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## Effect of zumba dance and yogic practices on cardiovascular efficiency and motor ability component among higher secondary girls

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### Abstract

The purpose of the study is to determine the effect of six week Zumba Dance training and yogic practices on selected cardiovascular efficiency and motor ability components among higher secondary girls. To achieve the study the research scholar randomly selected sixty higher secondary girls between the age 16 to 18 years from Government Higher Secondary School, Konni, Pathanamthitta Dist, Kerala. The subjects were divided into three equal groups namely Zumba Dance training group, Yogic training group and the Control group. The Zumba Dance and yogic group did training for six weeks. The pre and post test were taken for all the subjects before and after the training respectively. The result of the study indicates that the six week of aerobics training and yogic practices improved the cardiovascular efficiency and among the school girls. Six weeks of Zumba Dance training and yogic practices did not improve the speed among the school girls.

**Keywords:** zumba dance, yogic practices and cardiovascular efficiency

### Introduction

Today sedentary life style has made human life relatively inactive. The partial inactivity leads to many health problems. To be fit one should have an amount of caloric discharge through physical activity. Physical activity not only improves the general physical fitness including cardiovascular performance and muscular strength, but it also has a marked impact on several performance related parameters such as speed, reaction time, agility etc. Of all the different types of physical activities available, the Zumba Dance and yogasanas appears to poses the greatest potential for improving our cardiovascular efficiency and motor ability. Zumba Dance nowadays, is the most popular mode of fitness programme all over the world. Zumba dancing is a series of calisthenics' movements done to music. It is an excellent all round exercise programme.

The word 'Yoga' as its roots in the Sanskrit language and means to merge, join or unite. Yoga is a form of exercise based on the belief that the body and breath are intimately connected with the mind. Yoga aims at brining the different bodily functions into perfect coordination so that they work for the good of the whole body. Asana is defined as a comfortable posture for prolonged sitting. Regular practice of asanas maintains the physical body in an optimum condition and promotes health even in an unhealthy person. Yogasana have deeper significant value in the development of physical, mental and spiritual personality, where as pure exercises have a physical effect in the muscles and bones.

Speed is the ability to move the body quickly. It is not restricted to the act of running fast but is displayed in the wider context of fast body movement.

Cardiovascular efficiency is the ability of the heart, lungs working muscles to quickly come to normal position after an exhausted physical labor.

### Methodology

To execute the study the research scholar employed random sampling method. Sixty higher secondary girls were selected as subjects at random from government higher secondary school, Konni, Pathanamthitta. Their age group was between 16 and 18 years.

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They were divided into three groups namely, Zumba Dance training group, Yoga training group and the control group. The first and second group did Zumba Dance training and Asanas for six weeks respectively. Prior to the treatment all the subjects were medically tested and found physically fit. The subjects volunteered to participate in the experimental and individual concern were obtained before conducting the test.

**Results and discussions**

Table1 given below shows the resting cardiovascular efficiency of three group. The pre-test means of cardiovascular efficiency were 63.85 for control group, 64.18 for Zumba training group and 63.14 for Yogic Practice group.

The obtained F ratio 0.246 was lesser than the table ‘F’ ratio 3.17 at 0.05 level for the degree of freedom 2 and 57. The post means of cardiovascular efficiency were 61.66 for control 66.21 for Zumba training group and 64.50 for Yogic Practice group. The obtained ‘F’ ratio 5.57 was greater than the table ‘F’ ratio 3.17 at 0.05 level for the degree of freedom 2 and 57.

The adjusted post test means for cardiovascular efficiency were 61.54 for control group and 65.81 for Zumba training group and 64.04 for Yogic practice group. The obtained F ratio 31.38 was greater than the table ‘F’ ratio 3.17 at 0.05 level for the degree of freedom 2 and 56. Since it was significant, scheffes post hoc test was used to find out the paired means difference.

