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## Study on BMI and selected physical fitness components of Chhau dancer and Traditional game players

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### Abstract

Chhau dance is a semi classical Indian dance with martial art and folk traditions. The dance ranges from celebrating martial arts, acrobatics and athletics performed in festive themes of a folk dance, to a structured dance with religious themes. Traditional game provides unique opportunities that conventional games may not have. They are generally based on fun and participation rather than competition and connect more important things beyond sports and physical activities. The purpose of this study was - to find out difference in BMI and physical fitness components between chhau dancer and traditional game players. To observed the relationship between BMI and physical fitness components of chhau dancer and traditional game players. The researcher was selected 156 male subjects from two groups. 78 subjects were chhau dancer who regular practice their dance and performed chhau dance programs. 78 subjects were traditional game players who played different traditional games. The obtained results of the study that chhau dancer was better fitness than traditional game players on the respect of explosive leg strength, agility and flexibility. But there was no significant difference between the means of reaction time of chhau dancer and traditional game players. There was positive relationship between BMI with reaction time of chhau dancer, but there was no relationship between BMI with explosive leg strength, agility and flexibility of chhau dancer. Other side there was no relationship between BMI with reaction time, explosive leg strength, agility and flexibility of traditional game players.

**Keywords:** Fitness, chhau dancer, folk dance, traditional game

### 1. Introduction

Chhau dance is a ritualistic folk dance, usually performed by men, very common in the States of West Bengal, Orissa and Jharkhand in India. Chhau dance is a semi classical Indian dance with martial art and folk traditions. The dance ranges from celebrating martial arts, acrobatics and athletics performed in festive themes of a folk dance, to a structured dance with religious themes found in Shaivism, Shaktism and Vaishnavism. The costumes vary between the styles, with Purulia and Serakeilla using masks to identify the character.

The Purulia Chhau dance is celebrated during the Sun festival. Masks form is an integral part of Chhau dance in Purulia and Seraikella styles. The knowledge of dance, music and mask-making is transmitted orally. Purulia chhau dance, unlike the other two dance styles, is characterised by very large and colourful masks and very elaborate costumes depicting mythological characters from religious texts (Ramayana, Mahabharata, Vedas folklores and Puranas). The precursors of Chhau dance (especially Purulia style) were not only Paika and Natua, but Nachni dance also played an important role in giving Chhau its present identity. Chhau dance borrows the female gaits and movements from the Nachni dance almost exclusively (Bhattacharya, 1983, Chakravarti, 2001, Kishore, 1985). The female dance elements in Chhau introduced the aspects of Lasya Bhava from the Natya Shastra that brought elegance, sensuality, and beauty in the dance form, whereas, the virile male dance movement is attributed to the Shiva's tandava style of dance (Bose 1991).

Traditional game provides unique opportunities that conventional games may not have. They are generally based on fun and participation rather than competition and connect more important things beyond sports and physical activities. These two elements are very important in reaching people who may not participate in mainstream sports, especially in providing positive sports and physical activity experiences for children. According to UNESCO, these games will be the first of their kind while promoting tourism, local traditions, and the host

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country's culture. Although, Kausik Bodhopyahy discussed the theory of evolution system, how the traditional games transferred into modern games. But, in the pages of literature folk games and its importance are totally untouched. As a result, there is not any particular documentation about the traditional game of West Bengal. Lack of documents, writing of folks games of Bengal is very tough. Before the second half of the nineteenth century the indigenous people India followed their traditional games like Lathi Chora (Throw Stick), Danguli (Play through long pieces of wood), Kit-Kit (Girls famous game), Goli (Marbles or Glass ball), Lattu (Top), Luko-Churi (Hide and seek), Rumal Churi (hanky Thief), Ghuri (Kite Flying) and so many traditional games. But after the second half of the nineteenth century those people bending towards the foreign outdoor games. Therefore, in west Bengal especially Calcutta, history of the folk games is a major lacuna in the field of sports culture. Through this article tried to explain some of the most important extinct traditional folk games of West Bengal and its importance in our society which are Ha-Du-Du, lathichora (Throw stick), Kanamachi, Rumal churi (Hanky Thief), Ghuri Orano (Kite Flying) and Kit-Kit. Malgorzata *et al.* (2015) was found traditional sports and games (TSG) cultivate local and regional customs and strengthen the sense of national belonging. Locally or regionally rooted TSG encourage exchanges between districts, citizenship and regions and preserve a sense of cultural identity by providing marks of roots and reference. Bhattacharya (1989), an anthropologist and folklorist, who devoted his life to supporting and researching the chhau dance the origin of this folk dance "stays mainly with musicians and drummers". Robson *et al.* (1978) was executed a study on Physical Fitness Test of elementary school students in the field of Physical Education. The purpose of this study was -to find out difference in BMI and physical fitness components between chhau dancer and traditional game players. To observed the relationship between BMI and physical fitness components of chhau dancer and traditional game players.

