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Comparative study of selected physical fitness parameters on the students of technical and non-technical institutes

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Abstract
The purpose of the present study was to study the selected Anthropometric Components of students of Technical and non-technical institutes of Punjab. For this purpose, a sampling of 80 male players was selected from 4 districts of Punjab. The age of the subjects ranged between 18 to 20 years. The obtained data for the two groups was compared on five physical fitness parameters of the AAPHER Test (1976) namely 60 second sit-ups, 600 yards run-walk, Sit and reach, shuttle run and 50 yards run test. The data was analyzed with the help of t-test. The findings of the study revealed that there is a significant difference at 0.05 level of confidence for the components of 60 Seconds Sit-ups, sit and reach, shuttle run and 50 yards sprint however there was no significant difference on the component of 600 yards run-walk test for endurance.

Keywords: Physical fitness parameters, technical and non-technical institutes, anthropometric components

Introduction

The researcher has endeavored to know the selected physical fitness parameters of male students studying in Technical and non-technical Institutes of Punjab with respect to different age groups. Human physique plays an inspirable role during execution of movement, skill and technique. The quality of an individual's movement and skill efficiency in terms of its utilization value is directly proportional to his level of performance. For this purpose, researcher has to identify the factors which are responsible for the dismal performance of sports person such as physical, physiological, psychological abilities, techniques, tactics, physique, body size and body composition which has to be researched from the root level. The athletes are recognized and selected naturally on the basis of their body characteristics for a particular sport or event. Physical fitness is a complex area that consists of number of factors which includes primarily Strength, Endurance, Agility, Speed, Balance, Flexibility (Extent Flexibility, Dynamic Flexibility), Leg Power, and Co-ordination. Knowledge about the different components of physical fitness may help to predict the performance in the complex skills of competitive sports. It is also true that certain basic abilities, which limit skill acquisition, should be developed in pre-adult life. Though it is a well-known fact that the development of different basic abilities is at different rates, most of these physical fitness abilities reach high between the age of 18 and 20 years. Therefore, the purpose of the present study was to analyze the physical fitness and the approach towards fitness between the technical and non-technical students. By the technical students, the students pursuing science and engineering background were considered and by non-technical students the students with Arts and commerce background were considered.

Objective of the Study

The primary objective of the present study was to compare the selected physical fitness parameters of various technical and non-technical Institutes and the secondary objective was to make the students aware about their physical fitness components.

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Research Methodology
Standard instruments from Chaudhary Devi Lal University, Sirsa was used to measure the Physical fitness components. The instruments were calibrated before measuring the components. The data for the present study was collected from different technical and non-technical institutes of four district of Punjab, namely Patiala, Sangrur, Barnala and

Bathinda and all the subjects were of the age group 18 to 20 years.

Results and Analysis of the Study
After analyzing the data for both the groups, t-test value was computed.

Table 1.1: Statistical Analysis of t-value for 60 Second Sit-ups.

Group	N	Mean	Standard Deviation	Standard Error of Mean	t-Value	Remarks
Technical Institute Male Students	40	29.75	7.95	1.26	3.90	Significant
Non- Technical Institute Male Students	40	24.12	4.45	0.70		
Df=78, Level of Significance=0.05						

The values in the table 1.1 suggest that the mean score on the parameters of 60 seconds Sit-ups test was 29.75 for the technical male students as compared to 24.12 of the non-technical male students. The data of the technical students is less homogeneous as compared with the counterpart. The t-test value of the table is 3.90 and the Critical t-value from the norms is 1.99 for two-tailed at 0.05 level of confidence.

Table 1.2: Statistical Analysis of t-value for 600 Yards Run-walk

Group	N	Mean	Standard Deviation	Standard Error of Mean	t-Value	Remarks
Technical Institute Male Students	40	4.24	1.02	0.16	1.46	Not Significant
Non- Technical Institute Male Students	40	4.51	0.56	0.08		
Df=98, Level of Significance=0.05						

From the data in the tab.1.2 for 600 Yards run-walk test is presented with the technical institute students scoring the mean value of 4.24 while the non-technical students scored a mean value of 4.51 with a more uniform score of standard deviation of 0.56 as compared with 1.02 of the technical students. The t-test value of the table is 1.46 and the Critical t-value from the norms is 1.99 for two-tailed at 0.05 level of confidence. The two-tailed P-value equals 0.14.

Table 1.3: Statistical Analysis of t-value for Sit and Reach

Group	N	Mean	Standard Deviation	Standard Error of Mean	t-Value	Remarks
Technical Institute Male Students	40	23.15	5.48	0.87	2.64	Significant
Non- Technical Institute Male Students	40	20.45	3.41	0.54		
Df=98, Level of Significance=0.05						

The values in the table 1.3 suggest that the mean score on the parameters of Sit and reach test was 23.15 for the technical male students as compared to 20.45 of the non-technical male students. The data of the non-technical students is more homogeneous as compared with the counterpart. The t-test value of the table is 2.64 and the Critical t-value from the norms is 1.99 for two-tailed at 0.05 level of confidence. The two-tailed P-value equals 0.009 and the results are considered extremely significant.

Table 1.4: Statistical Analysis of t-value for Shuttle run

Group	N	Mean	Standard Deviation	Standard Error of Mean	t-Value	Remarks
Technical Institute Male Students	40	16.49	3.96	0.63	3.36	Significant
Non- Technical Institute Male Students	40	18.89	2.17	0.34		
Df=98, Level of Significance=0.05						

The values in the table 1.4 suggest that the mean score on the parameters of Shuttle run was 19.49 for the technical male students as compared to 16.89 of the non-technical male students. The data of the technical students is more homogeneous as compared with the counterpart. The t-test value of the table is 3.36 and thee Critical t-value from the norms is 1.99 for two-tailed at 0.05 level of confidence. The two-tailed P-value equals 0.0012 and the results of the study are statistically significant.

Table 1.5: Statistical Analysis of t-value for 50 yards

Group	N	Mean	Standard Deviation	Standard Error of Mean	t-Value	Remarks
Technical Institute Male Students	40	6.97	0.76	1.16	1.993	Significant
Non- Technical Institute Male Students	40	7.25	0.46	0.94		
Df=98, Level of Significance=0.05						

The values in the table 1.5 suggest that the mean score on the parameters of 50 yards run test was 6.97 for the technical male students as compared to 7.25 of the non-technical male students. The data of the non-technical students is more homogeneous as compared with the counterpart. The t-test value of the table is 1.993 and thee Critical t-value from the norms is 1.99 for two-tailed at 0.05 level of confidence. The two-tailed P-value equals 0.04 and the difference is

considered to be statistically significant.

Discussion on Results

After analyzing the results of the study, it was found that the there was a statistically significant difference between the technical male students and non-technical male students on the parameters of 60 seconds sit-ups, sit and reach, 50 yards and shuttle run with the level of significance set at 0.05 it can be concluded that the technical students were superior on the selected physical fitness parameters. However, on the 600 yards run-walk test the results were found to be non-significant. 600 yards run-walk analysis the endurance capacity of the players. Therefore, it can be said that the endurance run requires continuity in the players and cannot be sustained if the physical fitness is not paid attention to or done at regular intervals.

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