



A COMPARATIVE STUDY ON SELECTED PHYSICAL FITNESS VARIABLES AMONG GOVERNMENT AND PRIVATE SCHOOL FOOTBALL PLAYERS OF CHENNAI DISTRICT

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Abstract : The aim of this research was to conduct a comparative analysis of specific physical fitness variables among football players in government and private schools in Chennai District. To achieve this goal, a static group comparison design was employed, involving 80 school boys' football players selected from both government and private schools in Chennai District, Tamil Nadu, India, during the academic year 2022–2023. The age of the subjects ranged from 16 to 18 years. The study assessed the participants on various physical fitness variables, including agility (Arrow-headed Agility Test), cardiovascular endurance (12 minutes Coopers run/walk test), and speed (60 M dash). Data on these selected independent variables were collected to conduct the analysis. Statistical analysis was performed using the independent 't' test, with a predetermined confidence level of 0.05 for testing the hypotheses.

The findings revealed a significant difference between the criterion variables, indicating distinctions in physical fitness among government and private school football players in the Chennai District

IndexTerms - Physical Fitness, football, agility, cardio vascular endurance, speed.

INTRODUCTION

Football, often referred to as "the beautiful game," stands as one of the world's most beloved and widely followed sports. With its roots deeply embedded in history, football has evolved into a global phenomenon that transcends cultural boundaries, uniting people of diverse backgrounds in a shared passion for the sport. The origins of football can be traced back centuries, with various cultures contributing to its development. Modern football, as we know it today, emerged in the mid-19th century in England, marked by the establishment of standardized rules and the formation of organized leagues. Since then, football has grown into a sport that captures the hearts and imaginations of millions around the world. In the dynamic and demanding world of football, players undergo a spectrum of movements during a match, ranging from walking and jogging to running and sprinting. The intensity required for such activities demands a high level of physical fitness (Salvo et al., 2013). Notably, in knockout stages, if the scores remain tied after the initial 90 minutes, an extra 30 minutes are allocated, further emphasizing the endurance and stamina needed to secure victory (Tumilty, 1993). The physical demands placed on football players are substantial, with the average total distance covered in a game falling between 10 to 12 kilometers, involving over 1,000 different activities occurring approximately every 6 seconds (Reilly, 1997). Previous studies have delved into the specific physical fitness requirements of football, aiming to understand the performance levels necessary for success in competitive play (Keller et al., 2018; Marques et al., 2016; Trecroci et al., 2018). Football's nature demands repeated powerful movements, including kicking, sprinting, tackling, and jumping, heavily reliant on maximum strength (Peterson et al., 2006; Turner et al., 2011). The sport incorporates low to high-intensity intermittent activities, necessitating players to engage both aerobic and anaerobic systems for energy transmission (Reilly et al., 2000; Williams & Reilly,

2000). 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). 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 Football (Singh, 2010). 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 vascularendurance 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). Research findings indicate that football players mostly is dependent on physical fitness variables such as agility, explosive strength of lower extremities, speed, speed endurance, cardio vascular endurance, flexibility etc.

Methodology

To achieve the purpose of the study, 80 higher secondary level school football players chennai 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 18 years. The based on the data was collected from the subjects were divided into two categories as government and private school students. The following physical fitness variables such as agility (Arrow-headed Agility Test), cardio vascular endurance (12 minutes coopers run/walk test) and speed (60 M dash) were used to collect relevant data on the selected independent variables. The collected data from the subjects were statistically analyzed byusing 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.

Analysis of the Data

Table I

Means, Standard Deviation and Independent 'T' Test Values on Agility, Cardio Vascular Endurance and Speed between government and private school football players

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

* Significant level 0.05 $T < 1.990$

The above table shows that the mean and standard deviation value of government and private school football players on agility 20.73 & 21.75 & cardio vascular endurance 2616.25 and 2405.00, speed 7.55 and 8.49, , with a standard deviation of the value for government and private school football players .374 and .429, .461 and .658, 150.37 and

121.84. The obtained t-test value of government and private school football players are 8.054, 6.903 and 10.411* 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 school had significant difference on agility, cardio vascular endurance and speed, However, the government school was significant difference than private school.

DISCUSSION AND FINDINGS

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

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 and private school football players.

Hence the government school football players were found significant better than the private football players on selected physical fitness and variables such as speed, agility and cardio vascular endurance.

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