International Journal of Physical Education and Sports Sciences
Vol. 14, Issue No. 01, January-2019, ISSN 2231-3745

Comparison of Selected Physical Fitness Variables among Different Positional Male Football Players

Sali K. S.[1]* Nidhin M. N.[2]

[1] Assistant Professor, Christ College Autonomous, Irinjalakuda, Thrissur, Kerala

[2] Assistant Professor, Christ College of physical education, Irinjalakuda, Thrissur, Kerala

Abstract – The aim of analysis was to look at chosen variables of physical fitness among various positional male football players, for example midfield and resistance strikers. For this purpose a sample of sixty (N=60) male football players, which includes 20 strikers, 20 midfielders and 20 defenders were selected from Christ college irinjalakuda and SSUS kalady. Their age ranged between18-25. All the participants were informed about aim and methodology of study and they volunteered to participate in this study. The test was performed on selected variables of physical fitness, such as speed agility and dangerous strength. One path investigation of change (ANOVA) was applied to discover the critical reverence as to chosen physical fitness variables of male football players of various playing position. The post-hoc analysis of Schffe was applied to see the bearing and hugeness of contrasts where' F' recognition was measurably noteworthy.

Keywords: Speed, Agility, Muscular Power, Positional Players, Football

----------♦----------

INTRODUCTION

Football is a world's most popular ball game in numbers of participants and spectators. FIFA detailed that around 250 million players and more than 1.3 billion individuals were keen on football at the turn of the 21st century. This is a highly competitive sport in the world, which requires high level of physical, physiological and psychological fitness. Apart from genetically endowed physical qualities, a psychological traits plays a significant role in making participants to give extraordinary performance in competitive sports. In recent years, literature of physical education and sports indicates that physical, psychological and environmental factors besides fitness, physique and skill of the activities, there are also various psychological factors i.e. intelligence, attitude, motivation, stress, anxiety, and aggression which crucially influence performance of sports person in the high level competitions.

Success of team sports requires psychological and physical wellbeing in addition to precise motor skills, tactical qualities, playing style, seasonal period, and individual and team motivation. Of the determinants affecting sports performance, physical fitness may be the most important. Physical fitness is portrayed as the capacity to perform every day action with imperativeness and sharpness, without undue depletion, while simultaneously having the option to value the requirements of relaxation time and meet the unforeseen crises. It is the blend of features of physical fitness identified with wellbeing and capacity that is urgent in impacting people in sports or games. The game football is the combination of some performance parameters which includes motor qualities, physical components, physiological components, psychological components, anthropometric components etc. only the maximum performance is possible when these all parameters works together.

Motor quality can be defined as generally stable arrangements of internal inherited assumptions that train exercises are expected to perform. It is one aspect of multidimensional physical fitness construction, which is defined as a lot of physical characteristics that individuals have or obtain as a result of the ability to execute physical movement. Physical fitness is a term that portrays the capacity of a competitor during movement to perform viably. They incorporate power, speed, coordination of steadiness and flexibility. Athletic capacities show motor limits ostensibly. Athletic abilities are presuppositions required for actualizing execution in a chose games discipline which is constrained by rules. Such presuppositions are gained through motor learning. Physical fitness is an important factor that determines the performance level of the

individual. When people are physically fit they look better, feel better, work better, think better and resist disease and tension more easily.

Physical fitness elements are important to the full fitness of the body and brain. All of these components of fitness have a specific reason and part to be physically fit and healthy. Physical well-being and fitness are certainly more probable than normal. This requires a heroic effort to look, smell and put forth by men. For order to measure an individual's general fitness, you will consider the five elements of physical fitness. Exercise should be focused on the significant 5 health-related components of exercise for a normal individual. For making a decision on a competitor's physical fitness, other expertise-related components of physical fitness such as speed, dexterity, balance, coordination, response time and power are considered.

STATEMENT OF THE PROBLEM

The reason for the investigation was to think about the chose physical parameters (speed, agility, and explosive power) between various football positional players (strikers, midfielders, and defender).

DELIMITATION

The study was delimited to the following aspects

i. Sixty male football players were selected from different football players from Christ college Irinjalakuda and SSUS Kalady

ii. The age of the players ranged between 18-25 years.

iii. The speed, agility and explosive power were delimited as physical fitness variables.

