ISSN: 2583-7354

International Journal of Emerging Knowledge Studies

Publisher's Home Page: https://www.ijeks.com/

Fully Open Access Research Paper

A COMPARATIVE ANALYSIS OF SELECTED PHYSICAL FITNESS VARIABLES AMONG GOVERNMENT AIDED AND PRIVATE SCHOOL SOCCER PLAYERS

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Article Info: - Received : 04 February 2023 **Accepted** : 16 February 2023 **Published** : 25 February 2023

Abstract

The purpose of this study was to find out the comparative analysis of selected physical fitness variables among government aided and private school soccer players. To achieve the purpose of the study 80 school boys soccer players were selected static group comparison design was used as subjects from the government aided and private schools in Tirunelveli District, Tamilnadu, India during the academic year 2022– 2023. The age of subjects were ranged from 16 to 17 years. All the subjects were measured on selected physical and skill variables such as speed (60 M dash), agility (Arrow-headed Agility Test), cardio vascular endurance (12 minutes coopers run/walk test) were used to collect relevant data on the selected independent variables. The collected data from the subjects were statistically analyzed by using the statistical technique of independent't' test.. In all the cases 0.05 level of confidence was fixed as a level of confidence to test the hypotheses. It was concluded that there was a significant difference between the criterion variables.

Keywords: *Physical Fitness, Soccer, Speed, Agility, Cardio Vascular Endurance.*

1. INTRODUCTION

Soccer is most widely played team sports in the world and is characterized by the player's abilities of short sprints, rapid acceleration or deceleration, turning, jumping, kicking and tackling **(Balsom et al., 1999)**, increasingly high dynamics, the number of direct one on one plays, motor preparation, mental preparation, technical as well as tactical skills of a player **(Bangsbo & Krustrup, 2008)**. Soccer is a strenuous game demands a high degree of physical fitness as well as intelligence. Alertness of mind, speed, strength, agility, balance and flexibility are the basic qualities for all the elite soccer players **(Rink, 1987)**.

A player must be prepared both physically and mentally for better performance throughout the match. The essence of soccer match comprises of multi directional physical activities integrated with an array of technical skills **(Bradley et al., 2009; Wallace & Norton, 2014). Nixon (1964)** stated physical fitness as the organic capacity of the individual to perform the normal task of daily living without undue tiredness or fatigue having reserves of strength and energy available to meet any emergency demands suddenly

placed upon him satisfactorily. While teams have same tactics and skill abilities, a team with higher general fitness is superior team and act more powerful when the game gains speed **(Stolen et al., 2005)**. Cardio vascular endurance refers to the ability of the circulatory system to provide oxygen to the cells to support the oxidative energy system of the body and to expel the waste products of metabolism. When muscles work for longer duration, fatigue limits the amount of work which can be accomplished. Therefore, the primary objective of cardio vascular endurance training is to improve the circulation to the working muscles under the condition of fatigue. Speed is the ability to perform a movement within a short period of time **(Neiman, 1995)**. To run speedily is not only an athletic event itself, but it is an important factor in almost all court and field games. It is determined by the length and frequency (speed) of strides and mostly dependent upon speed of muscular and neuromuscular coordination **(Singh, 2010)**. **Dawson (2003)** stated that the large majority of sprints performed in soccer take six seconds or less to complete, over distances of only 10-40 meters and many of the sprints involve at least one change of direction. It has been shown that to improve speed each player needs to work on acceleration, starting ability, stride rate, speed endurance, and stride length **(Mackenzie, 2001)**.

Agility is the ability to change the direction of body or its parts rapidly. It is dependent on strength, reaction time, speed of movement and muscular coordination. Quick start and stops and quick changes in direction are fundamental to good performance in Soccer **(Singh, 2010)**. Analysis of the specific movements and activities performed by soccer players during games can provide much relevant information on which suitable training programmes can be designed **(Dawson, 2003)**. Research findings indicate that soccer players mostly is dependent on physical fitness and skill variables such as speed, agility, explosive strength of lower extremities, speed endurance, cardio vascular endurance, flexibility and dribbling, passing, shooting etc.

