

COMPARISON THE PHYSICAL FITNESS COMPONENTS AMONG THE STUDENTS OF DIPLOMA IN SPORTS COACHING

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Abstract

The purpose of the study was to compare the physical fitness components of Lakshmibai National University of Physical Education, Gwalior (M.P.) male students of diploma in sports coaching among different sports i. e. Volleyball, Athletics and Basketball. Ten male students from each sport were randomly selected as subject of the study. Their age were ranged from 22 to 29 years. AAHPER Youth fitness test was conducted in order to measure the physical fitness components and one way analysis of variance was employed as a statistical technique to ascertain the significance of difference among selected sports and the level of significance was set at 0.05. The findings indicate that there were no significant differences among the students of selected sports on physical fitness components. On the basis of results of the study it was concluded that there was no significant difference among the students of diploma in sports coaching in relation to speed, agility, abdominal strength, explosive leg strength, muscular endurance.

Key Words: Muscular Endurance, Speed, Agility, Explosive Strength, Cardiovascular Endurance

Introduction

Physical fitness is one of the basic requirements of life. Broadly speaking, it means the ability to carry out our daily tasks without undue fatigue. In the sporting context, it is difficult to define since it can refer to psychological, physiological or anatomical state of the body. Most physical education teachers see it as a concept obtained by measuring and evaluating a person's state of fitness by using a battery of test. The concept of physical fitness, in general athletic terms, means the capability of the individual to meet the varied physical and physiological demands made by a sporting activity, without reducing the person to an excessively fatigued state. Such a state would be one in which he/she can no longer perform the skills of the activity accurately and successfully. Performance of an athlete in sports does not depend only upon the physical fitness components but several other factors also contribute to his success, such as, scientific good

quality equipment, clothing, training schedule, competition frequency psychological preparation, and balanced diet. All these factors together prepare the athlete for the competition. Apart from those all, he must develop the motor fitness. Research findings show that high level of technique perfection alone can not produce success in competitive sports. Most of the games demand a higher level of fitness of the athletes. Although Motor Fitness is most often used synonymously with the physical fitness by the coaches but, it is very important for the physical education students to understand the basic difference between physical fitness and motor fitness. Physical fitness is used to denote the five basic fitness components, i.e. muscular strength, muscular endurance, cardiovascular endurance, freedom from obesity and flexibility whereas, skill related physical fitness is more comprehensive term which include all the ten fitness components including additional five motor components, i.e. power, speed, agility, balance and reaction time which are important mainly for success in sports. In other words, the researcher has already mentioned the six components of physical fitness which come under the AAHPER Youth Fitness Test and that are enlisted below: Muscular Strength, Muscular Endurance, Speed, Agility, Explosive Strength, and Cardiovascular Endurance. The purpose of the study was to compare the physical fitness components of diploma in sports coaching students. The study was delimited to Volleyball, Athletics and Basketball diploma students of LNUPE, Gwalior (M.P.) only. On the basis of available literature the problem was hypothesized that there would be significance difference on physical fitness components among the students of diploma in sports coaching on selected sports.

Methodology

The researcher conducted the study on diploma in sports coaching students of LNUPE, Gwalior (M.P.) to compare the physical fitness components and for this purpose, a total of 30 students (10 male students from each sport i. e. Volleyball, Athletic and Basketball) were selected as the subjects. Initially the investigator assembles all the subjects in the Track and Field of Lakshmibai National University of Physical education, Gwalior (M.P.) and explained the purpose of the present study and before the administration of each test necessary instructions were given to the subject. The criterion measures were Muscular strength

(measured with the help of sit ups and the number of sit ups in one minute was taken as the score), Agility (measured by using 4 x 10 m shuttle run. The score was recorded to the nearest tenth of a second), Explosive strength (measured by the horizontal distance covered in feet and inches between the take off line and the nearer break made in landing using standing broad jump), Speed (measured by 50 m dash. The score was recorded to the nearest tenth of a second), Cardio vascular endurance (measured by the 600m run/walk and the score was recorded to the nearest one tenth of a second), Shoulder strength (measured by the help of pull up test and the number of pull ups was considered as the score of the test). One way analysis of variance was employed to assess the significant difference of the mean among the students of selected sports and LSD test for post hoc comparison to determine the significance of difference between paired means and the level of significance was set at 0.5.

Finding

The Physical fitness components were collected on 30 male subjects of different sports belonging to diploma in sports coaching. To examine the differences between all selected sports on their selected variables named speed, agility, muscular strength, muscular endurance, cardiovascular endurance and explosive strength, the data was analyzed using the mean, standard deviation and Analysis of Variance. Mean and standard deviations of diploma in sports coaching students of different sports were computed and data pertaining to that have been presented in table -1.

Table-1

Mean and Standard Deviation of Speed, Agility, Muscular Strength, Muscular Endurance, Cardiovascular Endurance and Explosive Strength of selected sports

Variables	Groups	Mean	Standard Deviation
Speed	Volleyball	7.07	0.597
	Athletics	7.07	0.525
	Basketball	7.21	0.247
Agility	Volleyball	10.65	.57
	Athletics	10.95	.73
	Basketball	11.25	1.25
Muscular Endurance	Volleyball	52.90	7.29
	Athletics	54.30	8.25
	Basketball	49.65	7.63
Muscular strength	Volleyball	10.60	1.76
	Athletics	10.90	1.66
	Basketball	11	1.94
Explosive strength	Volleyball	2.96	.084
	Athletics	3.01	.122
	Basketball	2.90	.187
Cardiovascular endurance	Volleyball	1.83	.342
	Athletics	1.68	.273
	Basketball	1.77	.425

The graphical representation of mean of physical fitness components has been presented in figure 1.