LIMITATION

The study was conducted with the following limitation

i. Certain factors like habits, life style, daily routine work, diet etc. might have influenced the results which were not considered in this study.

ii. Heredity and environmental factors which contribute to psychological factors have not been controlled

iii. The players were from different social, cultural and economic status which was taken a limitation of this study.

DEFINITION AND EXPLANATION OF TERMS

Speed

Johnson and Nelson (1985) define speed as the rate at which a person can propel his body, or parts of his body through space. Speed is the ability to move from one place to another in the shortest possible time. It is primarily innate, yet it can be improved through practice for technique and movement efficiency.

Agility

Fleishman (1964) defines agility as the ability to change the direction of the body or of the parts of the body rapidly. It is interrelated with speed, strength, balance and coordination. Agility, like speed, is partially innate; yet, it can also be improved through practice. The obtaining of agility is essential to the achievement of game exercises requiring evading, altering course and quick start and stopping (Carl Gabbard and Susan Lowy 1987).

Power

Barrow and McGee (1979) define power as the capacity of the individual to bring into play maximum muscle contraction at the fastest rate of speed. Power is an explosive action and it is equal to the product of force times 27 velocity, where force has to do with muscle strength and velocity with the speed with which strength is used in motor performance

METHODOLOGY

Selection of subjects

To achieve the purpose of the study sixty men football players aged between 18 –25 were selected as the subjects at random. The selected subjects were from selected from different football clubs in Christ College Irinjalakuda and SSUS Kalady

Selection of variables

Speed, agility and explosive power were selected as the independent variables

Selection of test

The selected variables were tested by using the standardized tests and are represented in Table-I

TABLE-I

S. No	Variables	Tests	Units of Measurement
1	Speed	50 meter run	Seconds
2	Agility	Shuttle run	Seconds
3	Explosive power	Standing broad jump	Meters

Reliability of the data

Data reliability was accomplished by computing through the reliability of the instrument, the reliability of the subject and the reliability of the analyzer.

Instrument reliability

The instruments were brought from standard company and their calibration was checked with

original instruments to find out the reliability of instruments and found accurate and reliable also. Both quality and quantity was checked and found used within the prescribed date.

Subject reliability

In order to get the same result the same tests were used to measure the independent variables with the same subjects by the same investigator were considered.

Tester's reliability

The assistance of specially trained fitness professional was sought on administration of various test items. They were oriented about the procedures of measuring and recording the scores in each variable.

TEST ADMINISTRATION

Speed (50 Mtrs)

Procedure

50 mts run: a single total sprint more than 50 meters with recorded time. There has been a far reaching warm-up, including some beginning preparing and speeding up. Beginning from a stationary standing situation with one foot before different (hands can not contact the ground). Behind the beginning line was the front foot. Once the subject was ready and motionless, the starter gave the instructions "set" then "go". The analyzer offered tips to enhance speeding up, (for example, remaining low, driving quick with arms and legs) and encouraged the understudy not to back off until intersection the end goal. The timing started from the main development (the utilization of stopwatch) and finished when the chest crossed the end goal.

Agility (Shuttle run)

Procedure

Pace and directional change (Shuttle run): Agility is the capacity to alter the course of the body productively and viably and to achieve this, a blend of security, pace, quality and coordination was required. To identify the agility ability the shuttle run test were administrated in the handball court. For this two parallel lines were marked on the court with the distance of ten meters. The first line named starting line. From the starting line the ten meters distance marked again, it was called as end line two wooden blocks were placed. When the whistle below, the subject run towards the blocks and collect, placed the block behind the starting line, like this the subject collect the second block also. When the subject start run the researcher start the stop watch and the stopwatch stop when the subject finished successfully. The covered distance was recorded in seconds.

Explosive Power

Procedure

To measure the explosive power of the legs, group of participants warmed up actively up to 10 minutes before the test, The subjects stood slightly apart behind a line drawn on the surface. A two-foot takeoff and landing was used to provide forward drive with arms swinging and knee bending. The subjects were asked to hop as far as possible without falling backwards, landing on both feet. There are three attempts allowed. The calculation was taken at the landing from the take-off line to the closest contact point (the heels back). The highest of three attempts was to mark the longest distance jumped. The subjects ' covered distance was measured in metres.

