



Analysis of Motor Fitness Variables Among Female University Football Players in Varied Topographical Environments

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ABSTRACT

The aim of this study was to assess motor fitness variables among university football players from different universities in two geographical zones, specifically the north and south. To achieve this objective, a total of eighty players were randomly selected from universities in Tamil Nadu, with ages ranging from 18 to 28 years. The participants were evenly divided into two groups, consisting of forty subjects each, representing the north and south football players. Statistical analysis of the collected data was performed using an independent t-test to identify significant improvements in the selected variables. The analysis indicated a significant enhancement in both the north and south football players.

Keywords: north football players, south football player, speed, agility, anaerobic power and leg explosive power

INTRODUCTION

Football, often dubbed "the beautiful game," is a global phenomenon that has captured the hearts and minds of millions around the world. It is a sport that transcends boundaries, languages, and cultures, uniting people in a shared passion for competition, teamwork, and the pursuit of excellence. The origins of football can be traced back to ancient civilizations, where various forms of ball games were played with enthusiasm. However, it was in the 19th century that modern football began to take shape, with the establishment of standardized rules that laid the foundation for the sport's development. Since then, football has evolved from its humble beginnings on rugged fields to the meticulously maintained stadiums that host today's matches. Its journey through history is a testament to its enduring appeal and global reach. At its core, football is a symphony of movement, strategy, and skill. Two teams, each composed of eleven players, take the field with a singular objective: to score goals by propelling the ball into the opposing team's net while preventing their opponents from doing the same. Yet, within this seemingly straightforward objective lies a world of complexity and artistry. Football demands not only physical prowess but also mental agility, as players must make split-second decisions, communicate with their teammates, and adapt to ever-changing circumstances. It is this unique blend of athleticism and intellect that sets football apart from other sports. The football pitch becomes a canvas for creativity, as players exhibit an impressive array of techniques: dazzling dribbles, pinpoint passes, thunderous shots, and acrobatic saves. Every touch of the ball carries the weight of a team's aspirations and the hopes of its devoted supporters. And with each goal scored, the stadium erupts in a cacophony of cheers and celebrations, underscoring the emotional connection between the game and its fans. However, football is not confined to the boundaries of the pitch. It is a cultural phenomenon that shapes societies, forges identities, and fosters a sense of belonging. The passionate chants of fans, the colourful banners that adorn the stands, and the unique rituals associated with each club create a rich tapestry of traditions that add depth and meaning to the game. Rivalries, some stretching back for generations, infuse matches with an intensity and drama that few other sports can rival.

Motor fitness variables refer to a set of physical attributes and abilities that are crucial for optimal performance in various motor skills and activities. These variables encompass a range of factors, including agility, balance, coordination, speed, power, and reaction time. Agility pertains to the ability to change direction quickly and efficiently, essential in sports like soccer or basketball. Balance is crucial for stability and control during activities such as yoga or gymnastics. Coordination involves the harmonious functioning of different body parts, particularly important in tasks like juggling or dancing. Speed refers to the ability to move rapidly, which is fundamental in sprinting or racing sports. Power relates to the force generated in a short amount of time, essential for activities like weightlifting or shot put. Finally, reaction time measures how quickly an individual can respond to a stimulus, a critical factor in sports like tennis or baseball. These motor fitness variables are not only vital for athletes but also play a significant role in daily life, influencing our ability to perform various tasks with efficiency and precision.

CRITERION MEASURES

The following tests were used to measure the selected variables.

1. Speed was assessed through a 50-meter dash, with measurements recorded in seconds.
2. Agility was evaluated using the Shuttle Run test, with measurements recorded in seconds (Singh, 1984).
3. Anaerobic power was determined using the 300-meter run test (Mackenzie, 2009), with measurements recorded in minutes.
4. Explosive Power was quantified through the Vertical Jump test, with measurements recorded in centimeters (Shine.com).

METHODS

To accomplish the study's objective, we purposefully selected a total of 40 female university football players from the north zone and 40 from the south zone, representing various universities in Tamil Nadu. The age range of these participants was 18 to 28 years. Subsequently, we assessed these university football players based on motor fitness variables. Following the selection process, we evenly divided the 40 chosen participants from the north zone and the 40 participants from the south zone into two groups. The first group, denoted as Group I, consisted of the north zone football players, while the second group, named Group II, comprised the south zone football players.

STATISTICAL ANALYSIS

The descriptive calculation and 't' test will be computed. The level of significance will set at 0.05 level of confident.