2. REVIEW OF LITERATURE

This review of literature will focus on the comparison of physical fitness variables among government-aided and private school soccer players. Research on the physical fitness levels of youth soccer players has been done as a result of the growing popularity of soccer and its positive influence on physical and mental health. Studies have shown that physical fitness is a critical factor for success in soccer and other sports (i.e. speed, agility, strength and power). Further, studies have examined the differences in physical performance between youth players of different skill levels. While some studies have focused on the physical fitness levels of elite youth players, only a few studies have compared the physical fitness profiles of government-aided and private school soccer players. The first research to measure physical fitness differences between government-aided and private school soccer players was conducted by **Hamid et al. (2017)**. The study was performed in Malaysia and included 120 male players aged between 15 and 18. The players were split into two groups, one being the government-aided school group and the other the private school group. The physical fitness components measured were speed, agility, strength and power. The results indicated that there were significant differences in the physical conditioning levels between the two groups of players, with the private school group outperforming the government-aided school group. Next, **Kuser et al (2021)** compared the physical fitness levels of boys and girls across government-aided and private school soccer teams in the United States. The study consisted of 45 players, 25 boys and 20 girls, between the ages of 14 and 16. Each player underwent a battery of fitness tests including sprints, agility, jumping, and strength. The results of the study found significant differences between the girls' and boys' performances in the fitness tests, suggesting that there was a gender bias for the boys' physical fitness levels. In addition, the boys' in the private school group outperformed their peers from the government-aided school group in every test. Finally, in a study conducted by **Lim et al (2021)** in Malaysia, the physical fitness levels of 66 government-aided and 45 private school soccer players were compared. Each player underwent a series of tests for maximum aerobic capacity, explosive leg strength, and speed-agility. The results concluded that the boys and girls in the private school group had higher physical fitness levels than the players in the government-aided school group in all tested areas. To summarize, there is evidence in the literature for the differences between government-aided and private school soccer players in terms of physical fitness variables. The majority of studies find that the private school players outperform those from the government-aided school in tests of speed, agility, strength and power. Therefore, it is recommended that further research be conducted to explore the impact of physical fitness on soccer performance in order to inform better training and coaching practices for youth soccer players.

3. OBJECTIVES OF THE STUDY

The aim of the study was to find out the comparative analysis of selected physical fitness variables among government aided and private school soccer players.

4. METHODOLOGY

To achieve the purpose of the study, eighty higher secondary level school soccer players from (P.L. W. A. Higher Secondary School, ST'. Mary's Higher Secondary School, Cambridge Metric Higher. Secondary School, A.V. R.M.V. Higher Secondary School) Tirunelveli district, Tamil Nadu India those who were qualified for district level competition to select static group comparison design (quasi-experimental design) method. The age of the subjects ranged from 16 to 17 years. The based on the data was collected from the subjects were divided into two categories as government aided and private school students. The following physical fitness variables such as speed (60 M dash), agility (Arrow-headed Agility Test), cardio vascular endurance (12 minutes coopers run/walk test) were used to collect relevant data on the selected independent variables. The collected data from the subjects were statistically analyzed by using the statistical technique of independent't' test.. In all the cases 0.05 level of confidence was fixed as a level of confidence to test the hypotheses.

5. DATA ANALYSIS

Table:-1 Means, Standard Deviation and Independent 'T' Test Values on Speed, Agility, Cardio Vascular Endurance between government aided and private school Soccer players

Group	Criterion Variables	N	Mean	S.D	T - Test
Government Aided School	Speed	40	7.55	.374	10.411*
Private School		40	8.49	.429	
Government Aided School	Agility	40	20.73	.461	8.054*
Private School		40	21.75	.658	
Government Aided School	Cardio Vascular Endurance	40	2616.25	150.37	6.903*
Private School		40	2405.00	121.84	

* Significant level 0.05 T < 1.990

The above table shows that the mean and standard deviation value of government aided and private school soccer players on speed 7.55 and 8.49, agility 20.73 and 21.75 & cardio vascular endurance 2616.25 and 2405.00, with a standard deviation of the value for government aided and private school soccer players .374 and .429, .461 and .658, 150.37 and 121.84. The obtained t-test value of government aided and private school soccer players are 10.411*, 8.054 and 6.903 respectively which means the obtained value was greater than the tabulated t-value of 1.990 with df 78 at .05 level of confidence. This means that government aided school had significant difference on speed, agility and cardio vascular endurance. However, the government aided school was significant difference than private school.

The mean values between government aided and private school on speed, agility and cardio vascular endurance among soccer players were graphically represented in the figure I

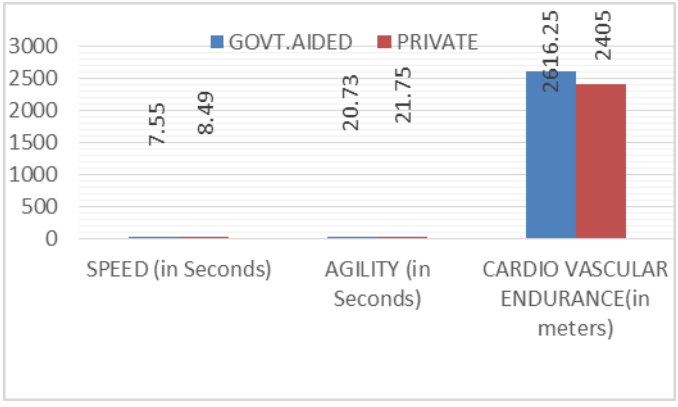

Figure 1: Mean Value of Speed, Agility and Cardio Vascular Endurance between Government Aided and Private School Soccer Players.