Statistical technique

Factually, the data gathered from the subject are seen. ANOVA was utilized to look at the football players ' free variables. At whatever point the' F' proportion acquired was seen as huge, the Scheff test was utilized as a post-hoc test to decide the mean contrasts combined.

RESULT AND DISCUSSION

Result of speed

Table II: showing the mean values of speed among different positional football players (scores in seconds)

Strikers	Mid fielders	Defenders
6.6570	6.4635	6.7120

TABLE II (a): Result of one way analysis of variance of speed among different positional football players (scores in seconds)

Variable	Source of variance	Sum of Squares	DF	Mean Square	Obtained 'F' Ratio	Required F Ratio
SPEED	Within	6.795	2	.119	2.858	3.16
	Between	.681	57	.341		
	Total	7.476	59			

*Significant at 0.05 level of confidence. DF: Degree of Freedom. Required table value for the test the significance as 3.16 with the df of 2 and 57.

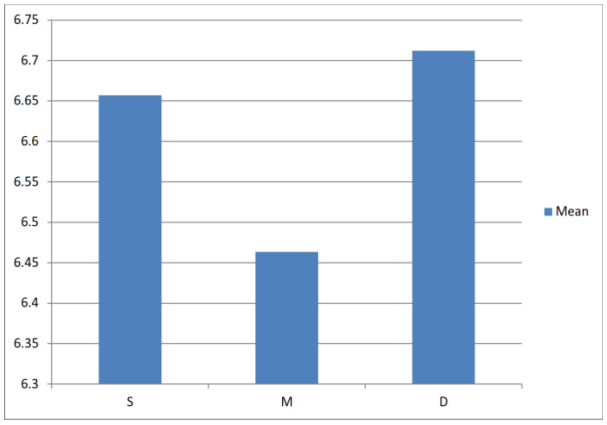
DISCUSSION ON SPEED

The mean value of strikers, midfielders and defenders were 6.6570, 6.4635 and 6.7120 respectively. The obtained F-ratio 2.858 was lesser

than the table ratio of 3.16 and the degrees of freedom 2 and 57. The result of one way analysis of variance clearly proved that there was no significance on speed among three different positional players of strikers, midfielders and defenders.

FIGURE 1

The bar diagram of one way analysis of variance on speed of three different positional football players



S - Strikers

M – Midfielders

D - Defenders

RESULT OF AGILITY

TABLE III: Mean value of agility among different positional football players (scores in seconds)

Strikers	Mid fielders	Defenders
8.9645	9.0615	9.3690

TABLE III (a): Result of one way analysis of variance of agility among different positional football players (scores in seconds)

Variable	Source of variance	Sum of Squares	DF	Mean Square	Obtained 'F' Ratio	Required F Ratio
AGILITY	Within	9.414	57	.165	5.401*	3.16
	Between	1.784	2	.892		
	Total	11.198	59			

*Significant at 0.05 level of confidence. DF: Degree of Freedom. Required table value for the test the significance as 3.16 with the df of 2 and 57.

TABLE III (b)

Paired mean difference of Scheffe's post hoc test of agility among different positional football players (scores in seconds)

Strikers	Midfielders	Defenders	Mean differences	Confidence interval value
8.9645	9.0615		.097	0.4
8.9645		9.3690	.4045*	0.4
	9.0615	9.3690	.3075	0.4

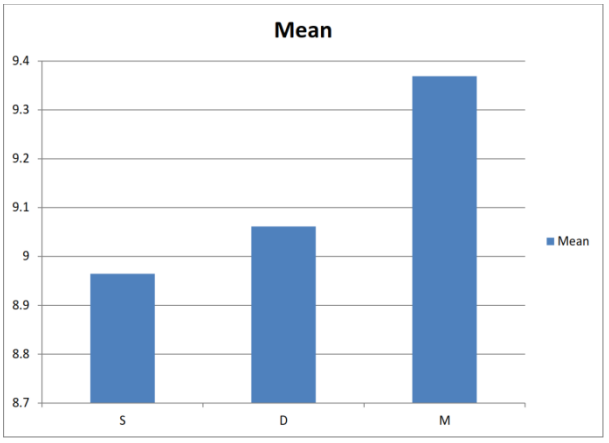
*Significant at 0.05 level of confidence

