.04315
Distance run	BPL	403	8.7934	.69836	.03479
	APL	217	8.7853	.68394	.04643

❖ **As per Table-1 Group Statistics of BPL and APL family's college male students:**

1. The mean and std. deviation of Physical Fitness variable-50 Yard dash of BPL family's school male students is 6.6958 and .25155 were as mean and std. deviation of APL family's school male students is 6.6282 and .51258
2. The mean and std. deviation of Physical Fitness variable-Standing Broad Jump of BPL family's school male students is 1.7409 and .24773 were as mean and std. deviation of APL family's school male students is 1.7944 and .24685
3. The mean and std. deviation of Physical Fitness variable-Pull-ups of BPL family's school male students is 11.000 and 3.20292 were as mean and std. deviation of APL family's school male students is 10.9217 and 3.22007
4. The mean and std. deviation of Physical Fitness variable-Sit-ups of BPL family's school male students is 30.8412 and 6.11007 were as mean and std. deviation of APL family's school male students is 28.8848 and 6.39231
5. The mean and std. deviation of Physical Fitness variable-Shuttle run of BPL family's school male students is 9.0529 and .67999 were as mean and std. deviation of APL family's school male students is 9.0248 and .63560

6. The mean and std. deviation of Physical Fitness variable-Distance run of BPL family's school male students is 8.7934 and .69836 were as mean and std. deviation of APL family's school male students is 8.7853 and .68394

As we compare the mean of Physical Fitness variables of BPL and APL family's school male students, BPL family's school male students are superior in 50 Yard dash, Pull-ups, Sit-ups, Shuttle run and Distance run, were as APL-family's school male students is superior in Standing Broad Jump.

But, is there significant difference of means of two groups? For that we should use

Table- 2 Independent Samples Test of below and above poverty line family's school male students

		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	1.007	.316	**1.548**	**618**	**.122**	.0676	.04365	-.01815	.15330
	Equal variances not assumed			1.556	448.990	.120	.0676	.04343	-.01776	.15292
Standing Broad Jump	Equal variances assumed	.002	.961	**-2.567**	**618**	**.010**	-.0535	.02083	-.09439	-.01257
	Equal variances not assumed			-2.570	443.687	.010	-.0535	.02081	-.09438	-.01258
Pull-ups	Equal variances assumed	.571	.450	**.290**	**618**	**.772**	.0783	.27019	-.45227	.60895
	Equal variances not assumed			.289	440.304	.772	.0783	.27063	-.45354	.61022
Sit-ups	Equal variances assumed	1.857	.173	**3.741**	**618**	**.000**	1.9564	.52290	.92953	2.98327
	Equal variances not assumed			3.691	425.474	.000	1.9564	.53004	.91458	2.99822
Shuttle run	Equal variances assumed	.370	.543	**.501**	**618**	**.616**	.0281	.05598	-.08187	.13799
	Equal variances not assumed			.512	468.645	.609	.0281	.05485	-.07973	.13585
Distance run	Equal variances assumed	.475	.491	**.140**	**618**	**.889**	.0081	.05838	-.10650	.12279
	Equal variances not assumed			.140	450.340	.888	.0081	.05802	-.10587	.12216

❖ **As per Table-2 Independent Sample Test of BPL and APL family's school male students:**

The second table- Independent Samples Test contains Levene's Test for Equality of Variances and t-test for Equality of Means. The result and discussion are as below:

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 (BPL and APL family's 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, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is 1.007 and its associated significant value is .316(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is 1.548 and associated significant value is .122 therefore we can't reject the null hypothesis for equality of means. In common parlance we can say that there is statistically not significant difference in the performance of 50 yard dash by the BPL and APL family's school male students.

2. Physical Fitness component – Standing broad jump:

In our research study, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is .002 and its associated significant value is .961(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is -2.567 and associated significant value is .010 therefore we can 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 BPL and APL family's school male students.

3. Physical Fitness component – Pull-ups:

In our research study, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is .571 and its associated significant value is .450(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is .290 and associated significant value is .772 therefore we can't reject the null hypothesis for equality of means. In common parlance we can say that there is statistically not significant difference in the performance of Pull-ups by the BPL and APL family's school male students.

4. Physical Fitness component – Sit-ups:

In our research study, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is 1.857 and its associated significant value is .173(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is 3.741 and associated significant value is .000 therefore we can 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 BPL and APL family's school male students.

5. Physical Fitness component – Shuttle run:

In our research study, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is .370 and its associated significant value is .543(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is .501 and associated significant value is .616 therefore we can't reject the null hypothesis for equality of means. In common parlance we can say that there is statistically not significant difference in the performance of Shuttle run by the BPL and APL family's school male students.

6. Physical Fitness component – Distance Run:

In our research study, as per Levene's Test of Equality of variances, we fail to reject the null hypothesis (at the 95% confidence level), since the F-value is .475 and its associated significant value is .491(>0.05). This means that the variances of the two groups are equal.

We therefore use t-value with equal variances assumed to test the equality of means. The t-value is .140 and associated significant value is .889 therefore we can't reject the null hypothesis for equality of means. In common parlance we can say that there is statistically not significant difference in the performance of Pull-ups by the BPL and APL family's school male students.

❖ **Conclusion:**

The Physical Fitness variable score compared among BPL and APL family's school male students and results found that there is significant mean difference in Standing Broad and Sit-ups, where as there is no significant difference in 50 Yard dash run, Pull-ups, Shuttle Run and Distance run.

References:

1. David C. Nieman & P.H. Facsm, "Fitness and Sports Medicine : A Health Related Approach, 3rd Edition (California: Mayfield Publishing Company, 1986), p. 29.
2. Bucher Charles A. and Wuest Deborah A., Foundation of Physical Education and Sports, St. Louis.-Toranto-Santaclara: Times Mirror/Mosby; 1989.
3. Bucher Charles A. and Wuest Deborah A., Foundation of Physical Education and Sports, 10th ed. St. Louis-Toronto- Santa Clara: Times Mirror / Mosby; 1987.
4. Clarke H. Harrison, Application of Measurement to Health and Physical Education. Englewood Cliffs, New Jersey: Prentice Hall 1976.

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