



ISSN: 2456-0057  
IJPNPE 2019; 4(1): 1263-1265  
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www.journalofsports.com  
Received: 24-11-2018  
Accepted: 25-12-2018

**Pawiter Singh**  
Director of Physical Education,  
Govt. SSS Gulahar, Patiala,  
Punjab, India

**Dr. Jagdish Singh**  
Associate Professor, Professor,  
Gursewak Singh Govt. College Of  
Physical Education, Patiala,  
Punjab, India

## Correlation of motor fitness components and kinanthropometric parameters among National/All India Inter University levels participant's Javelin Throwers with their skill performance

**Pawiter Singh and Dr. Jagdish Singh**

### Abstract

The main purpose of the study was to find out the relationship of motor fitness components and kinanthropometric parameters among national/All India Inter University levels participant's javelin throwers with their skill performance. Results showed that there was a significant association of Explosive Arm Strength with skill performance. On the other hand results shows that insignificant association of Explosive Leg Strength, Agility, Total Body Fat, Sitting Height, Total Arm Length, Leg Length, Shoulder Width, Elbow Width, Chest Circumference Inspiration, Chest Circumference Expiration, Upper Arm Circumference Relaxed and Upper Arm Circumference Flexed and with skill performance of National/All India Inter University male participants Javelin Throwers.

**Keywords:** Motor fitness, anthropometric, explosive leg strength, agility, total body fat, sitting height

### Introduction

Javelin throwing belongs to the group of cyclic-acyclic track and field disciplines, for which linear and translator type of movement is characteristic. The result in javelin throwing is well-defined mainly by proper technique, specific motor abilities, aerodynamic causes and anthropometric characteristics of the athlete.

The javelin was made of a length of wood approximately six feet long and had either a metal tip or a sharpened end point. The thrower held the javelin by his fingers using a leather thong attached to the pole's center of gravity. The thong was meant to improve the thrower's aim, precision and distance. In ancient Greece, javelin throwers competed on horseback, which further increased the skill required in the sport. The modern Olympic Games don't use horses for the javelin throw. In 1840, the first recorded "meet" date for a pentathlon-type event occurred in Shropshire, England, according to Olympic.org. During the 1880s, events that included javelin throwing, running, jumping and walking were held throughout Europe, the U.S. and other Western countries. The pentathlon events, including javelin throwing, were featured in the first modern Olympic Games in 1896. Throughout history, javelin-throwing competitions have typically been held as part of several track and field events. (Encyclopedia)

**Purpose of study:** The aim of the research was to analyze the relationship of Motor fitness components and Kinanthropometry parameters among National/ All India Inter University levels Javelin Throwers participants with their skill performance.

### Method and Procedure

**Sample size:** The study was conducted on 20 javelin throwers in age group of 18 to 38 year National level participants / All India Inter-university participants.

**Sampling area:** was recruited as subjects from the Punjab, Haryana, Delhi, Rajasthan, U.P states. All subjects were given an informed consent letter to sign to be a subject for the present study with their own will.

**Correspondence**  
**Pawiter Singh**  
Director of Physical Education,  
Govt. SSS Gulahar, Patiala,  
Punjab, India

**Selection of variables and test**

**Motor fitness components**

**Strength**

Explosive arm strength: Softball Throw  
 Explosive leg strength: Standing broad jump  
 Agility: Illinois Agility Test (10 X 5 Meters)

**Kinanthropometric parameters**

Total Body Fat  
 Sitting Height  
 Total Arm Length  
 Leg Length  
 Shoulder Width  
 Elbow Width  
 Chest Circumference Inspiration

Chest Circumference Expiration  
 Upper Arm Circumference Relaxed  
 Upper Arm Circumference Flexed

**Skill performance**

**Statistical procedure**

In order to find out the relationship of selected Motor fitness and Kinanthropometric parameters among Javelin Throwers in relation to their skill performance, the Pearson product-moment correlation was employed. The level of significance chosen to test the hypothesis was 0.05. Accordingly, a statistical software package (SPSS) was used.

**Results**

**Table 1:** Correlation analysis of motor fitness components and anthropometric parameters with skill performance of national/all india inter university participated javelin throwers

Variable 1	Variable 2	'r' Values	Sig.
Skill Performance	Explosive Arm Strength	.816*	.000
	Explosive Leg Strength	.433	.056
	Agility	-.070	.771
	Total Body Fat	.253	.283
	Sitting Height	-.196	.407
	Total Arm Length	-.290	.215
	Leg Length	-.211	.371
	Shoulder Width	.010	.967
	Elbow Width	-.224	.342
	Chest Circumference Inspiration	.217	.358
	Chest Circumference Expiration	.277	.237
	Upper Arm Circumference Relaxed	-.027	.909
	Upper Arm Circumference Flexed	-.021	.931

\*Significant at .05 level of significance  $r_{.05}(18) = .444$

Table - depicts the correlation coefficients (r) of the Motor Fitness and Anthropometric Parameters with relation skill performance of National/All India Inter University male participants Javelin Throwers. The result of the study showed that there was a significant association of Explosive Arm Strength (r=.816) with skill performance of National/All India Inter University male participants Javelin Throwers.

On the other hand results shows that insignificant association of Explosive Leg Strength, Agility, Total Body Fat, Sitting Height, Total Arm Length, Leg Length, Shoulder Width, Elbow Width, Chest Circumference Inspiration, Chest Circumference Expiration, Upper Arm Circumference Relaxed and Upper Arm Circumference Flexed (.433, -.070,.253, -.196, -.290, -.211,.010, -.224,.217,.277, -.027 and -.021) with skill performance of National/All India Inter University male participants Javelin Throwers.

**Findings of the Study**

The result of the study showed that there was a significant association of explosive arm strength and that insignificant association of explosive leg strength, agility, total body fat, sitting height, total arm length, leg length, shoulder width, elbow width, chest circumference inspiration, chest circumference expiration, upper arm circumference relaxed and upper arm circumference flexed with skill performance of National/All India Inter University male participants Javelin Throwers.

**Conclusions of the study**

Based on the findings of this study, the following conclusions were drawn:

To conclude, It is evident that the results of correlation

coefficients (r) of the Motor Fitness and Anthropometric Parameters with relation skill performance of National/All India Inter University male participants Javelin Throwers The result of the study showed that there was a significant association of Explosive Arm Strength (r=.816) with skill performance of National/All India Inter University male participants Javelin Throwers. On the other hand results shows that insignificant association of Explosive Leg Strength, Agility, Total Body Fat, Sitting Height, Total Arm Length, Leg Length, Shoulder Width, Elbow Width, Chest Circumference Inspiration, Chest Circumference Expiration, Upper Arm Circumference Relaxed and Upper Arm Circumference Flexed (.433, -.070,.253, -.196, -.290, -.211,.010, -.224,.217,.277, -.027 and -.021) with skill performance of National/All India Inter University male participants Javelin Throwers.

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