TABLE 4.1

COMPUTATION OF 'T' RATIO BETWEEN NORTH AND SOUTH UNIVERSITY WOMEN FOOTBALL PLAYERS GROUPS ON MOTOR FITNESS VARIABLES

Variable	Group	N	Mean	Standard deviation	Standard Error Mean	t-ratio
Speed	North zone women football players	40	8.53	0.52	0.21	5.16*
	south zone women football players	40	8.10	0.42	0.32	
Agility	North zone women football players	40	11.39	1.68	0.30	4.16*
	south zone women football players	40	11.23	2.09	0.38	
Anaerobic Endurance	North zone women football players	40	91.95	0.58	0.65	3.21*
	south zone women football players	40	93.35	1.02	0.45	
Leg explosive power	North zone women football players	40	1.47	1.20	0.78	5.39*
	south zone women football players	40	1.53	1.05	0.55	

*Significant at 0.05 level of confidence (2.70) 1 and 39

Table 4.1 The analysis reveals that the mean speed scores were 8.53 for the North zone women's football players and 8.10 for the South zone women's football players. The calculated "t" ratio value of 5.16 exceeds the critical table value of 2.70 for degrees of freedom 1 and 39, indicating statistical significance at the 0.05 confidence level.

Similarly, the mean agility scores were 11.39 for the North zone women's football players and 11.23 for the South zone women's football players, with a calculated "t" ratio value of 4.16 surpassing the critical table value of 2.70 for degrees of freedom 1 and 39, indicating significance at the 0.05 confidence level.

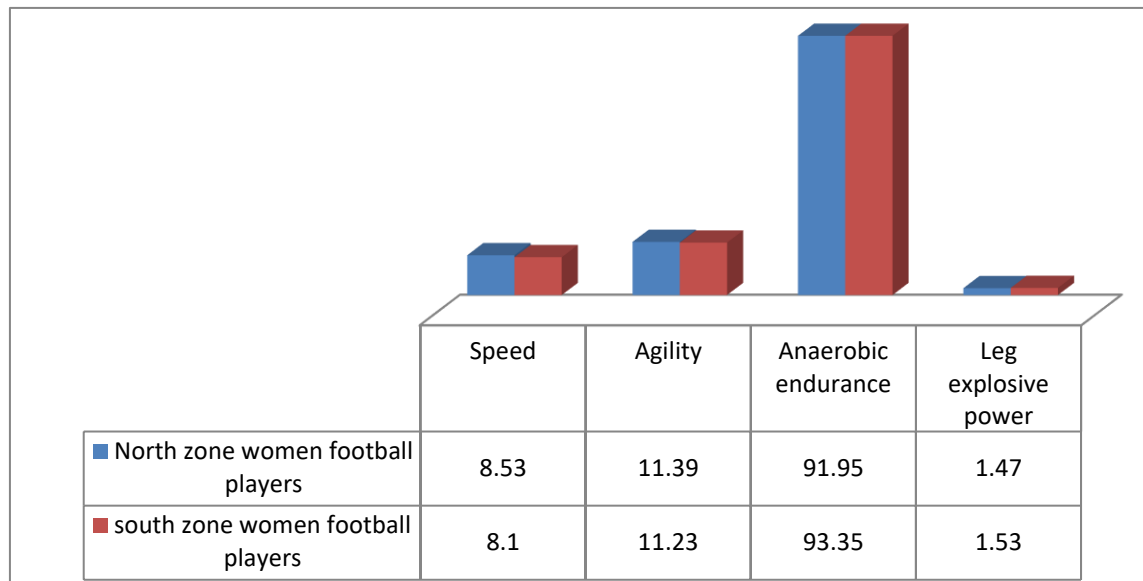
Regarding anaerobic endurance, the mean values were 91.95 for the North zone women's football players and 93.35 for the South zone women's football players. The calculated "t" ratio value of 3.21 exceeded the critical table value of 2.70 for degrees of freedom 1 and 39, signifying significance at the 0.05 confidence level.

For leg explosive power, the mean values were 1.47 for the North zone women's football players and 1.53 for the South zone women's football players. The calculated "t" ratio value of 5.39 exceeded the critical table value of 2.70 for degrees of freedom 1 and 39, indicating significance at the 0.05 confidence level.

Additionally, the study reveals that the South zone women's football players exhibited higher levels of speed, agility, anaerobic endurance, and leg explosive power compared to the North zone women's football players. Mean values for these variables in both groups are graphically represented in Figure I.

FIGURE I

Graphical Representation on north and south university women football players groups on motor fitness variables



DISCUSSION AND FINDINGS

The results of this study reveal a significant difference in agility between the North and South university women's football player groups. More precisely, the North university women's football player groups displayed higher levels of speed, agility, anaerobic endurance, and leg explosive power when compared to the South university women's football player groups. **Pratima Chatterjee et al., (2007)** comparative study of physical fitness components of junior footballers and sprinters of Kolkata.

CONCLUSIONS

Building upon the results and discussion presented in the preceding chapter, the following conclusions can be drawn:

1. The study's findings highlight a significant disparity in speed, agility, anaerobic endurance, and leg explosive power between the North and South university women's football player groups.
2. It can be concluded that the North university women's football player groups exhibited superior speed, agility, anaerobic power, and leg explosive power compared to the South university women's football player groups.

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