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Relationship analysis of motor fitness components among various sports persons

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Abstract

This study aim to compare the motor fitness components among different sports person, In today's scenario where the sports has become highly competitive motor fitness components plays key role in winning. For this study the investigator selected thirty eight (N = 38), Male subjects between the age group of 18-28 years (Mean \pm SD: age 20.31 ± 1.82 years, Body Height 160.62 ± 7.61 m, Body Mass 55.07 ± 8.13 kg). The Statistical Package for the Social Sciences (SPSS) version 14.0 was used for all analyses. In all the analyses, the 5% critical level ($P < 0.05$) was considered to indicate statistical significance, the differences in the mean of each group for selected variable were tested for the significance of difference by One-way Analysis of Variance (ANOVA) In a nutshell it can be said that from the findings that insignificant differences were found among Inter-varsity level basketball, handball and volley ball players on the sub-variables of Motor Fitness Components i.e., Flexibility, Balance, Agility and Speed.

Keywords: motor fitness, sportsperson, ANOVA, flexibility, speed, agility

Introduction

Today, every player is sound in technically as well aesthetically. The playing abilities are levelled today. Many factors such as level of physical fitness, physiological and psychological abilities, technique, tactics, physique, body size, body composition and application of bio-mechanical principles are becoming more and more advanced. Ortega *et al.* (2008) [4]. The relationship of sports performance with the physical, psychological and physiological abilities has been the thrust area for researchers from decades. There have been thousands of attempts by the researchers to develop a consistent Physical and psychological and physiological profile of athletes, to be reliably used to differentiate athletes and to predict the sports performance Ketelaar *et al.* (2009), Lena *et al.* (2010), James *et al.* (2011) [7]. Scientists and physiologists have been of the view that body composition and physical components of an athlete have a lot to do with his Performance. More than the technique and tactics of a player or a team physical and physiological characteristic helps him for better performance. The results of various studies show that motor fitness components of athletes differ from game to game position to position, male to female athletes and they affect the sports performance. Johnson and Buskfrk (1974) found in his study the successful wrestlers had better balance than the unsuccessful wrestlers. Maihotra and Subramaniam (1982) [3] have claimed that a high level of general fitness with motor abilities like strength, aerobic endurance, speed of moment, jumping ability, agility flexibility etc. are the essential qualities required to be developed by the Footballers.

Selection of subjects

The researcher collected the data on Thirty eight (N = 38), Male subjects between the age group of 18-28 years (Mean \pm SD: age 20.31 ± 1.82 years, Body Height 160.62 ± 7.61 m, Body Mass 55.07 ± 8.13 kg) were selected. The subjects were purposively assigned into three groups:

- Group-A: Football (n1 = 12)
- Group-B: Volleyball (n2 = 11)
- Group-C: Basketball (n3 = 15)

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Selection of test

The various tests were implemented on the selected sports persons to check their motor ability. These tests are following Flexibility - Sit and Reach Test Balance- Standing Stork Test Agility - Illinois Agility Test Speed - 30 Meter Sprint.

Statistical techniques employed

The Statistical Package for the Social Sciences (SPSS)

version 14.0 was used for all analyses. In all the analyses, the 5% critical level ($P < 0.05$) was considered to indicate statistical significance. The differences in the mean of each group for selected variable were tested for the significance of difference by One-way Analysis of Variance (ANOVA).

Results

Table 1: Analysis of variance (ANOVA) results with regard to motor fitness components among football, volleyball and basketball players on the sub-variable flexibility

Source of variation	Sum of square	Degree of freedom	Mean square	F-value	P-value (sig.)
Between group	66.026	2	33.013	2.200	.126
Within group	525.112	35	15.003		
Total	591.138	37			

It is evident from Table 1 that the results of Analysis of Variance (ANOVA) with regard to Motor Fitness Components among Inter-varsity level Football, Volleyball

and Basketball players on the sub-variable Flexibility were found statistically insignificant ($P > .05$).

Table 2: Analysis of variance (ANOVA) results with regard to motor fitness components among football, volleyball and basketball players on the sub-variable balance

Source of variation	Sum of square	Degree of freedom	Mean square	F-value	P-value (sig.)
Between group	10.604	2	5.302	.115	.891
Within group	1608.370	35	45.953		
Total	1618.974	37			

It is evident from Table 2 that the results of Analysis of Variance (ANOVA) with regard to Motor Fitness Components among Inter-varsity level Football, Volleyball

and Basketball players on the sub-variable balance were found statistically insignificant ($P > .05$).

Table 3: Analysis of variance (ANOVA) results with regard to motor fitness components among football, volleyball and basketball players on the sub-variable agility

Source of variation	Sum of square	Degree of freedom	Mean square	F-value	P-value (sig.)
Between group	3.435	2	1.717	1.570	.222
Within group	38.290	35	1.094		
Total	41.725	37			

It is evident from Table 3 that the Results of Analysis of Variance (ANOVA) with regard to Motor Fitness Components among Inter-varsity level Football, Volleyball

and Basketball players on the sub-variable agility were found statistically insignificant ($P > .05$).

Table 4: Analysis of variance (ANOVA) results with regard to motor fitness components among football, volleyball and basketball players on the sub-variable speed

Source of variation	Sum of square	Degree of freedom	Mean square	F-value	P-value (sig.)
Between group	.011	2	.005	.033	.967
Within group	5.574	35	.159		
Total	5.585	37			

It is evident from Table 4 that the Results of Analysis of Variance (ANOVA) with regard to Motor Fitness Components among Inter-varsity level Football, Volleyball and Basketball players on the sub-variable speed were found statistically insignificant ($P > .05$).

Conclusion

In a nutshell it can be said that from the findings that insignificant differences were found among inter- varsity level Football, Volleyball and Basketball players on the sub-variables of Motor Fitness Components i.e., Flexibility, Balance, Agility and Speed.

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