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### **Influence of Specific Field Training on Speed and Agility Among Soccer Players**

**Arumugam S.<sup>1\*</sup> and Kumar V.<sup>2</sup>**

<sup>1\*</sup>Department of Physical Education and Sports, Manonmaniam Sundaranar University,  
Abishekapatti, Tirunelveli, Tamilnadu, India-627 012  
Email ID: draru1975@gmail.com, Mobile No.: 9489233679

<sup>2</sup>Department of Physical Education and Sports, Manonmaniam Sundaranar University,  
Abishekapatti, Tirunelveli, Tamilnadu, India-627 012  
Email ID: kumarphs1987@gmail.com, Mobile No. 9445234297

#### **ABSTRACT**

The purpose of the study was to find out the influence of specific field training on speed and agility among soccer players. To achieve the purpose of this study, 20 male soccer players were randomly selected as subjects from the M.D.T Hindu College, Tirunelveli, Tamilnadu, India. Their age were ranged from 18 to 22 years. The selected participants were randomly divided into two groups such as Group 'I' underwent specific field training (n=10) and Group 'II' acted as control group (n=10).group 'A' underwent specific field training for three alternative days and one session per day and each session lasted for an hour for six week. Control group was not exposed to any specific training but they were participated in regular activities. The data on speed and agility were collected by administering by 30m dash and 4x10 m shuttle run (seconds). The pre and post tests data were collected on selected criterion variables prior and immediately after the training programme. The pre and post-test scores were statistically examined by the dependent 't'-test and Analysis of Co-Variance (ANCOVA) for each and every selected variables separately. It was concluded that the specific field training group had shown significantly improved on speed and agility. However the control group had not shown any significant improvement on any of the selected variables.

**KEYWORDS:** Specific Field Training, Speed, Agility, Soccer Players

#### **\*Corresponding author**

#### **Dr. S. Arumugam**

Department of Physical Education and Sports

Manonmaniam Sundaranar University

Abishekapatti, Tirunelveli,

Tamilnadu-627012, India.

Email id: draru1975@gmail.com, Mobile no.: 9489233679

## **INTRODUCTION**

Sport has a very prominent role in modern society. It is important to an individual, a group, a nation indeed to the whole world. Sport is an institutionalized competitive activity that involves vigorous physical exertion or the use of relatively complex physical skills by individuals whose participation is motivated by a combination of the intrinsic satisfaction associated with the activity itself and external rewards earned through participation.<sup>1</sup>

The world of games and sports is ever expanding with intensity of competition and enlarging scientific studies of human movement. Soccer is a game which calls for strenuous continuous thrilling action and therefore appeals to the youth of the world.<sup>2</sup> Physical fitness is one of the most important factors that determine the performance level of an individual. Sports performance depends largely on physical fitness factors such as strength, speed, endurance, flexibility and various abilities requiring co-ordination.<sup>3</sup>

Soccer, as it is seen today, has undergone a tremendous improvement since its birth. Of all the events in human history the one to attract the largest audience was neither a great political occasion nor a special celebration of some complex achievements in the art or science, but simple ball game a Soccer match. No other sport is so easily available and so immediately inspiring.<sup>4</sup>

A sports training based on the scientific principles aiming at education, improvement of general health and organic functions as well as increasing the strength and stability of the muscular-skeletal system and enhanced performance. Development of motor skill is also one of the objectives of sports training. Techniques of training and improvement of tactical efficiency play a vital role in training process.<sup>5</sup>

Soccer players need a high level of fitness to cope with the physical demands of the game and to allow for their technical skills to be utilized throughout the match. Therefore, fitness training is an important part of the overall training programme. Thus, training can be divided into a number of components based on the different types of physical demands during match. In order to design an efficient training programme it is important to be aware of the different components of fitness training in Soccer.<sup>6</sup> An average professional player runs about 6-9 kilometers (4-6 miles) per match. Some midfielders cover up to 13-15 kilometers (8 miles).<sup>7</sup>

Soccer fitness training must be done right in order to preserve speed, agility and power. Fitness training done incorrectly may also lead to injury. Conditioning for Soccer is a key component to Soccer success. Only 2-3% of the game is spent with the ball. This means the coach needs to spend a significant amount of time increasing fitness levels for his team.<sup>8</sup>

## **LITERATURE REVIEW**

The literature related to any problem helps the scholar to discover what is already known, which would enable the investigator in the following studies have significant bearing on the present study, Jovanovic, M, Sporis, G, Omrcen, D, & Fiorentini, F<sup>9</sup> evaluated the effects of speed, agility, quickness training method on power performance in elite soccer players, they concluded his study could use this information in the process of planning in-season training. Without proper planning of the SAQ training, soccer players will most likely be confronted with decrease in power performance during in-season period. Sekulic, D, Spasic, M, Mirkov, D, Cavar, M & Sattler, T.<sup>10</sup> they determined the gender-specific influence of speed, power, and balance on different agility tests, these results indicate that balance should be considered as a potential predictor of agility in trained adult men. Rampinini, E., Bishop, D., Marcora, S. M., Bravo, D. F., Sassi, R., & Impellizzeri, F. M.<sup>11</sup> examined the construct validity of selected field tests as indicators of match-related physical performance, this study gives empirical support to the construct validity of RSA and incremental running tests as measures of match-related physical performance in top-level professional soccer players.

