

# Comparative Study of Effect of Cultural Asana on Physiological Variables of College Students

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## Abstract:

Purpose of the study was to compare the effect of some selected cultural asana on physiological variables of college going students . 60 students were selected from the colleges affiliated to Punjab university Chandigarh in Ludhiana district of Punjab. 30 male and 30 female students were selected six week training schedule was constructed with the help of in respected field and was implemented on students at yoga centre of GHG Khalsa College Gurusar Sadhar . training was given to students six days a week. Pre test was taken before starting the training and mid and post test was taken after 4<sup>th</sup> weel and 6<sup>th</sup> week respectively. Data was collected in sports medicine laboratory of GHG Khalsa College and data wad further put for analysis. Mean SD , 2\*3 way analysis of variance ANCOVA and post hoc test was used for the analysis of data . results of study shown significant effect of cultural asanas on physiological variables of students.

**Keywords: Cultural Asana , Physiological Variables.**

## Introduction

Health is a concern of all very person. Our health is by far the most important thing to us. It does not matter whether we are rich or poor, good health is vital to makes our life happy. Health is not commodity, one can buy in market place, one has to work for it too hard. Health is the general condition of a person in all aspects. It is also a level of functional and metabolic efficiency of an organism, often implicitly human. Being healthy should be part of your overall lifestyle. **Living a healthy lifestyle can help prevent chronic diseases and long-term illnesses.** Feeling good about yourself and taking care of your health are important for your self-esteem and self-image.

Yoga is **a practice that connects the body, breath, and mind.** It uses physical postures, breathing exercises, and meditation to improve overall health. Yoga was developed as a spiritual practicethousands of years ago. Today, most Westerners do yoga for exercise or to reduce stress.

**Cultural Asanas involve static stretching, which bring about proper tone of muscles.** They contribute to the flexibility of the spine and render the back and spinal muscles stronger. They also stimulate proper working of the vital organs in the thoracic and abdominal cavities.

The traditional number of asanas is the symbolic **84**, but different texts identify different selections, sometimes listing their names without describing them.

Asana is the Sanskrit word for posture or seat. As interpreted from the archeological record and primary source materials, the first yoga asanas were most probably seated positions for meditation. They are described in the "Yoga Sutras" of Patanjali, written around the third century. sanas are part of the Hatha

yoga practice, a branch of yoga combining physical movements and breathing techniques. The "Hatha Yoga Pradipika" was written in the 15th century and described only 14 postures, mostly seated positions.

## Objectives of the study:

- 1) To find out the effect of cultural asanas on selected physiological variables of students
- 2) To compare effect of cultural asana on physiological variables of male and female students

**Hypothesis:** it was hypothesized that there would be no significant effect of cultural asana on physiological variables of students.

## Scope of the study

### Delimitations:

#### Study was delimited in following aspects:

- 1) Study was delimited to Ludhiana district only.
- 2) Study was delimited to college going students age group ranging from 18-25 only
- 3) Study was delimited to selected physiological parameters only.
- 4) Authenticity of data was depend upon honesty of subjects.

## Limitations

- 1) Dietary habits of subjects were not under the control of researcher.
- 2) Individual practice other than training were not under the control of subjects.
- 3) Psychological conditions of subject during the training and test were not under the control of researcher.

## Variables to be tested:

1. Blood Pressure ( Systolic and Diastolic)
2. Resting Heart Rate
3. Vital Capacity

## Sampling :

60 students were selected i.e. 30 boys and 30 girls. Age group of students were **ranging from 18-25 years from GHG Khalsa College Gurusar Sadhar Ludhiana Punjab.**

## Training Schedule:

11 cultural asanas were selected with the help of experts in the field and six weeks training schedule was prepared . training was given to subject at GHG khalsa College Gurusar Sadhar, Yoga Center six days a week and pre test was taken before starting the training schedule to subjects. After 4<sup>th</sup> weeks mid test was taken and post test after six weeks respectively. Training was given to subjects in morning six to eight AM morning in month of April And May 2022 here is the list of asanas:

- Sirsasana.( Headstand)
- Sarvangasana.( Shoulderstand.)
- Halasana.( Plough.)
- . Matsyasana.( Fish)
- Paschimothanasana.( Sitting Forward Bend.)

