



E-ISSN: 2707-7020  
P-ISSN: 2707-7012  
JSSN 2020; 1(2): 26-28  
Received: 19-06-2020  
Accepted: 21-07-2020

**Dr. Thingnam Nandalal Singh**  
Department of Physical  
Education, Panjab University,  
Chandigarh, Punjab, India

**Thingnam Premchandra Singh**  
Ph.D. Scholar, Department of  
Physical Education, Panjab  
University, Chandigarh,  
Punjab, India

**Rastam Thingnam**  
MPed Student, Department of  
Physical Education, Panjab  
University, Chandigarh,  
Punjab, India

**Corresponding Author:**  
**Dr. Thingnam Nandalal Singh**  
Department of Physical  
Education, Panjab University,  
Chandigarh, Punjab, India

# Journal of Sports Science and Nutrition

## Body mass index and muscular power between Penchaksilat and Wushu players

**Dr. Thingnam Nandalal Singh, Thingnam Premchandra Singh and  
Rastam Thingnam**

### Abstract

The purpose of the study was to evaluate the body mass index and muscular power of Penchak Silat and Wushu players of Panjab University, Chandigarh. Forty male players (N=40), twenty (20) players each from both sports of Penchak Silat and Wushu were selected as subjects of the study during the Inter-College which was held at Panjab University, Chandigarh on February 2020. The ages of the subjects were range from 17-25 years. The Body Mass Index (BMI) was calculated through the measure of Weight and Height and the Muscular Power was measured indirectly through Standing Broad Jump and Vertical Jump. The 't' test was employed for analysing the data and the hypothesis was tested at 0.05 level of significance. Significant difference was found on body mass index (BMI) ( $t=0.096$ ) and no significant differences were found on muscular power with regard to Vertical Jump ( $t=1.222$ ) and Standing Broad Jump ( $t=1.222$ ) between Penchak Silat and Wushu Players.

**Keywords:** Body mass index, muscular power, Penchak Silat, Wushu

### Introduction

Physical fitness is defined as the general capacity to adapt and respond favourably to physical efforts. Physical fitness is the function of the heart, blood vessels, lungs and muscles at optimum efficiency. It combines good health and physical development. The object of any programmed of physical fitness is to maximize and individual's health, strength, endurance, skill related to age, sex, body build and physiology. Obtaining and maintaining physical fitness is a result of physical activity, proper diet and nutrition and rest for physical recovery. Physical and mentally fit individuals are stronger in enduring the conditions for existence essential for survival. Physical fitness is nothing but healthfulness, strength, soundness, power and capability to work efficiently. Fitness makes life for living (Uppal & Gautam, 2016).

Power is "the ability to transfer energy into force at a fast rate of speed". In other words, "the capacity of the individual to bring into plays maximum muscle contraction at the fastest rate of speed". Power may be identified as the ability to release maximum force at a faster possible time, as is exemplified in the vertical jump, the broad jump, shot-put and other movements against a resistance in minimum of time (Yobu, 2010) [5]. The Body Mass Index (BMI), or Quetelet index, is a heuristic proxy for human body fat based on an individual's weight and height. Body Mass Index (BMI) is one of the most accurate ways to determine when extra pounds translate into health risks. BMI is a measure which takes into account a person's weight and height to gauge total body fat in adults. Formulae universally used in medicine produce a unit of measure of  $\text{kg}/\text{m}^2$  (Thakar, 2015) [3].

Pencak Silat is one of the sports included in the Southeast Asian Games and other region-wide competitions. Pencak Silat first made its debut in 1987 Southeast Asian Games and 2018 Asian Games, both were held in Indonesia. Wushu or Chinese Kungfu, is a hard and soft and complete martial art, as well as a full-contact sport (Melinda 2010).

### Method and Procedure

The purpose of the study was to evaluate the Body Mass Index and Muscular Power of Penchak Silat and Wushu players of Panjab University, Chandigarh. The present study was conducted on forty (40) male inter college level players of Penchak Silat and Wushu. The ages of the subjects were range from 17-25 years. To find out the significance differences between Penchak Silat and Wushu players with regard to Body Mass Index (BMI) and Muscular Power (Vertical Jump and Standing Broad Jump) 't' tests were employed with the

help of SPSS software. The level of significance was set at .05 level of confidence.