## **PURPOSE OF THE STUDY**

The purpose of the study was to find out the influence of specific field training on speed and agility among soccer players.

## **METHODOLOGY**

The purpose of this study was to find out the influence of specific field training on speed and agility among soccer players. To achieve the purpose of the study twenty male soccer players were randomly selected from The M.D.T Hindu College, Tirunelveli, Tamilnadu. Their age were ranged from 18 to 22 years. Taking into consideration feasibility criteria, availability of the instrument and relevance of the variable of the present study the following dependent variables namely speed and agility were selected. Similarly specific field' training was chosen as independent variable. The speed and agility were assessed by 30m dash and 4x10m shuttle run respectively. This study was conducted to determine the possibility cause and impact of specific field training on speed and agility among soccer players. The subjects were divided into two equal group consists of 10 each and named as experimental group (Group-I) and control group (Group-II). Group-I (n=10) underwent specific field training and Group II acted as control group. The control group was not given any treatment and the experimental group was given specific field training for three alternative days per week, for a period of six weeks. The related group research design was used in this study. The collected data from the two groups prior to and after the experimental treatments on speed and agility

were statistically analyzed by using the statistical technique of dependent ‘t’ test and analysis of covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed as a level of confidence.

## RESULT AND FINDINGS

The influence of specific field training on selected speed and agility were analyzed and presented below.

### Speed

**Table 1: Computation of ‘t’-ratio between pre and post test means of specific field training and control groups on speed (seconds)**

Group	Test	Mean	Standard Deviation	t-ratio
Specific Field Training	Pre test	4.96	±0.08	<b>12.07*</b>
	Post test	4.83	±0.05	
Control Group	Pre test	4.99	±0.12	0.94
	Post test	4.96	±0.11	

*\*Significant at 0.05 level.*

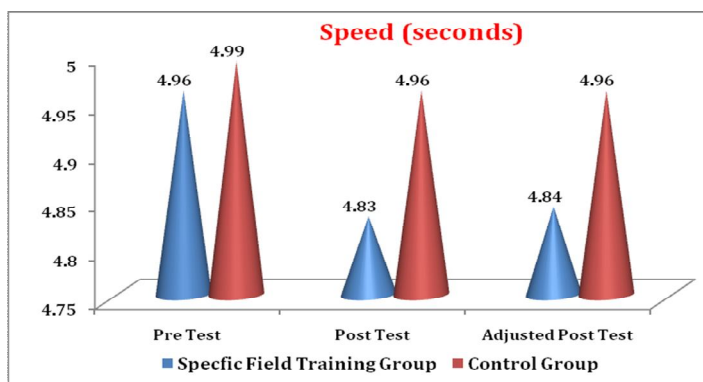
The table 1 shows that the pre-test mean value of specific field training group and control group are 4.96 and 4.99 respectively and the post test means are 4.83 and 4.96 respectively. The obtained dependent t-ratio values between the pre and post test means of specific field training group and control group are 12.07 and 0.94 respectively. The table value required for significant difference with df 9 at 0.05 level is 2.26. Since, the obtained ‘t’ ratio value of specific field training group was greater than the table value, it is understood that specific field training group had significantly improved the speed. However, the control group has not improved significantly. The ‘obtained t’ value is less than the table value, as they were not subjected to any specific training.

**Table 2: Analysis of covariance on speed of specific field training and control groups**

Adjusted Post Test Means		Source of variance	Sum of squares	df	Mean square	F – ratio
Specific Field Training Group	Control Group	Between	0.40	1	0.40	<b>20.17*</b>
4.45	4.96	Within	0.34	17	0.02	

*\*Significant at 0.05 level.*

Table 2 shows that the adjusted post test means values on speed. The obtained f- ratio of 20.17 for adjusted post test mean is greater than the table value 4.84 with df 1 and 17 required for significance at 0.05 level of confidence. The results of the study indicate that there is a significant mean difference exist between the adjusted post test means of specific field training and control groups on speed. The bar diagram shows the mean values of pre test, post test and adjusted post test on speed of specific field training group and control group.



Graph 1: Pre test, post test and adjusted post test mean values of specific field training and control groups on speed.

**Agility**

Table 3: Computation of ‘t’-ratio between pre and post test means of specific field training and control groups on agility (seconds)

Group	Test	Mean	Standard Deviation	t-ratio
Specific Field Training	Pre test	12.37	±0.15	11.48*
	Post test	11.63	±0.12	
Control Group	Pre test	12.39	±0.18	1.21
	Post test	12.35	±0.72	

\*Significant at 0.05 level.

