

## A COMPARATIVE STUDY OF EXPLOSIVE STRENGTH AND SPEED BETWEEN DHANAMANJURI UNIVERSITY AND NATIONAL SPORTS UNIVERSITY, MANIPUR FOOTBALL PLAYERS

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**Abstract:** Physical fitness is a multifaceted concept encompassing various health and performance attributes. It is often defined as the ability to perform daily activities with Vigor and it is associated with a low risk of developing diseases related to physical inactivity. Physical fitness is a crucial component in football, where agility, strength, and endurance play significant roles in performance. Explosive strength and Speed are essential components of a football's physical ability. The study aimed to compare the Explosive Strength and Speed of Dhanamanjuri University, Manipur and National Sports University, Manipur Inter-University Football Players. A total of forty (n=40) male football players 20 players from Dhanamanjuri University, Manipur and 20 players from National Sports University, Manipur, age range from 17 to 25 years were selected as subjects. An Independent 't' test statistical technique was employed to find the significant difference between Dhanamanjuri University and National Sports University Football Players. The Standing Board Jump test was used to measure Explosive Strength. The Mean (M) and Standard Deviation (SD) of the Explosive Strength are  $2.37 \pm 0.17$  and  $2.44 \pm 0.13$  respectively. The p-value of Explosive Strength is 0.16 at a 0.05 significance level and the 30-meter dash was used to measure Speed. The Mean (M) and Standard Deviation (SD) of Speed are  $4.54 \pm 0.17$  and  $4.57 \pm 0.22$  respectively. The p-value of Speed is 0.68 at a 0.05 significance level. It can be revealed there is no significant difference between Dhanamanjuri University and National Sports University Football Players.

**Keywords:** *Explosive Strength, Physical Fitness, Speed, Football Players, Manipur.*

### INTRODUCTION

Football, a sport that requires a special combination of technical talent, tactical awareness, and physical strength, has become a staple of college athletic programs all over the world. Football has been aggressively promoted by universities in Manipur, India, as a major component of their extracurricular programs. Explosive strength and speed are essential components of football performance that allow players to flourish in a variety of game-related situations.

Manipur and the northeastern part of India have a vibrant sports culture and a deep love for football. This region's university football teams participate in inter-university competitions as well as other levels of competition. In order to get a better understanding of the physical characteristics and performance metrics of regional football players, this study compares the explosive strength and speed of intercollegiate football players from Manipur University with those from other universities in the area.

University athletic activities are essential for encouraging students to be physically active, build collaboration, and improve their general wellbeing. Due to its popularity, football is a crucial component of university athletic programs. Numerous elements, such as the players' physical characteristics, technical proficiency, and tactical awareness, affect how well university football teams succeed. In order to give coaches, trainers, and sports administrators' useful information, this research compares the explosive strength and speed of intercollegiate football players from Manipur University with those from other institutions.

Explosive strength training, also called power training, is a dynamic exercise that focuses on maximizing the amount of force generated in the shortest amount of time. This training methodology emphasizes rapid, powerful movements that involve a quick stretching and contracting of muscles, such as jumping, sprinting, and lifting. Explosive strength training stands out as a crucial component that can dramatically enhance your physical capabilities by increasing the explosive power and speed of muscle contractions, which leads to significant improvements in athletic performance, functional strength, and overall health. According to a research published in the "Journal of Strength and Conditioning Research" by Seitz, Reyes, Tran, Saez de Villarreal, and Haff (2014), athletes' sprinting speed, agility, and jump performance improved when they included plyometric training, a type of explosive strength training. These results demonstrate how effective explosive strength training is in improving the essential elements of athletic ability.

A basic idea in physics, speed is the rate at which an item travels from one location to another. It calculates how quickly distance is traveled over time. From routine tasks like driving to intricate scientific research, an understanding of speed is essential in many domains. The concept of speed, its many forms, its practical uses, and the formulae used to compute it are all covered in detail in this page. Understanding these ideas can help you see how speed impacts our surroundings. Speed is a scalar quantity, which means it only tells us how fast something is going without considering direction. It is typically expressed in units like kilometers per hour (km/h) or meters per second (m/s). In everyday situations, we use speed to gauge how quickly we get from one place to another, whether we're driving, walking, or cycling. Speed training in football can be as significant as traditional strength training. The top-most ranked footballers can possibly to beat their co-players in tests, as 40 yards and 10 yards sprints other than within bench press or squats test. You can easily say that speed divides the incredible from good. Speed is the ultimate measurable in football. At the NFL Combine, one tenth of a second in the 40-Yard Dash

can determine whether a player gets drafted and makes millions of dollars or has to fight for a spot on a team.

## OBJECTIVE

1. To compare the explosive strength between interuniversity players of Dhanamanjuri University and national sports university
2. To compare the speed between interuniversity players of Dhanamanjuri University and National Sports University

## METHODS

The football players (male) from Dhanamanjuri University, Manipur and National Sports University, Manipur who have participated in inter-university tournament were selected as subject of the study. Therefore, the data collected from them was primary source of data. A total of forty (40) male football players 20 players from Dhanamanjuri University and 20 players from National Sports University with age range from 17 to 25 years were selected as subject. To measure explosive strength the standing board jump test was used and to measure the speed, 30-meter dash run test was used.

