

## **Comparative Study of Some Selected Anthropometric Measurement and Physical Fitness of Judo Kaas and Karate Kaas of Ludhiana District**

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### **Abstract**

Objectives of the study was to compare some selected physical fitness components and anthropometric measurement of Judo kaas and karate kaas. For the purpose 40 subjects were selected i.e. 20Judo kaas and 20karate kaas by using simple random sampling method. AAPHER Youth fitness test was used to measure physical fitness of subjects whereas, Height (sitting and standing), Leg length, Arm length, and body weight were the components of Anthropometric measurement. Collected data was analyzed by using Mean, Medn, SD SEM, and 't' test were used as tool for analysis. Results of the study shown significant difference among various component of physical fitness and anthropometric measurement of subjects as shown by Clark et.al and Herrison in their study.

**KEYWORDS:** Anthropometric measurement, Physical fitness, Judo Kaas, Karate Kaas.

### **Introduction:**

Every human being has a fundamental right to access to physical activities and sports which are essential for the full development of his personality. The freedom to develop physical, intellectual and moral power through physical education and sports must be guaranteed both within the educational system and in other aspects of social life.

Desirable traits of character are developed through sports, such as sportsmanship, discipline, observance of the rules of the games, self control and a spirit of fair-play. Team plying encourages cooperation, leadership, fellowship and team spirits, participation in sports, individually or as member of a team help in preparation for life. The athletes prepared for a contest by training and conditioning just as we prepare ourselves for a profession or a trade.

In the present stream of life, development and progress are two dynamic processes in our society. Every individual in the society is engaged in surpassing others, to achieve higher standards of life. Scientific development in the present century has added much more to this phenomenon of rapid development. After the start of modern Olympic Games a tremendous development has taken place in this discipline.<sup>1</sup>

### **Significance of the problem :**

- 1) It would be helpful to the coaches to find out the relationship between the factors like, speed, agility, strength and endurance in games like Judo and karate.
- 2) It would be also a motivation to the players of the respective games to develop the respective physical fitness factors and thus by better performance in their games and interest.

### **Objectives of the study :**

Following were the objectives of the study :

1. To find out the anthropometric measurements of Judo Kaas and karate Kaas .
2. To compare the anthropometric measurements of judo kaas and karate kaas.
3. To find out the physical fitness of judo kaas and karate kaas.
4. To compare the physical fitness and anthropometric measurements of judokaas and karate kaas.

### **Hypothesis :**

It was hypothesized that there would be no significant difference in anthropometric measurement and physical fitness of judo kaas and karate kaas.

### **Scope of the study :**

#### **Delimitation :**

1. The study was delimited to compare judo and karate kass players only.
2. the physical fitness components for the present study were delimited to speed, agility, strength, flexibility and endurance.
3. Study was delimited to male subjects only.

#### **Limitation :**

- 1) Environmental factor was not under the control of researcher.
- 2) No motivational techniques were used for data collection.
- 3) Authenticity of the data was depended upon honesty of the subjects only.
- 4) Personal training schedule of athletes was not under control of researcher.

#### **Source of Data :**

Source of data for the present study were the Judo and Karate Kass, practicing in different clubs of Ludhiana city of Punjab.

#### **Sampling Procedure :**

Present researcher selected 20 Judo Kass and 20 Karate Kass with the help of simple random sampling method for the study.

#### **Methodology**

#### **Selection of test :**

The AAPHERS youth fitness test was chosen to find out the physical fitness level of the selected subjects. The test items are as under.

- 1) Pull – ups
- 2) Sit ups
- 3) Shuttle runs
- 4) Standing broad Jump

5) fifty yard dash run 6) 600 yard run / walk.

Anthropometry :

1. Height (sitting )
2. Height (standing)
3. Leg length
4. Arm length
5. Foot length
6. Body weight

**Table – I**  
**Table showing the comparison in height of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	35.9	1.33	0.29	0.58 <sup>@</sup>	2.021
Judo	34.60	1.31	0.29		

<sup>@</sup> = insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 0.58 was less than the table value of 't' that is 2.021 at 0.05 level of significance which means that significant difference was not found in height test of two game players viz karate kaas and Judo kaas players.

**Table – II**  
**Table showing the comparison in sitting height of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	17.39	0.92	0.20	1.57 <sup>@</sup>	2.021
Judo	16.79	0.91	0.20		

<sup>@</sup> = insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 1.57 was less than the table value of 't' that is 2.021 which means that significant difference was not found in height test of two game players viz karate kaas and Judo kaas players.

Further it can be revealed that the mean value of Karate Kass was found higher than the Judo Kass which shown that KarataKass shown superior in height than Judo Kass.

**Table – III**  
**Table showing the comparison in Arm Length of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	12.00	0.77	0.172	1.11 <sup>@</sup>	2.021
Judo	11.62	0.76	0.170		

<sup>@</sup> = insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 1.11 was less than the table value of 't' that is 2.021 which means that significant difference was not found in height test of two game players viz karate kaas and Judo kaas players.

**Table – IV**  
**Table showing the comparison in Leg Length of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	19.37	0.97	0.21	0.92 <sup>@</sup>	2.021
Judo	18.98	0.96	0.21		

<sup>@</sup> = insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 0.92 was less than the table value of 't' that is 2.021 which means that significant difference was not found in Leg Length of two game players viz karate kaas and Judo kaas.

