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Orientation Ability among Ball Game Players: A Comparative Analysis

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Abstract

This study was carried out to find out the best ball game players among basketball, football and volleyball with regard to orientation ability. A total Thirty (N=30) male Inter-College level ball game players selected as subjects from Lyallpur Khalsa College, Jalandhar. Through critical and allied literature pertaining to the problem that researcher himself selected the Orientation ability as variable. The orientation ability was measured through Numbered Medicine Ball Run Test and the scores were recorded in seconds. The obtained data was analyzed with S.P.S.S. by applying One Way Analysis of Variance (ANOVA) to find out the possible difference in the orientation abilities among the players of ball games. Further L.S.D. Post-hoc test was applied to find out the best ball game players among basketball, football and volleyball players. Significant level was checked at 0.05 levels. The result of the study indicates that, orientation ability was found statistically significant between volleyball and basketball players. The basketball players have better orientation ability in comparison to volleyball players as well as significant difference was also found between the basketball and football players. On other hand insignificant difference was found between the players of volleyball and football.

Keywords: Orientation ability, sports, ball game, players.

Introduction

Physical activity provides an existing outlet for human expression which is often creative in nature. Human beings normally run, jump, throw, catch, kick, push, pull, strike and perform a multitude of basic skills. They combine the skills into pattern of unceasingly greater specificity and complexity. The application of sports sciences for preparation of athletes is continuous process. Contemporary sport scientists continue to explore the physiological and performance effects of different training interventions, recovery modalities, nutritional countermeasures and biomechanical factors on performance in order to increase the performance of players. It is generally known that success in most of modern sports is linked to proper ability of running, jumping, pushing pulling and throwing[1]. Since movement is the biological necessity of every human being, but qualitative and performance oriented movements are required in sports for high level performance. This necessity can be satisfying by means of organized physical activities[2]. Sports are one of the most complex activities and it is based on a great diversity of movement. That's why different sports activities require different types of coordinative abilities. The coordinative abilities are the combination of seven abilities i.e. Orientation, Differentiation, Rhythm, Balance, Reaction, Coupling and Adaptation ability[3]. Kent[4] defined that orientation is the ability of a person to be aware of his or her position with respect to both time, place and circumstantial situation. All coordinative abilities are important to perform at top levels in competitive sports especially in ball games. Keeping in view the importance of orientation ability that present study focused to find out the difference with regard to orientation ability and find out the best group among basketball, football and volleyball players.

Methodology

Selection of Subjects: To obtain the purpose of study the sample of thirty (N=30) male college level players were randomly selected as subjects from Lyallpur Khalsa College Jalandhar among basketball, football and volleyball teams. The age of players ranged from 19 to 25 years with mean of 22.17 years.

Tool: Numbered Medicine Ball Run Test by Hirtz[5] was used to record the response of orientation ability of basketball, football and volleyball players. The scores were recorded in seconds. Before the final commencement of the test a good motivation were given to all the subjects.

Statistical Analysis: To determine the significant differences of orientation ability among basketball, football and volleyball players that one way Analysis of Variance (ANOVA) was employed as statistical tool with S.P.S.S. To find out the intra-group difference that where the F-value found significant then Least Significant Difference (L.S.D.) post-hoc test was applied to find out the direction and degree of difference. The level of significance was set at 0.05.

Results and Discussion

The descriptive statistics, one-way Anova and L.S.D. post-hoc tests are presented in tables and Interpretations given accordingly. The graphical representation also presented for

comparison of mean scores among basketball, football and volleyball players.

Table-I shows that Mean and S.D. of basketball players are 8.51 and 0.33. Mean and S.D. of football players are 9.24 and 0.51. Mean and S.D. of Volleyball players are 9.09 and 0.50. The mean of football players is comparatively higher than the means of basketball players and volleyball players but the scores were recorded in seconds so the mean timing of basketball players (8.51) is comparatively better than the other sports i.e. volleyball (9.09) and football (9.24) players.

It can be seen from table - 2 that results of Analysis of Variance (ANOVA) among ball game players (basketball, football and volleyball) with regard to orientation ability were found statistically significant (P<.05). Since the obtained F-value 7.115 was found statistically significant, therefore, LSD (Post-hoc) test was applied to find out the degree and direction of difference between paired means among basketball, football and volleyball players with regard to orientation ability. The results of Post-hoc test have been presented in table-3.

Table-1
Descriptive Statistics of Orientation Ability among Ball Game Players

Game	Subjects	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Basketball	N=10	8.51	0.33	.10680	8.15	9.18
Football	N=10	9.24	0.51	.16188	8.36	9.95
Volleyball	N=10	9.09	0.50	.15812	8.23	9.98
Total	N=30	8.94	0.54	.09945	8.15	9.98

Table-2
One Way Analysis of Variance of Orientation Ability among Ball Game Players

	Sum of Squares	*Df*	Mean Square	F-value	Sig.
Between Groups	2.970	2	1.485	7.115*	.003
Within Groups	5.635	27	.209		
Total	8.605	29			

*significant at 0.05 level.