## SELECTION OF TEST AND CRITERION MEASURE

Sr.	Variable	Test	Measurement
1.	Explosive Strength	Standing Board Jump	Meter
2.	Speed	30-meter Dash Run	Second

## DATA ANALYSIS

Collected data were saved in the statistical package for the social science (SPSS) 22.0 program. An Independent 't' test statistical technique was employed to find the significance difference between inter-university football players of Dhanamanjuri University and National Sports University. In all the case 0.05 level of significance was employed to test hypothesis.

## RESULTS AND FINDINGS

**Table1;** Mean comparison of explosive strength and speed between inter university football players of Dhanamanjuri University and National Sports University

Variable		Mean	Std. deviation	Sig. 2 tailed	N
Explosive Strength	DMU	2.3730	.16962	.156	20
	NSU	2.4430	.13401		20
Speed	DMU	4.5395	.17228	.682	20
	NSU	4.5650	.04817		20

DMU=Dhanamanjuri University

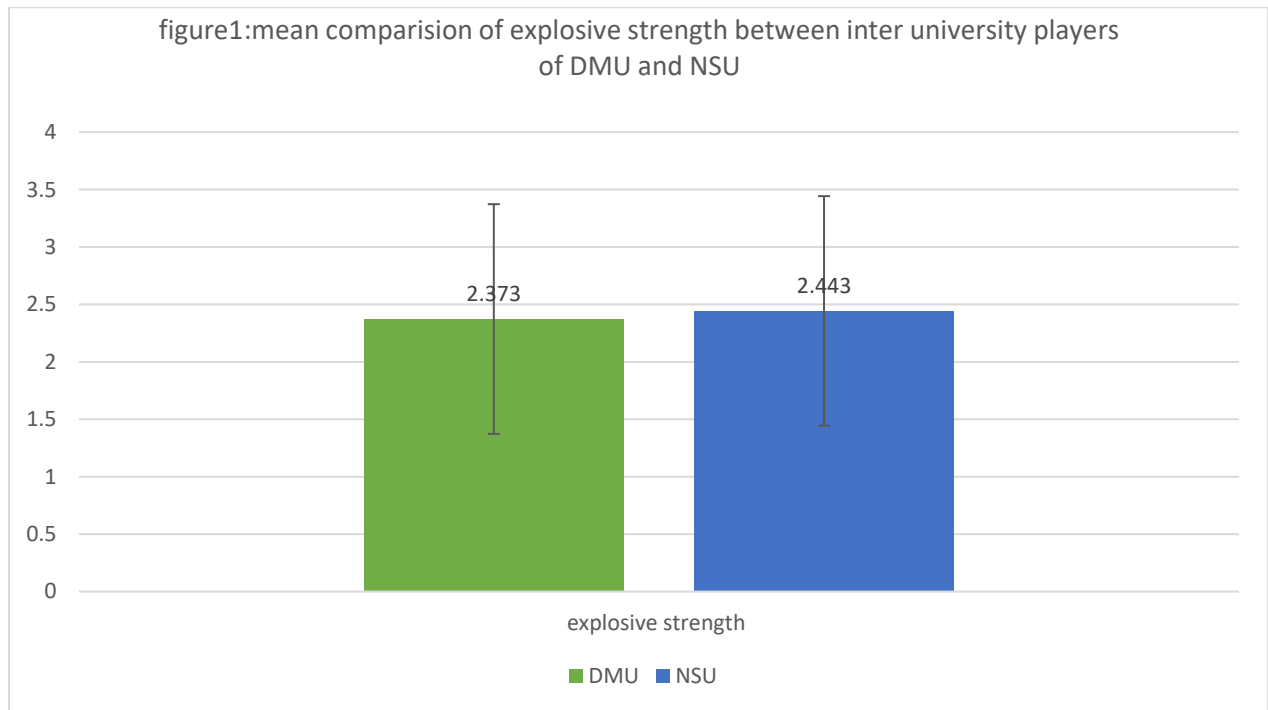
NSU= National Sports University

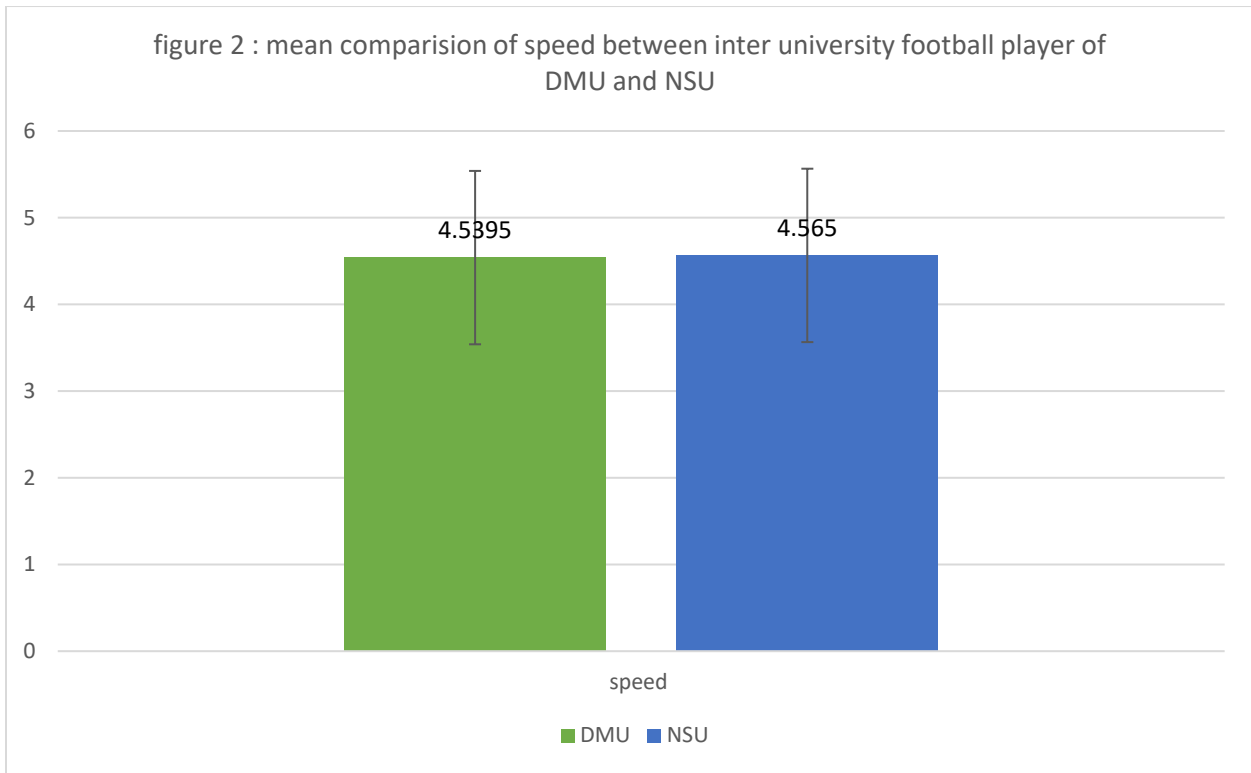
**Descriptive Statistic**

Explosive Strength	Group	N	Mean	Std. D	p-value
	DMU	20	2.37	0.17	0.16
	NSU	20	2.44	0.13	
* No Significant at $p > 0.05$					

**Descriptive Statistic**

Speed	Group	N	Mean	Std. D	p-value
	DMU	20	4.54	0.17	0.68
	NSU	20	4.57	0.22	
* No Significant at $p > 0.05$					





It is observed from table 1, figure 1 and figure 2 that, the mean (M) and standard deviation (SD) of the explosive strength are  $2.37 \pm 0.17$  and  $2.44 \pm 0.13$  respectively the p-value of explosive strength is 0.16 at a 0.05 significance level. The mean (M) and standard deviation (SD) of speed of speed are  $4.54 \pm 0.17$  and  $4.57 \pm 0.22$  respectively the p- value of speed is 0.68 at 0.05 significance level. It can revealed there is no significance difference between inter-university football players of Dhanamanjuri University and National Sports University.

