

## Comparative Study of Physical Fitness between Physical Education Students and Dancers of Performing Arts



### Physical Education

**KEYWORDS:** Physical fitness, Physical Education, Performing Arts, Student, Dancer

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### ABSTRACT

*The present study was conducted to determine the differences of physical fitness between female Physical Education students and dancers of Performing Arts. The data pertaining to this study were collected from 30 female Physical Education students and 30 female dancers of Performing Arts age ranging from 17 to 25 years. For the study the physical fitness components i.e. Cardio-vascular Endurance, Explosive Leg Strength, Speed, Balance, Arm Strength and Flexibility were tested in the evening from 3 p.m. to 5 p.m. by using the Harvard Step Test, Standing Broad Jump, 50 Yards Dash, Stroke Stand Test, Flexed Arm Hang and Sit & Reach Test respectively. The collected raw data were further converted to t-score and analyzed statistically through t-test and the level of significance was observed at 0.05 level of confidence. On the basis of statistical findings it was concluded that there were significant differences in physical fitness between Physical Education students and dancers of Performing Arts ( $t(0.05, 58) = 5.25 > 2.0017$ ). The Physical Education students have better physical fitness than dancers of Performing Arts ( $m = 315.99 > 276.69$ ). It was also further concluded that there are significant differences in Speed (2.97), Flexibility (3.14), Explosive Leg Strength (3.32), Balance (3.35) and Arm Strength (2.19) > tabulated  $t(0.05, 58) = 2.0017$  and insignificant difference was observed as in case of Cardiovascular Endurance.*

### 1. INTRODUCTION

One of the important, remarkable, beautiful, valuable and priceless things that God has created particularly on the earth is human life. To develop health and fitness and to lengthen life, a scientist and researchers have devoted their lives to invention of medicines that protect from various diseases; and health related equipments that measure the physical, physiological parameters of individuals. Their dedication, determination and will to discover in these fields are highly remarkable and admirable in the history of man and civilisation<sup>1</sup>.

People are now becoming conscious of the importance of being physically fit. When a person is said to be physically fit, usually possesses a high degree of general resistance which enable him to avoid minor illness such as colds and headache. Many physicians have expressed that the physically fit person who follows a regular programme of exercises can successfully withstand common ailments in later years such as headache, digestive upsets, constipation, kidney disorders, heart-burn, and chronic fatigue. The main reason for all of these is due to improved blood circulation induced by muscular activity. Regular participation in physical activity suitable to one's and degree of physical fitness and health condition is not the only factor in reducing heart disorders. Other important factors are: your proper diet, the amount of stress and tension you habitually encounter and your heredity background which also influences the incidence of cardiovascular diseases<sup>2</sup>.

Dance is one of the world's oldest art forms. It is a mercurial art form: it exists in the moment, and, while a dance can be performed repeatedly, each performance is distinct and unique<sup>3</sup>.

Human beings are considered to be the best creation of God. Human have superior aesthetic sense, emotion, feelings, artistic sensitivity and other finer senses and that is why human beings have different means to express and emote. Dance is one of them. Dancing is a great form of aerobic exercise since it works various muscles in the body. Muscles become stretched, conditioned and toned while the heart rate increases, pumping blood through the body at a faster rate. Dancing totally relaxes and plays a vital role in boosting our confidence. It teaches how to carry our self confidently and improves our posture. Dancing enlarges ones social group. It improves co-ordination, timing and footwork. Dancing is a form of an exercise, so it keeps our body toned and mind fresh. It is also a very good kind of mental exer-

cise and generally doctors recommend dancing to tackle stress and stress and strain in life. The foremost attraction of dancing is that dancing is totally fun. It pulls out stressful life and infuses enjoyment<sup>4</sup>.

Dance is a type of art that generally involves movement of the body, often rhythmic and to music. It is performed in many cultures as a form of emotional expression, social interaction, or exercise, in a spiritual or performance setting, and is sometimes used to express ideas or tell a story<sup>5</sup>.

Now a day there is a growing emphasis on looking good, feeling good and living longer. Increasingly scientific evidence tells us that one of the key to achieving these ideals is fitness, mans exercises. Getting moving is a challenge because today physical inactivity and sedentary life style have become a passive thereof to our health and significantly increases the deterioration of the human physical fitness<sup>6</sup>.

To develop health and fitness through the medium of exercise, recreation, games and sports as well as dance is one of the prime sources of people. Today, a large number of people from childhood to old age are performing regular physical activity for the sake of improving health and physical wellbeing. People are engaged in jogging, playing games and sports, practising yoga asana, cycling, joining swimming clubs, attending health club, aerobics and dance centres and doing other things to protect the body from diseases and various postural deformities. No doubt, physical fitness is an important part of the normal growth and development of an individual to lead an active life-style<sup>7</sup>.

### 2. METHODOLOGY

The purpose of the present study was to determine the differences of physical fitness between female Physical Education students and dancer's of Performing Arts.

To conduct the study 30 female physical education students of Centre for Physical Education and Sports, Dibrugarh University and Abhiruchi Institute of Physical Education and 30 female dancers of Performing arts of Centre for Performing Arts, Dibrugarh University respectively. To collect the pertaining to the present study the selected physical fitness components i.e. Cardiovascular Endurance, Explosive Leg Strength, Flexibility, Balance, Speed and Arm & Shoulder Strength were measured in

between 3 P.M. to 5 P.M. by using Harvard Step Test, Standing Broad Jump, Sit and Reach, Stroke Stand Test, 50 Yards Dash and Flexed Arm Hang test respectively.

The collected raw data were converted in to standard T-score for statistical analysis. To determine the differences between two groups the t-test statistical technique was employed and the level of significance was observed at 0.05 level of confidence.