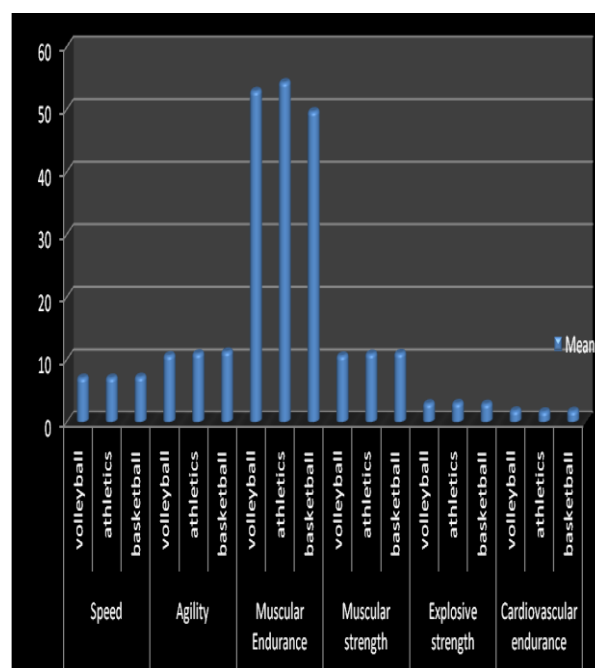


Fig. 1: Mean value of physical fitness components of selected sports

The graphical representation of figure 1 reveals the status of mean of selected sports on physical fitness components. The mean difference among the selected sports students of diploma in sports coaching in relation to Speed, agility, muscular endurance, muscular strength, explosive strength and cardiovascular endurance has been presented in table 2 to 7.

Table-2
Analysis of Variance of Speed (50m Dash)

Source of Variance	df	SS	MS	'F'
Between	2	.228	0.11	0.497
Within	27	6.19	0.22	
Total	29	6.41		

*Significant at 0.05 level of significance i.e., $F_{(0.05)(3, 27)} = 2.96$

The data presented in table 2 clearly reveals that there was no significant difference among selected sports of diploma in sports coaching students on Speed, since the calculated 'F' value .497 was found to be less than tabulated 'F' value 2.96 required to be significant at 0.05 level.

Table-3
Analysis of Variance of Agility (Shuttle Run)

Source of Variance	df	SS	MS	'F'
Between	2	1.83	0.917	1.29
Within	27	19.11	0.708	
Total	29	20.94		

*Significant at 0.05 level of significance i.e., $F_{(0.05)(3, 27)} = 2.96$

The data presented in table 3 clearly indicates that there was no significant difference exist among selected sports of diploma in sports coaching students on Agility, since the calculated 'F' value 1.296 was found to be less than tabulated 'F' value 2.96 required to be significant at 0.05 level.

Table-4
Analysis of Variance of Muscular Endurance (Sit Ups)

Source of Variance	df	SS	MS	'F'
Between	2	105.83	52.91	0.884
Within	27	1557	59.89	
Total	29	1662.83		

*Significant at 0.05 level of significance i.e., $F_{(0.05)(3, 27)} = 2.96$

The data presented in table 4 clearly reveals that there was no significant difference among selected sports of diploma in sports coaching students on Agility, since the calculated 'F' value .884 was found to be less than tabulated 'F' value 2.96 required to be significant at 0.05 level.

Table-5
Analysis of Variance of Muscular Strength (Pull Ups)

Source of Variance	df	SS	MS	'F'
Between	2	0.86	.43	0.134
Within	27	87.30	3.23	
Total	29	88.16		

*Significant at 0.05 level of significance i.e., $F_{.05(3, 27)} = 2.96$

The data presented in table 5 clearly reveals that there was no significant difference exist among selected sports of diploma in sports coaching students on Agility, since the calculated 'F' value .134 was found to be less than tabulated 'F' value 2.96 required to be significant at 0.05 level.

Table-6
Analysis of Variance of Explosive Strength (Standing Broad Jump)

Source of Variance	df	SS	MS	'F'
Between	2	0.06	0.031	1.635
Within	27	0.51	0.019	
Total	29	0.57		

*Significant at 0.05 level of significance i.e., $F_{(0.05)(3, 27)} = 2.96$

Table 6 finding reveals that there was no significant difference among selected sports of diploma in sports coaching students on Agility, since the calculated 'F' value 0.1635 was found to be less than tabulated 'F' value 2.96 required to be significant at 0.05 level.

Table-7
Analysis of Variance of Cardiovascular Endurance (600m Run/Walk)

Source of Variance	df	SS	MS	'F'
Between	2	0.119	0.060	0.480
Within	27	3.355	0.124	
Total	29	3.474		

*Significant at 0.05 level of significance i.e., $F_{(0.05)(3, 27)} = 2.96$

The finding of the Table 6 reveals that there was no significant difference exist among selected sports of diploma in sports coaching students on Agility, since the calculated 'F' value .480 was found to be less than tabulated 'F' value 2.96 required to be significant at 0.05 level.

Discussion

The finding of the study shows that the students of diploma in sports coaching of selected sports had no significant difference in relation to Speed, agility, muscular endurance, muscular strength, explosive strength and cardiovascular endurance. Such type of finding may be attributed to the fact that selected subjects for present study were exposed to similar type of conditioning and training program in morning session and their level of participation were almost similar on the basis of which they got admission in diploma course. And their training age, maturity was some of the reason due to which such finding might be happen.

Conclusion

On the bases of results of the study it was conclusion that there was no significant difference among the students of diploma in sports coaching in relation to Speed, agility, muscular endurance, muscular strength, explosive strength and cardiovascular endurance. So on the basis of this we can say that selected sports student of diploma in sports coaching in relation to physical fitness were almost same.

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