Table-3
Analysis of Least Significant Difference (LSD) Post-Hoc Test with Regard to Orientation Ability among Ball Game Players

Mean values and groups		Mean Difference	P-value (Sig.)
Basketball (8.51)	Football (9.24)	.73000	.001
	Volleyball (9.09)	.57900	.009
Football (9.24)	Basketball (8.51)	.73000	.001
	Volleyball (9.09)	.15100	.466
Volleyball (9.09)	Basketball (8.51)	.57900	.009
	Football (9.24)	.15100	.466

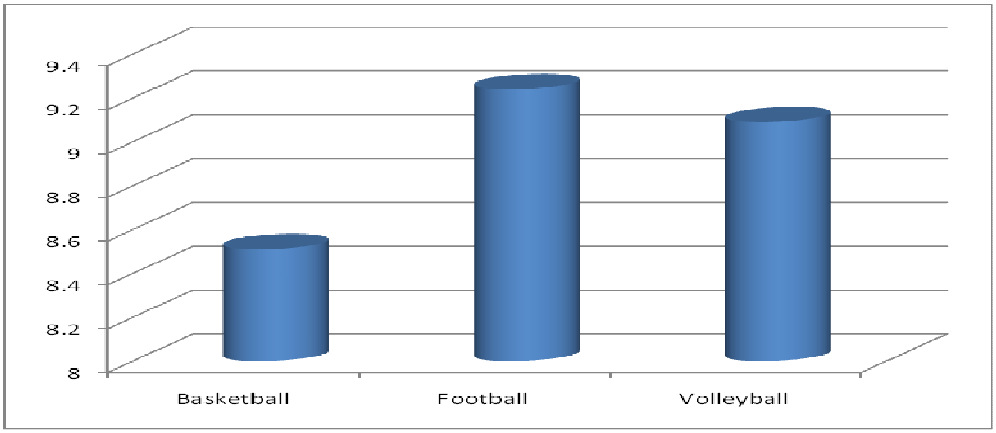

Figure-1
Graphical Representation of Orientation Ability among Ball Games Players

A glance at table-3 showed that the mean value of basketball group was 8.51 whereas football group had mean value as 9.24 and the mean difference between both the groups was found .73000. The P-value (.001) showed that the basketball group had demonstrated significantly better on orientation ability than their counterparts' football players. The mean value of football group was 9.24, the mean difference between football and volleyball group was found 0.15100. The P-value (.446) showed that the volleyball group had demonstrated better on orientation ability than their counterparts' football group but not significantly. The mean difference between volleyball and basketball players was found .57900. The P-value (.009) again showed that basketball group had demonstrated significantly better on orientation ability than their counterparts' volleyball group. The graphical representation of responses has been exhibited in (figure-1).

Discussion: The obtained data was analyzed by applying One Way Analysis of Variance (ANOVA) to find out the possible difference in the Orientation ability among the ball game players. The results of the study indicates that, Orientation ability significantly differ between basketball, football and volleyball players, As the basketball players have better orientation ability in comparison to football and volleyball players. This happen may be due to the basketball players trained in such a way that they shall give and receive passes keeping in mind the ambient position of the opponent and teammates during course of game. The muscles vary considerably in size, shape and arrangement of fibers. Eichorn[6] indicated that the white blood cells help to move faster in any of the physical activity, the more number and bigger the size of the WBC in the muscle fibers create the efficient movement in any of the sports activity like that in the game basketball an individual needs to have good WBC to move better in the game situation. The nervous system communicates with muscle via neuromuscular (also called myoneural) junctions. These junctions work very much like a synapse between neurons. On other hand football players get much of the time in comparison to basketball players to perform the movement in a given space and time. A significant difference was found between the basketball and volleyball players because of the nature of the training. Slater and Hammel[7] found that basketball players have better reaction time than other games players. The movements performed by the basketball players are more rapidly in a small space and less time. Paish[8] stated that the orientation ability needs to react on a signal, to change the movement exactly and accuracy in a given time, also to react on a stimulus given to the particular muscles. The perception of position and movement and motor action to change the body should be understood as a unity for the ability for space and time oriented movement regulation[9]. In the game of basketball, players always moves on signal, sound and perform the movements as per the rule and regulation, which are much tougher that you cannot move forward without dribble and you have to pass the ball within a time limits. So this game required a lots of orientation ability to perform better than football and volleyball players. No difference has been found between football and volleyball players in regard of orientation ability. Nasreen and Uppal[10] found that volleyball players are superior as compare to football players in orientation and rhythm abilities though insignificantly. Singh[3] also emphasized that demand of orientation ability are vastly different in different games.

Conclusion

On the basis of findings of study it is concluded that basketball players are significantly better as compare to their counter partner volleyball and football players. On other hand volleyball and football players did not differ significantly. Orientation ability needed in ball games but basketball players need more orientation ability as compare to other ball game players.

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