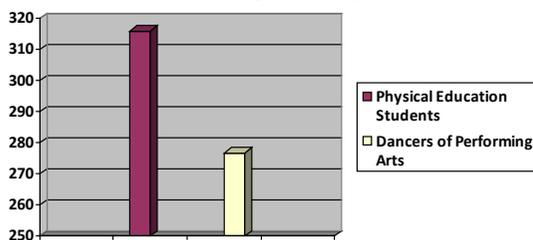
**3. Result and Discussion:**

**Table - 1 Comparison of Composite Means of Physical Fitness between Physical Education Students and Dancers of Performing Arts**

Group	Mean	S. D.	M. D.	S. E.	t - Ratio
Physical Education	315.99	35.47	39.3	7.49	5.25*
Performing Arts	276.69	20.67			

\*Significant at 0.05 level of confidence tabulated t <sub>(0.05, 58)</sub> = 2.0017

From the Table No- 1 it is observed that the calculated t value of 5.25 is greater than the tabulated t <sub>(0.05, 58)</sub> value of 2.0017. Hence, there is significant difference of means of composite score between physical education students and dancers of performing arts. The mean difference is depicted in figure- 1



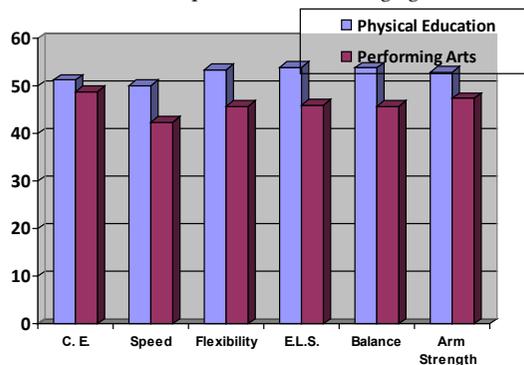
**Figure-1 Graphical Representation of Composite Mean of Physical Fitness of Physical Education students and Dancers of Performing Arts**

**Table - 2 Comparison of Mean of Selected Physical Fitness Variables between Physical Education Students and Dancers of Performing Arts**

VARIABLES	GROUPS	MEAN	S.D.	M.D.	S.E.	t-Ratio
Cardiovascular Endurance	Physical Education	51.28	12.88	2.47	2.58	0.957@
	Performing Arts	48.81	5.82			
Speed	Physical Education	50.03	10.01	7.61	2.56	2.97*
	Performing Arts	42.42	9.87			
Flexibility	Physical Education	53.43	10.60	7.67	2.44	3.14*
	Performing Arts	45.76	8.17			
Explosive Leg Strength	Physical Education	53.95	11.49	7.9	2.38	3.32*
	Performing Arts	46.05	6.22			
Balance	Physical Education	53.82	11.85	8.07	2.41	3.35*
	Performing Arts	45.75	5.81			
Arm Strength	Physical Education	52.93	12.50	5.52	2.52	2.19*
	Performing Arts	47.41	5.82			

\*Significant at 0.05 level of confidence tabulated t <sub>(0.05, 58)</sub> = 2.0017

Form the table no 2 it is evident that the calculated t- value of Speed (2.97), Flexibility (3.14), Explosive Leg Strength (3.32), Balance (3.35) and Arm Strength (2.19) is greater than the tabulated t <sub>(0.05, 58)</sub> value of 2.0017 and calculated t value of Cardiovascular Endurance (0.957) is less than tabulated t value. Hence it is observed that there were significant difference in the physical fitness variables except cardiovascular endurance between physical education students and student dancers of performing arts. The mean difference is depicted in the following figure – 2.



**Figure-2 Graphical Representation of Mean of Selected Physical Fitness Variables of Physical Education Students and Dancers of Performing Arts**

**4. Discussion of Findings**

From the table no. 1 it was observed that there was significant difference of physical fitness between students of physical education and student dancers of performing arts (5.25 > 2.0017). From the table no 2 it was also observed the significant difference in Speed (2.97 > 2.0017), Flexibility (3.14 > 2.0017), Explosive Leg Strength (3.32 > 2.0017), Balance (3.35 > 2.0017) and Arm Strength (2.19 > 2.0017) and insignificant difference in Cardiovascular Endurance (0.957 < 2.0017).

From the mean value it was also clear that the students of physical education are far better than student dancers of performing arts. But in case of cardio vascular endurance nominal difference between two groups was observed. This might be because of the nature of activity of both the groups. As per curriculum physical education students has to participate in the condition programme i.e. fitness training and various games and sports which may the great factor of improving the stated fitness variable. On the other hand there is less scope for dancers of performing arts in the participation of such kind of fitness training.

As the dances are performed for long period of time the student dancers might have good cardiovascular endurance. But due to lack of strenuous physical movement, muscles are not conditioned enough that is why there might be no improvement to the other fitness variables as students of physical education have.

**5. Conclusion**

On the basis of the statistical findings the following conclusions were drawn.

1. There were significant differences in physical fitness between students of Physical Education and student dancers of Performing Arts (t <sub>(0.05, 58)</sub> = 5.25 > 2.0017).
2. It is also observed that the Physical Education students have better physical fitness than dancers of Performing Arts (m = 315.99 > 276.69).
3. It was also further concluded that there were significant differences in Speed (2.97), Flexibility (3.14), Explosive Leg Strength (3.32), Balance (3.35) and Arm Strength (2.19) > tabulated t <sub>(0.05, 58)</sub> = 2.0017 and insignificant difference was

observed as in case of Cardiovascular Endurance (0.957 < 2.0017).

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