



ISSN: 2456-0057

IJPNPE 2024; 9(2): 145-147

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www.journalofsports.com

Received: 15-06-2024

Accepted: 09-07-2024

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A comparative study on explosive strength of Chhau dancers

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DOI: <https://doi.org/10.22271/journalofsport.2024.v9.i2c.2958>

Abstract

Chhau dance is one of the oldest familiar Indian traditional dances. To perform this vigorous dance well, one needs top fitness level. Almost all fitness components play vital role in this dance. Thy jumping movement is one of the key factors in this dance where explosive strength plays crucial role. The objective of the study was to compare the explosive strength of the Chhau dancers of different age groups. 600 Chhau dancers were purposively selected from Purulia, West Bengal, India as the subject for the study. They were also purposively divided into three age groups- Group-1: 19 to 24 years (n-200), Group-2: 25 to 30 years (n-200) and Group-3: 31 to 36 years (n-200). The variable selected for the study was Explosive Strength which was measured by standard test. Descriptive statistics was done and normality of the data was checked. Thereafter, parametric statistic like Analysis of variance (ANOVA) and LSD post-hoc-test were used. The result revealed that there was significant difference (F-29.395) among the three selected Chhau dancer groups on explosive strength and Group-1 and Group-2 were better than Group-3.

Keywords: Chhau dancer, traditional, vigorous, fitness, explosive strength

Introduction

Chhau dance is one of the oldest familiar Indian traditional dances. For the successful performance in this dance, one must possessed high level physical as well as mental capacity. This dance is very famous worldwide especially in the eastern region of India. Wearing different masks and costumes in different mythological characters, the performers perform this dance from an anthropological and sociological perspective. This dance is performed in an open-air ground without any raised platform or enclosure. The dance is dramatic in nature and is dominated by the tales from the Hindu Mythology. The distinguished feature of this dance is skillful use of mask and costumes. Wearing a more or less 5kgs mask on the head demands the performer's physical fitness and a bold physic. Jumping in the air is another movement which serves as gesture of attack during the enactment of a war scene. Such jumping is high hall-mark of acrobatic skill and physical fitness of the performers of Chhau dance.

As the growing popularity of this dance in national and international level, there is a huge need of physical as well as mental fitness to perform the dance. Among the fitness components, explosive strength plays a crucial role in the skillful performance of this dance. But the fact is that there is a very less research on Chhau dancers. Therefore, the study was undertaken to compare the explosive strength of the Chhau dancers.

Objective of the study

The objective of the study was to compare the explosive strength of selected three different age group Chhau dancers.

Methodology

Subjects: For the purpose of the study six hundred Chhau dancers were selected purposively from Purulia, West Bengal, India as the subjects for the study. They were also purposively divided into three age groups- Group-1:19 to 24 years (n-200), Group-2 25 to 30 years (n-200)

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and Group-3: 31 to 36 years (n=200).

Variable: Explosive strength was selected as the variable for the study.

Test and criterion measure: To measure the explosive strength of selected three different age group Chhau dancers, Standing Broad Jump test was used. The scores of the subject on explosive strength test were recorded in metre.

Collection of data: The volunteered subjects first were oriented about the research and test and the subjects were asked to perform three trials on explosive strength test and the best one was recorded as the subject's score. The score was

recorded in metre. The subjects were asked to warm up themselves properly before the test.

Statistical analysis

To find out the significant difference among the selected three age group Chhau dancers on explosive strength, descriptive statistics, Analysis of variance (ANOVA) and LSD post-hoc test were applied. The level of significance was set at 0.05 level.

Results and Discussion

The findings pertaining to the study are presented in Tables 1, 2 and 3 and in Figure 1:

Table 1: Descriptive statistics on explosive strength of different group Chhau dancers

Group	N	Mean (mtr)	Std. Deviation	Std. Error	Skewness	Kurtosis	Minimum Score (mtr)	Maximum Score (mtr)
Group-1	200	2.27	0.112	0.008	0.011	-0.455	2	2.51
Group-2	200	2.26	0.105	0.007	0.211	-0.326	2	2.5
Group-3	200	2.19	0.141	0.010	-0.112	-0.564	2.12	2.48

Table 1 expressed the descriptive statistics on explosive strength in the form of mean, standard deviation, standard error, skewness, kurtosis, minimum score and maximum score of all the selected three Chhau dancer groups.

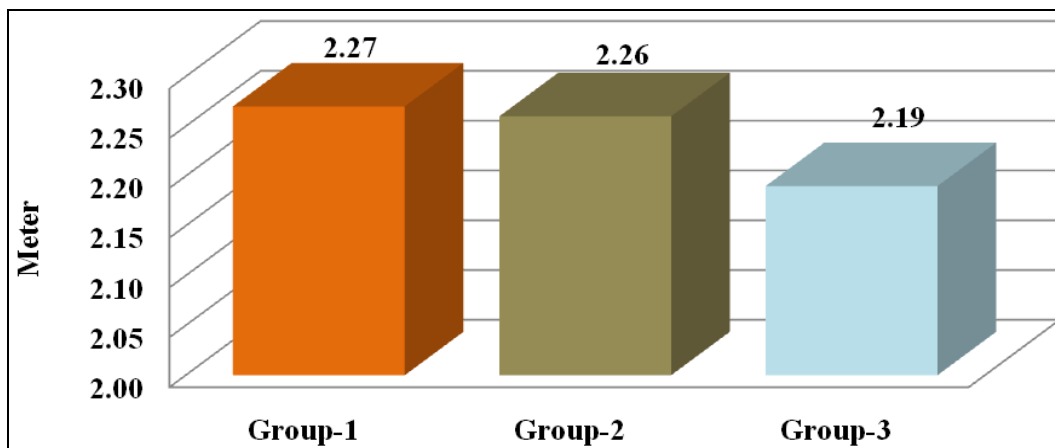


Fig 1: Graphical representation on explosive strength of three different age group Chhau dancers

Table 2: ANOVA on explosive strength of three different age group Chhau dancers

Source	Sum of squares	DF	Mean square	F	F-Crit
Between groups	0.85	2	0.427	29.395*	3.011
Within groups	8.67	597	0.015		
Total	9.52	599	0.44		

*Significant at 0.05 level (df-2,597)

Table 3: LSD post-hoc test of selected three age group Chhau dancers

Groups	Mean difference	Std. error	t-Value	p-value	
Group-1	Group-2	0.02	0.011	1.703	0.09
	Group-3	0.09	0.013	6.88	0
Group-2	Group-3	0.07	0.012	5.588	0

Table 2 mentioned the significant difference (F=29.395) on explosive strength among the three selected age group Chhau dancers. From table-3, it was also cleared that the Group-1 and Group-2 were significantly better (p<0.00) than the Group-3. There was no significant difference (p=0.09) between Group-1 and Group-2 group. The result might be due to the age and regular practice according to their fitness level. When body reaches 30 years of age, all the things of body slowly begin to change. At this time muscles retain less and less electrolytes, calcium and water. As a result of this, the muscle mass slowly starts to decrease and with this, the overall strength of the body. The result of the study was supported

by the study of Rey, E (2023) who worked on Effects of age on physical match performance in professional soccer players. Their results showed that (a) professional soccer players aged ≥30 years exhibit a significant decrease (p < 0.01) in the total distance covered, medium-speed running distance, high-speed running (HSR) distance, very HSR (VHSR) distance, sprint distance, and maximum running speed compared with younger players (<30 years).

Conclusion

On the basis of the result and supported literature it may reasonably be concluded that the explosive strength of the

Chhau dancers Group-1 and Group-2 are better than the Group-3.

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