**Results and Findings**

The comparison of Body Mass Index (BMI) between Penchak Silat and Wushu players is depicted in table 1.

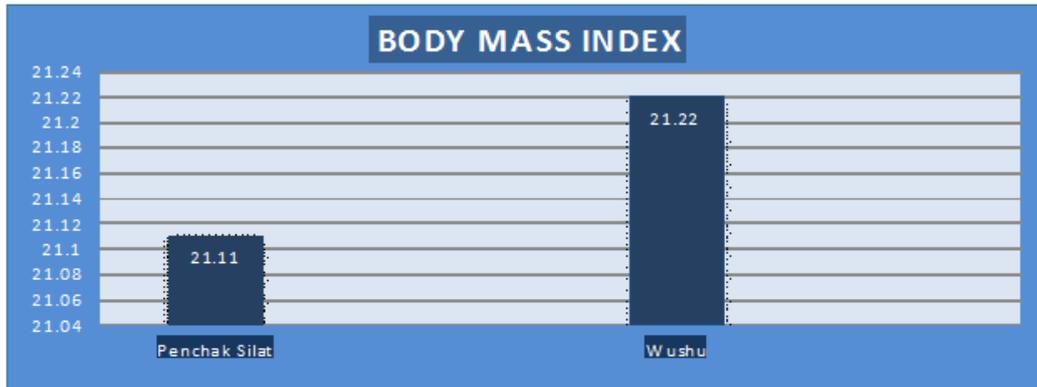
**Table 1:** Comparison of Scores on body Mass Index between Penchak Silat and Wushu Players

Group	N	Mean	SD	t-value	P-value(sig)
Penchak Silat	20	21.11	3.936	0.096*	0.044*
Wushu	20	21.22	2.612		

\*Significant at 0.05

It can be seen from Table-1 that significant difference was found with regard to Body Mass Index (BMI) between Penchak Silat and Wushu players as the t-value is 0.096 and the P-value (sig) .044 was found smaller than 0.05 level of

significance ( $p < 0.05$ ). Mean scores of Penchak Silat and Wushu players on Body Mass Index (BMI) is depicted graphically in fig.1.



**Fig 1:** Graphical Presentation of Mean Scores of Penchak Silat and Wushu Players on Body Mass Index

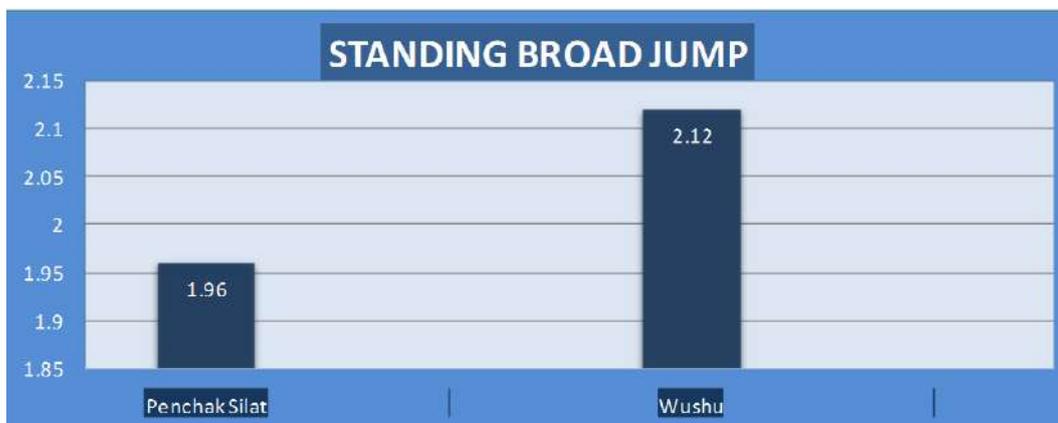
The comparison of Muscular Power (Standing Broad Jump) between Penchak Silat and Wushu players is depicted in table 2.