## 2. Materials and Methods

**2.1 Participants:** The researcher was selected 156 male subjects from two groups. 78 subjects were chhau dancer who regular practice their dance and performed chhau dance programs. 78 subjects were traditional game players who played different traditional or cultural games. The age of subjects ranged from 15-20 years.

**2.2 Measures and Instruments:** The researcher was collected the data through purposive random sampling. For measurement of selected physical fitness variables were includes ruler drop test for reaction time, standing broad jump for explosive leg strength, 4\*10 meter shuttle run for agility and sit & reach test for flexibility.

**2.3 Statistical Analysis:** Mean and Standard Deviation was computed. Comparison was made on the basis of physical fitness i.e. chhau dancer and traditional game players. For this purpose 't' value was applied.

**2.4 Software:** The researcher was used Microsoft office (MS word and MS excel).

## 3. Results

In order to find out the significance difference of reaction time, explosive leg strength, agility and flexibility of chhau dancer and traditional game players by subjecting the

difference between means scores without any training, statistical significance calculating 't' value using the formula.

**Table 1:** Showing the Mean value, Standard deviation and 't' score of the BMI.

Groups	Mean	S.D	M.D	T value
Chhau dancer	22.989	1.888		0.591
Traditional game players	23.580	1.686		2.059*

\*Significant at 0.05 level of confidence

It's appears from table- 1 the mean and standard deviation of BMI for chhau dancer and traditional game players were  $22.989 \pm 1.888$  and  $23.580 \pm 1.686$  respectively. The calculative 't' value on BMI was 2.059, which was greater than table value i.e., 1.975. So there was significant at 0.05 level.

**Table 2:** Showing the Mean value, Standard deviation and 't' score of the Reaction Time (Ruler drop test).

Groups	Mean	S.D	M.D	T value
Chhau dancer	0.198	0.019		
Traditional game players	0.193	0.019		0.005

\*Significant at 0.05 level of confidence

It's appears from table- 2 the mean and standard deviation of reaction time for chhau dancer and traditional game players were  $0.198 \pm 0.019$  and  $0.193 \pm 0.019$  respectively. The calculative 't' value on reaction time was 1.563, which was less than table value i.e., 1.975. So there was not significant at 0.05 level.

**Table 3:** Showing the Mean value, Standard deviation and 't' score of the Explosive Leg Strength (Standing Broad Jump).

Groups	Mean	S.D	M.D	T value
Chhau dancer	2.846	0.245		
Traditional game players	2.013	0.401		0.833

\*Significant at 0.05 level of confidence

It's appears from table- 3 the mean and standard deviation of explosive leg strength for chhau dancer and traditional game players were  $2.846 \pm 0.245$  and  $2.013 \pm 0.401$  respectively. The calculative 't' value on explosive leg strength was 15.604, which was greater than table value i.e., 1.975. So there was significant at 0.05 level.

**Table 4:** Showing the Mean value, Standard deviation and 't' score of the Agility (4\*10 meter Shuttle run).

Groups	Mean	S.D	M.D	T value
Chhau dancer	11.308	2.586		
Traditional game players	9.533	2.064		1.775

\*Significant at 0.05 level of confidence

It's appears from table- 4 the mean and standard deviation of agility for chhau dancer and traditional game players were  $11.308 \pm 2.586$  and  $9.533 \pm 2.064$  respectively. The calculative 't' value on explosive leg strength was 4.737, which was greater than table value i.e., 1.975. So there was significant at 0.05 level.