6. DISCUSSION AND FINDINGS

The results of the study indicated that there was significant difference on government aided and private school soccer players . The government aided school soccer players had better performance on speed, agility and cardio vascular endurance than the private school soccer players. In this study was similar to the findings of other studies using those variables as dependent variables such as,

Hooda, Deepak (2020) examined Physical fitness variables (Agility, Explosive strength, Flexibility, Speed, Cardio-vascular endurance), Psychological

variables (Emotional intelligence and its components Self-awareness, Empathy, Self-motivation, Emotional stability, Managing relations, Integrity, Self-development, Value orientation, Commitment, Altruistic behavior), Physiological parameters (Vital capacity, Blood pressure, Heart rate, VO2 Max) and Body mass index among soccer player at different playing positions. The results revealed significant difference on vital capacity, heart rate in males and agility, flexibility, emotional intelligence and vital capacity in females.

Lohith & Suthakar, (2016) compared the selected physical fitness variables of the Physical Education Professional students participated in the different competition levels. It was concluded that there was a significant difference in the Pull Ups, Sit Ups and Speed of the Physical Education Professional students participated in the different competition levels. A better understanding of these relationships will help to understand the power and endurance and also help to plan sport specific strength training at South Zone, All India and National level athletes.

Gaurav, Singh & Singh, (2015) examined the level of physical fitness among male football players in relation to their different playing positions i.e. goalkeepers, defenders, midfielders and attackers. However, midfielders and attackers had shown better power and agility than their counterparts; goalkeepers and defenders. Further, significant differences were found between football players of different playing positions with regard to the variables power ($p<0.05$) and agility ($p<0.05$), but insignificant differences were found on the variable speed respectively ($p>0.05$).

Begum, (2015) observed the relationship between intelligence and motor fitness of school level cricketers and footballers. Footballers group was better in both intelligence and motor fitness than cricketers group. Therefore, it may be concluded that better the motor fitness, there should be a fair chance of exhibiting of intelligence level also high.

7. CONCLUSIONS

From the results obtained, the following conclusions were drawn, There was a significant difference existed on speed, agility and cardio vascular endurance between government aided and private school soccer players. Hence the government aided school soccer players were found significant better than the private soccer players on selected physical fitness and variables such as speed, agility and cardio vascular endurance.

REFERENCES

Balsom, P. D., Wood, K., Olsson, P., & Ekblom, B. (1999). Carbohydrate intake and multiple sprint sports. International Journal of Sports Medicine, 20, 48-52.

Bangsbo, J., Iaia, F. M., & Krustrup, P. (2008). The Yo-Yo intermittent recovery test: a useful tool for evaluation of physical performance in intermittent sports. Sports medicine, 38, 37-51.

Bradley, P. S., Sheldon, W., Wooster, B., Olsen, P., Boanas, P., & Krustrup, P. (2009). High-intensity running in English FA Premier League soccer matches. Journal of Sports Science, 27(2), 159-168.

Dawson, B. (2003). Speed, agility and quickness in football World Congress on Science and Football-5: Book of abstracts. Lisbon: Faculty of Human Kinetics, Technical University of Lisbon.

Gaurav, V., Singh, A. B., & Singh, S. (2015). Comparison of selected physical fitness components among male football players of different playing positions. Turkish Journal of Sport and Exercise, 17, 22-25.

Hooda & Deepak (2020) A study of physical fitness psychological variables physiological parameters and body mass index among soccer players at different playing positions. http://hdl.handle.net/10603/331658.

Lohith, N. H., Suthakar, S., & URS, S. R. (2016). Analysis of the physical fitness of the physical education professional students participated in the different competition levels.

Mackenzie, B. (2005). Performance evaluation tests. London: Electric World Plc

Nixon, E. (1964). An introduction to physical education. Philadelphia, PA: W. B. Saunders Company.

Stolen, T. K., Chamari, C., Castagna & Wislfoo, U. F. (2005). Physiology of soccer: An update. Sports Medicine, 35, 501-536.

Cite this article as: Dr.P.Thangaraj et al. (2023). A Comparative Analysis of Selected Physical Fitness Variables among Government Aided and Private School Soccer Players. International Journal of Emerging Knowledge Studies. 2(2), pp. 41-44.