**Table 2:** Comparison of Scores on muscular Power (Standing Broad Jump) between Penchak Silat and Wushu Players

Group	N	Mean	SD	t-value	P-value(sig)
Penchak Silat	20	1.96	0.164	2.856	0.530
Wushu	20	2.12	0.188		

\*Significant at 0.05

It can be seen from Table-2 that no significant difference was found with regard to Muscular Power (Standing Broad Jump) between Penchak Silat and Wushu players as the t-value is 2.856 and the P-value (sig) .530 was found higher than 0.05 level of significance ( $p > 0.05$ ). Mean scores of Penchak Silat and Wushu players on Standing Broad Jump is depicted graphically in fig. 2.



**Fig 2:** Graphical Presentation of Mean Scores of Penchak Silat and Wushu

**Players on Muscular Power (Standing Broad Jump)**

The comparison of Muscular Power (Vertical Jump) between Penchak Silat and Wushu players is depicted in table 3.

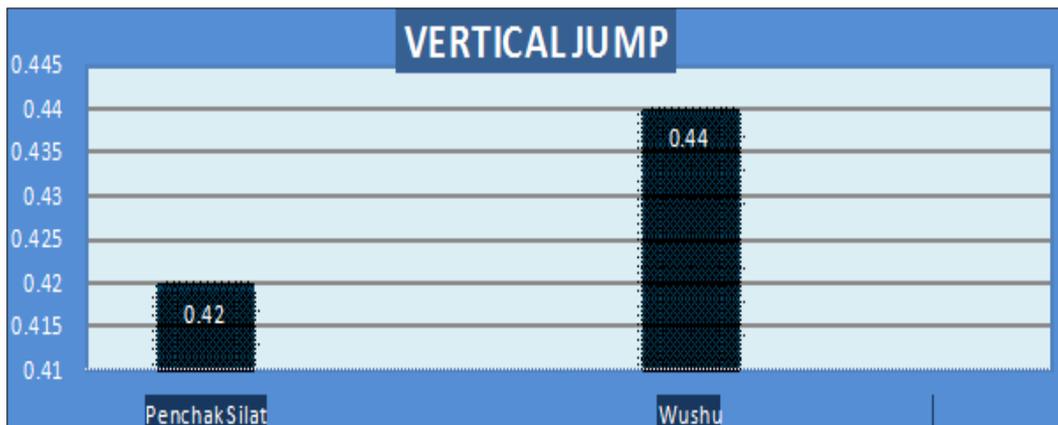
**Table 3:** Comparison of Scores on Muscular Power (Vertical Jump) Between Penchak Silat and Wushu Players

Group	N	Mean	SD	t-value	P-value(sig)
Penchak Silat	20	0.42	0.069	1.222	0.509
Wushu	20	0.44	0.062		

\*Significant at 0.05

It can be seen from Table-3 that no significant difference was found with regard to Muscular Power (Vertical Jump) between Penchak Silat and Wushu players as the t-value is 1.222 and the P-value (sig). 509 was found higher than 0.05

level of significance ( $p > 0.05$ ). Mean scores of Penchak Silat and Wushu players on Vertical Jump is depicted graphically in fig. 3.



**Fig 3:** Graphical Presentation of Mean Scores of Penchak Silat and Wushu

### Players on Muscular Power (Vertical Jump)

There was significant difference between Penchak Silat and Wushu players in regard to Body Mass Index (BMI) whereas no significant difference in regard to Muscular Power (Standing Broad Jump and Vertical Jump). The Body Mass Index (BMI) of Penchak Silat and Wushu players is slightly different.

### Conclusions

In the light of the findings and limitations of the present study the following conclusions were drawn:

- Significant difference was obtained on Body Mass Index (BMI) of Penchak Silat and Wushu players of Panjab University.
- No significant difference was obtained on Muscular Power (Standing Broad Jump and Vertical Jump) of Penchak Silat and Wushu players of Panjab University.

### References

1. Donn FD. Weapons and fighting arts of Indonesia. Rutland, Vt.: Charles E. Tuttle Co. ISBN 978-0-8048-1716-5 1992.
2. Liu M. Kung Fu Fighting for Fans. Newsweek. Archived from origin on 30 August 2008, 2010.
3. Thakar AG. A comparative study of body mass index and physical fitness of players and non-players of tribal school children. Research 2015.
4. Uppal AK, Gautam GP. Physical Education and Health. India: Friends Publications 2004, 2-6.
5. Yobu A. Test measurement and evaluation in physical education and sports. New Delhi: Friends Publication 2010.