### DISCUSSION ON FINDINGS

The main purpose of the study was to compare the explosive strength and speed between inter university football players of Dhanamanjuri University and National Sports University. The results shows that there no significance difference between the interuniversity players of Dhanamanjuri University and National Sports University in both the explosive strength and speed. The primary reason for the observed similarities is likely attributed to the fact that the players possess comparable skill levels, indicating a homogeneous talent pool. Furthermore, an additional factor to consider is that these players are competing in the same game, namely football. As a result, the physical and technical demands of the game are uniform, necessitating a similar level of fitness and athleticism.

Consequently, the training inputs and programs designed to meet these demands are also likely to be similar across all teams. This convergence of training regimens, coupled with the comparable skill levels of the players, contributes to the observed similarities in their performance. In essence, the combination of similar game demands and comparable player

abilities has resulted in a homogenization of training programs, leading to analogous performance outcomes.

## CONCLUSION

After the analysis of data on the basis of outcome following conclusions was drawn:

- On the basis of findings of the study it is clear that there is no significant difference in explosive strength between interuniversity football players of Dhanamanjuri University & National Sports University. The p-value of explosive strength is 0.16 at a 0.05 significance level.
- On the basis of findings of the study it is clear that there is no significant difference in speed between interuniversity football players of Dhanamanjuri University & National Sports University. The p-value of speed is 0.68 at 0.05 significance level.

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### **Informed Consent**

All the subjects gave informed consent for inclusion before participating in the study.

### **Conflict of Interest**

The authors declare no conflicts of interest