**Table 5:** Showing the Mean value, Standard deviation and 't' score of the Flexibility (Sit & Reach test).

Groups	Mean	S.D	M.D	T value
Chhau dancer	22.309	5.786		
Traditional game players	16.426	4.238		5.883

\*Significant at 0.05 level of confidence

It's appears from table- 5 the mean and standard deviation of flexibility for chhau dancer and traditional game players were  $22.309 \pm 5.786$  and  $16.426 \pm 4.238$  respectively. The calculative 't' value on explosive leg strength was 7.243, which was greater than table value i.e., 1.975. So there was significant at 0.05 level.

**Table 6:** Represents Correlation between BMI and selected physical fitness of Chhau dancer.

	Reaction time	Explosive Leg Strength	Agility	Flexibility
BMI	<b>0.3287*</b>	0.0330	0.0024	0.0240

\*Significant at 0.05, Table value = 0.158, df = 154

It's observed that from table- 6 the correlation value of BMI between selected physical fitness of Chhau dancer. Correlation co-efficient between BMI and reaction time was found 0.3287, which was significant at 0.05 levels. Similarly correlation co-efficient between BMI and explosive leg strength, agility, flexibility were found 0.0330, 0.0024 and 0.0240 respectively. Those were not significant at 0.05 levels.

**Table 7:** Represents Correlation between BMI and selected physical fitness of Traditional game players.

	Reaction time	Explosive Leg Strength	Agility	Flexibility
BMI	0.0560	0.1455	0.0064	0.0848

\*Significant at 0.05, Table value = 0.158, df = 154

It's observed that from table- 7 the correlation value of BMI between selected physical fitness of Traditional game players. Correlation co-efficient between BMI and reaction time, explosive leg strength, agility, flexibility were found 0.0560, 0.1455, 0.0064, and 0.0848 respectively. Those were not significant at 0.05 levels.

#### 4. Discussion

After measuring all the tests and analyzing the data researcher was found the result very satisfactory. The obtained results of the study reveals that there was significant difference exist between chhau dancer and traditional game players as for as BMI was concern. Researcher found that, the chhau dancer's reaction time was comparable to traditional game players and both of them are very active in their lifestyle which helped them to achieve good reaction time. There was no significant difference between the means of reaction time of chhau dancer and traditional game players. In case of explosive leg strength, researcher found that chhau dancer used to do martial arts, acrobatics and lot of explosive activities in a regular basis. So, the length of standing broad jump which is the parameter of explosive leg strength is much higher in the chhau dancer's with respect traditional game players. In case of agility, researcher found that athletes of chhau dancer are better than the traditional game players. Chhau dancer used to perform used to do lot of zigzag activities in their dance which helped them. Chhau dancer was used to bending exercise their body beyond a certain level while performing and practicing and that helped them to achieve better flexibility. On the results, chhau dancer was better than traditional game players on flexibility. So it's proved that chhau dancer was better than traditional game players on the respect of explosive leg strength, agility and flexibility.

Further, observed that the analysis of correlation between BMI and physical fitness of chhau dancer and traditional game players. Correlation co-efficient between BMI and

reaction time was positive relation of chhau dancer. But other physical fitness (explosive leg strength, agility and flexibility) were negative relation with BMI of chhau dancer. On the other side correlation co-efficient between BMI and physical fitness (reaction time, explosive leg strength, agility and flexibility) were negative relations of traditional game players. Similar types of results were reported by Kunwer<sup>1</sup> (2021) this paper looks into the relationship between Chhau Dance and Mimesis. Chhau is similar as other dance-drama forms, narrative myths and popular epic tales.

#### 5. Conclusion

So, in the above discussion it was very clear that chhau dancer was better fitness than traditional game players on the respect of explosive leg strength, agility and flexibility. But there was no significant difference between the means of reaction time of chhau dancer and traditional game players.

There was positive relationship between BMI with reaction time of chhau dancer, but there was no relationship between BMI with explosive leg strength, agility and flexibility of chhau dancer. Other side there was no relationship between BMI with reaction time, explosive leg strength, agility and flexibility of traditional game players.

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