**Table – V**

**Table showing the comparison in Foot Length of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	19.33	0.97	0.21	2.07 <sup>@</sup>	2.021
Judo	18.48	0.82	0.14		

<sup>@</sup> = insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 2.07 was more than the table value of 't' that is 2.021 which means that significant difference was not found in Foot Length of two game players viz karate kaas and Judo kaas players.

**Table – VI**

**Table showing the comparison in Weight Test of two game players KarataKass and Judo Kass**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	1318	7.93	1.77	6.33*	2.021
Judo	1341	8.18	1.82		

\* = significance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 6.33 was more than the table value of 't' that is 2.021 which means that significant difference was not found in Weight test of two game players viz karate kaas and Judo kaas.

It was also found that mean value of Judo kaas was found 1318 where as for the karate kaas it was 1341 which shows the difference in weight was due to the nature of activity and requirement of weight in respective game.

**Table – VII**

**Table showing the comparison in Shuttle Run of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	180.98	3.00	0.67	1.54@	2.021
Judo	178.93	2.98	0.66		

@ = insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 1.54 was more than the table value of 't' that is 2.021 which means that significant difference was not found in Shuttle Run of two game players viz karate kaas and Judo kaas player

**Table – VIII**

**Table showing the comparison in Standing Broad Jump of two game players KarataKass and Judo Kass**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	4234.095	14.5	3.24	2.85*	2.021
Judo	4218.455	14.5	3.17		

\* = significance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 2.85 was more than the table value of 't' that is 2.021 which means that significant difference was not found in Standing Broad Jump of two game players viz karate kaas and Judo kaas.

It was also found that mean value of KarataKass was 4234.095 and for Judo Kass it was 4218.45 we shows the better Standing Broad Jump of Karate Kass than the counter part game

**Table – IX**

**Table showing the comparison in 600 Run /Walk of two game players KarataKass and Judo Kass**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	22.48	1.06	0.23	0.30 <sup>@</sup>	2.021
Judo	22.70	1.06	0.23		

<sup>@</sup> = insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 0.30 was more than the table value of 't' that is 2.021 which means that significant difference was not found in 600 Run/Walk of two game players viz karate kaas and Judo kaas players.

**Table – X**

**Table showing the comparison in 50 Yard Dash -Run of two game players KarataKass and Judo Kass**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	179.24	2.99	0.66	4.44 <sup>*</sup>	2.021
Judo	173.42	2.94	0.65		

<sup>\*</sup> = significance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 4.44 was more than the table value of 't' that is 2.021 which means that significant difference was not found in 50 Yard Dash Run of two game players viz karate kaas and Judo kaas players.

**Table – XI**

**Table showing the comparison in Pull - Ups of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	460	4.79	1.07	3.28 <sup>*</sup>	2.021
Judo	453	4.59	1.02		

<sup>\*</sup> = significance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 3.28 was more than the table value of 't' that is 2.021 which means that significant difference was not found in Pull - Ups of two game players viz karate kaas and Judo kaas players.

**Table – XII**

**Table showing the comparison in Sit - Ups of two game players KarataKass and Judo Kass.**

Group	Mean	SD	SEM	't' Cal.	't' Table
Karate	501	5.00	1.11	1.35 <sup>@</sup>	2.021
Judo	498	4.98	1.11		

<sup>@</sup> = Insignificance

38 df. 0.05 level of significance

The above table reveals that obtained value of 't' 1.35 was more than the table value of 't' that is 2.021 which means that significant difference was not found in Sit - Ups of two game players viz karate kaas and Judo kaas players.

**Conclusion :**

On the basis of findings and within the limitations of the present study following conclusion were drawn.

It was seen in table 5<sup>th</sup> and 6<sup>th</sup> there was significance difference in anthropometric components of body weight 't' value to be significant at 0.05 level with 38 degree of freedom was 2.021, were as tabulated 2.07 and 6.33 because both needs proper diet for better performance.

It also shown table I and II that there was insignificant difference in anthropometric components of standing height and sitting height 't' value two be insignificant at 0.05 level 38 degree of freedom was 2.021 were as tabulated 't' was found 0.58 and 1.57 because both game need proper exercise and training for better performance.

It was seen in table 3<sup>th</sup> and 4<sup>th</sup> there was no significant in anthropometric components of arm length and leg length 't' to be significant at 0.05 level with 38 degree of freedom was 2.021 while as tabulated 't' was found 1.11 and 0.92 because both needs proper training and stretching exercise.

It was seen in table 8<sup>th</sup> 9<sup>th</sup> and 10<sup>th</sup> that there was significant different in physical fitness components of shoulder strength explosive leg strength and endurance, 't' value to be insignificant at 0.05 level with 38 degree of freedom was 2.021 were tabulated 't' was 2.85, 4.44, 3.28 because both needs endurance, strength for better performance.

It was seen in table 7<sup>th</sup> 9<sup>th</sup> and 12<sup>th</sup> that there was insignificant difference in physical fitness components of speed, strength 't' value to be significant at 0.05 level

with 38 degree of freedom was 2.021 were as tabulated 't' was found 1.54, 0.30, 1.35 because both needs strength and endurance.

It was seen in table 3 and 4 that there was insignificant difference found in anthropometric measurement of arm length and leg length 't' value to be significant at 0.05 level with 38 degree of freedom was 2.021 as tabulated 't' was found 1.11 and 0.92 because both need stretching exercise.

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