**Table 1:** Computation of Analysis of Covariance on Cardiovascular Efficiency Scores of Control group, Zumba Training and Yogic Practice Groups

	Control Group (N=20)	Zumba Training (N=20)	Yogic practice Group (N=20)	Source of variable	Sum of Squires	Df	Mean squares	‘F’ Ratio
Pre – test means	63.85	63.14	63.14	B	11.412	2	5.706	0.246
				W	1318.36	57	23.129	
Post test Means	61.66	64.50	64.50	B	210.793	2	105.39	5.57
				W	1077.69	57	18.907	
Adjusted post test means	61.54	64.04	64.04	B	204.61	2	102.30	31.38
				W	182.7	56	3.26	

Significant at 0.05 level and table value is 3.17

Table 2 shows that adjusted post test means of three groups. The adjusted means for control, yogic practice group and Zumba training group were 66.21, 64.50 and 61.66. The mean difference between control and Yogic practice training group, were, 1.77, 4.27 and 2.50 respectively, the Scheffes confidence, interval value was 1.43. Hence all the three comparison were significant.

**Table 2:** Ordered Adjusted Post Mean Difference of Scheffe’s Post Hoc Test of Cardiovascular Efficiency

Zumba Training group	Yogic Training Group	Control Group	Mean Difference	
65.81	64.04		1.77	1.43
65.81		61.54	4.27	
	64.04	61.54	2.50	

Table 3 and 4 show the speed values of three groups. The pre-test means of speed were 10.695 for control group, 10.56 for Zumba Training group and 10.75 for Yogic Practice group. The obtained ‘F’ ratio 0.86 was lesser than table ‘F’ ratio 3.17. Hence it was insignificant at 0.05 level of confidence for

the degree of freedom 2 and 57.

The post test means of speed were 10.76 for control group, 9.93 for Zumba training group and 10.27 for Yogic practice group. The obtained ‘F’ ratio 4.48 was greater than the table ‘F’ ratio 3.17. Hence the test was significant at 0, 05 levels for the degree of freedom 2 and 57.

The adjusted post test means for speed were 10.75 for control group and 9.85 for Zumba training group and 10.21 for Yogic practice group. The obtained ‘F’ ratio 18.85 was greater than the table ‘F’ ratio 3.17 at 0.05 level of confidence for the degree of freedom 2 and 56. Since it was significant, Scheffe’s test was used to find out the paired mean difference. The adjusted post test means of three groups, the adjusted means for control, Yogic practice and Zumba training group were 10.75, 10.21 and 9.85 the mean difference between control and yogic practice group, control and Zumba training group, and Yogic practice and Zumba training groups were 0.54, 0.9 and 0.36 respectively. The Scheffes confidence interval value was 0.05. Hence all the three comparison were significant.

**Table 3:** Computation of Analysis of Covariance on Speed Score of Control group Zumba Training and Yogic Practice Groups

	Control group (N=20)	Zumba Training (N=20)	Yogic Group (N=20)	Source of variable	Sum of Squires	Df	Means Squires	‘F’ Ratio
Pre-test Means	10.695	10.56	10.75	B	1.87	2	0.935	0.86
				W	61.99	57	1.087	
Post- test Means	10.76	9.93	10.27	B	7.55	2	3.775	4.84
				W	44.41	57	0.779	
Adjusted post-test means	10.75	9.85	10.21	B	7.05	2	3.525	18.85
				W	10.47	56	0.187	

Significant at 0.05 leveles and table value is 3.17.

**Table 4:** Ordered Adjusted Mean Difference of Scheffe’s Post Hoc Test of Speed

Zumba Training Group	Yogic Training Group	Control Group	Mean Difference	C.I. value
10.75	10.21		0.54	0.35
10.75		9.85	0.9	
	10.21	9.85	0.36	

### Conclusion

Within the limitation of the present study, the following conclusions were drawn.

1. The six weeks of Zumba Dance training and Yogic practices improved the cardiovascular efficiency among the higher secondary school girls.
2. Six weeks of Zumba Dance training and yogic practices did not improved the speed among the higher secondary school girls.

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