DISCUSSION ON AGILITY

The mean value of strikers, midfielders and defenders were 8.9645, 9.0615 and 9.3690 respectively. The obtained F-ratio 5.401 was greater than the table ratio of 3.16 and the degrees of freedom 2 and 57. The result of one way analysis of variance clearly proved that there was significance on agility among three different positional players of strikers, midfielders and defenders. The Scheffe's post hoc test was used to analyze the paired mean significance difference. The comparison of strikers and midfielders mean difference values .097 was lesser than the confidence value of 0.4. Hence the above comparison was not significant. The comparison of strikers and defenders mean difference values .4045 higher than the confidence value of 0.4. Hence the above comparison was significant. The comparison of midfielders and defenders mean difference values .3075 lesser than the confidence value of 0.4. Hence the above comparison was not significant.

FIGURE 2

The bar diagram of one way analysis of variance on agility of three different positional football players



S - Strikers

M – Midfielders

D - Defenders

RESULT OF EXPLOSIVE POWER

TABLE IV: Mean value of explosive power among different positional football players (scores in meters)

Strikers	Mid fielders	Defenders
2.1070	2.0640	2.0860

TABLE IV (a) : Result of one way analysis of variance of explosive power among different positional football players (scores in meters)

Variable	Source of variance	Sum of Squares	DF	Mean Square	Obtained 'F' Ratio	Required F Ratio
EXPLOSIVE POWER	Within	.763	57	.013	.690	3.16
	Between	.018	2	.009		
	Total	.782	59			

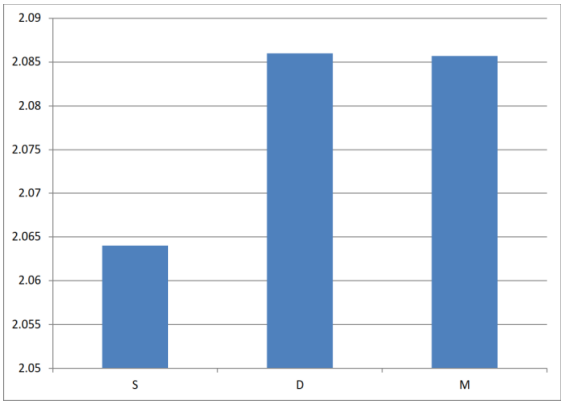
*Significant at 0.05 level of confidence. DF: Degree of Freedom. Required table value for the test the significance as 3.16 with the df of 2 and 57.

DISCUSSION ON EXPLOSIVE POWER

The mean value of strikers, midfielders and defenders were2.1070, 2.0640 and 2.0860 respectively. The obtained F-ratio .690 was lesser than the table ratio of 3.16 and the degrees of freedom 2 and 57. The result of one way analysis of variance clearly proved that there was no significance on explosive power among three different positional players of strikers, midfielders and defenders.

FIGURE 3

The bar diagram of one way analysis of variance on explosive power of three different positional football players



S - Strikers

M – Midfielders

D - Defenders

DISCUSSION ON FINDINGS ON PHYSICAL FITNESS VARIABLES

- The defenders had a better speed quality than mid fielders and strikers. However the strikers had greater speed quality than the midfielders.
- The defenders had a superior agility performance than mid fielders and strikers. However the midfielders had greater agility performance than the strikers.
- The striker had a bigger explosive power than mid fielders and defenders. However the defender had greater explosive power than the midfielders

CONCLUSION

1. There was no significant difference existed among deferent positional players in football on speed.
2. There was significant differences existed among deferent positional players in football on agility.
3. There was no significant difference existed among deferent positional players in football on leg explosive power.

REFFERENCE

1. Karthi S.R. & Krishnakanthan D.S.K. (2012). Comparative analysis of selected physical variables among football hockey and basketball players. Ind J Res.; 3(8): pp. 57–158.
2. Kumar A. & Kumar A.C. (2014). A comparative study of endurance and agility between rural and urban male basketball players. Int J Phy Edu Sports Health; 1(12): pp. 25–7.
3. Singh K. & Singh R. (2017). Comparison of selected physical fitness components of badminton and basketball players. Int J Appl Res.; 3(4): pp. 236–40.

Corresponding Author

Sali K. S.*

Assistant Professor, Christ College Autonomous, Irinjalakuda, Thrissur, Kerala