The table 3 shows that the pre-test mean value of specific field training group and control group are 12.37 and 12.39 respectively and the post test means are 11.63 and 12.35 respectively. The obtained dependent t-ratio values between the pre and post test means of game specific field training group and control group are 11.48 and 1.21 respectively. The table value required for significant difference with df 9 at 0.05 level is 2.26. Since, the obtained ‘t’ ratio value of specific field training group was greater than the table value, it is understood that specific field training group had significantly improved the agility. However, the control group has not improved significantly. The ‘obtained t’ value is less than the table value, as they were not subjected to any specific training.

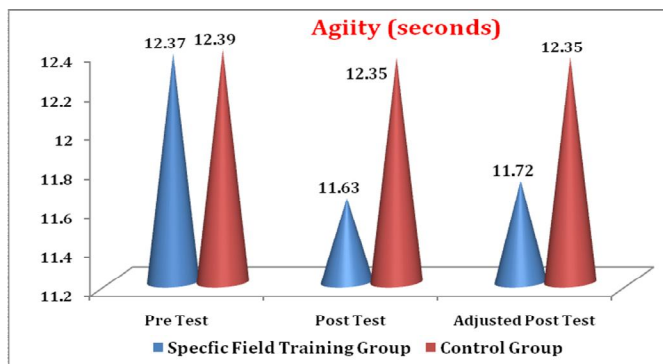
Table 4: Analysis of covariance on agility of specific field training and control groups

Adjusted Post Test Means		Source of variance	Sum of squares	df	Mean square	F – ratio
Specific Field Training Group	Control Group	Between	84.95	1	84.95	34.96*
11.72	12.35	Within	41.31	17	2.43	

\* Significant at 0.05 level.

Table 4 indicates that the adjusted post test means values on agility. The obtained f- ratio of 34.96 for adjusted post test mean is greater than the table value 4.45 with df 1 and 17 required for significance at 0.05 level of confidence. The results of the study indicate that there is a significant mean difference exist between the adjusted post test means of specific field training and control

groups on agility. The bar diagram shows the mean values of pre test, post test and adjusted post test on agility of specific field training group and control group.



Graph 2: Pre test, post test and adjusted post test mean values of specific field training and control groups on agility.

## DISCUSSION ON FINDINGS

The result of the study indicates that there was a significant improvement on speed and agility due to the influence of specific field training among soccer players when compared to control group. The results of this investigation are also supported by the following studies of Milanovic, et al., (2013)<sup>12</sup>, Wong, et al., (2010)<sup>13</sup>, Katis, & Kellis (2009)<sup>14</sup>, Kumar & Arumugam, (2018)<sup>15</sup>.

## CONCLUSIONS

1. There was significant improvement on speed and agility due to the influence of specific field training among soccer players.
2. However the control group had not shown any significant improvement on any of the selected variables.

## REFERENCES

1. Clarke H. Harison & David H. Clarke. Application of Measurements of Physical Education. 6<sup>th</sup> ed. Englewood Cliffs, New Jersey: 1987: Prentice Hall, Inc.
2. Taylor Tollison. "Fitness Training" [online]. 2019 [cited 2019 March 20] Available from URL: <http://en.elitesoccerconditioning.com/> 2019
3. Howell, Reet et.al; Foundations of Physical Education. Delhi: 1994: Friends publications.
4. Katis A, & Kellis E. Effects of small-sided games on physical conditioning and performance in young soccer players. J Sports Sci. 2009; 8(3):374.
5. Morris, Desmond. The Soccer Dribble. London: Jonathan Cape Ltd., 1981.
6. Pick JB. The Phoenix Dictionary of Games. London: 1952: J.M. Dent and Sons Ltd.
7. Reilly, Thomas. Science of Soccer. London: 1996: Champman hall,

8. Singh. Science of Sports Training. New Delhi: D.V.S. Publications, 1991.
9. Taylor Tollison. Speed Training [online]. 2019 [cited 2019 March 20] Available from ULR: <http://en.expertfootball.com/2018>.
10. Jovanovic M, Sporis G, Omrcen D, & Fiorentini F. Effects of speed, agility, quickness training method on power performance in elite soccer players. *J Strength Cond Res.* 2011; 25(5): 1285-1292.
11. Sekulic D, Spasic M, Mirkov D, Cavar M, & Sattler T. Gender-specific influences of balance, speed, and power on agility performance. *J Strength Cond Res.* 2013; 27(3):802-811.
12. Rampinini E, Bishop D, Marcora SM, Bravo DF, Sassi R, & Impellizzeri FM. Validity of simple field tests as indicators of match-related physical performance in top-level professional soccer players. *J Sports Med.* 2007; 28(03):228-235.
13. Milanovic Z, Sporis G, Trajkovic N, James N, & Samija K. Effects of a 12 week SAQ training programme on agility with and without the ball among young soccer players. *J Sports Sci.* 2013; 12(1): 97.
14. Wong PL, Chamari K, & Wisloff U. Effects of 12-week on-field combined strength and power training on physical performance among U-14 young soccer players. *J Strength Cond Res.* 2010; 24(3): 644-652.
15. Kumar V. & Arumugam S. Effect of sprint training on speed and agility among soccer players, *J Emerging Tech Inn Res.* 2018; 5(7): 308-311.