- Bhujangasana.( Cobra.)
- Salabhasana.( Locust.)
- . Dhanurasana.( Bow)
- Ardha Matsyendrasana (Half Spinal Twist)
- Pada Hastasana (Standing Forward Bend)
- Trikonasana(Triangle)

**Criterion of Measures:**

**Blood Pressure: Sphygmometer Resting Heart Rate: Stethoscope and stop watch**

**Vital Capacity: Wet Spiro meter**

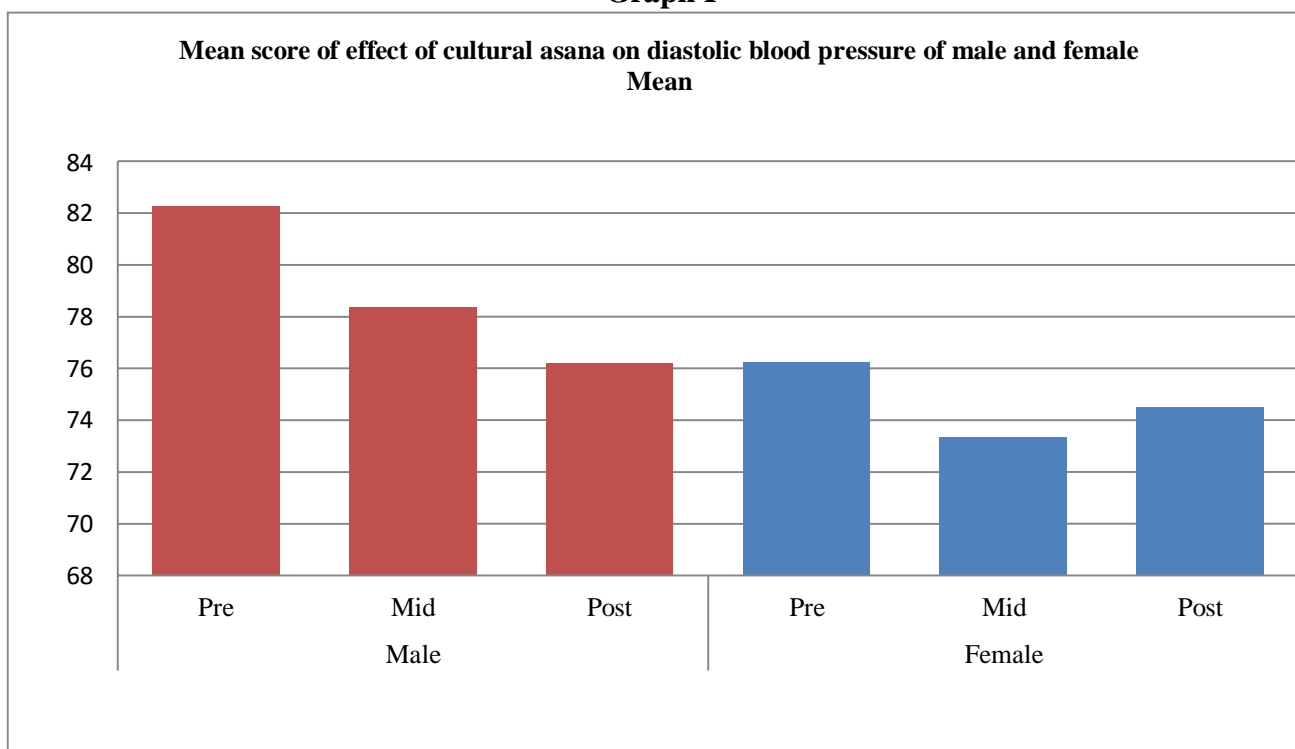
**Table 1**

**Mean score of effect of cultural asana on diastolic blood pressure of male and female**

Variables	Test	N	Mean	SD
<b>Male</b>	<b>Pre</b>	30	82.27	6.4
	<b>Mid</b>	30	78.37	4.6
	<b>Post</b>	30	76.20	4.5
<b>Female</b>	<b>Pre</b>	30	76.23	8.9
	<b>Mid</b>	30	73.33	9.7
	<b>Post</b>	30	74.50	6.21

Above table indicate the value of mean of diastolic blood pressure for cultural asanas for male and female students.

**Graph I**



**Tabel II**  
**ANCOVA for effect of cultural asana on diastolic blood pressure of male and female**

Source	Type III Sum of Square	Df	Mean square	F	Significance
Corrected model	1509.8	5	301.957	6.1	.000
Intercept	1062144.1	1	1062144.1	2.14	.000
Gender	814.939	1	814.9	16.4	0.000
Training	540.4	2	270.2	5.4	0.005
Gender *training	154.4	2	77.2	1.6	0.214
Error	8651.17	174	49.72		
Total	1072305	180			
Corrected total	10160.9	179			

Table ii reveals significant difference in effect of cultural asana on diastolic blood pressure of subjects as calculated value 5.43 was greater than the table value at 0.005 level of significance

**Table III**  
**Post Hoc Analysis of cultural asana for diastolic blood pressure**

Gender I	Gender J	Mean difference(I-J)	SEm	Significance	95% Confidence Interval for difference	
					Lower Bound	Upper Bound
Male	Female	4.256	1.05	0.000	2.181	6.33
Female	Male	-4.256	1.051	0.000	--6.33	-2181

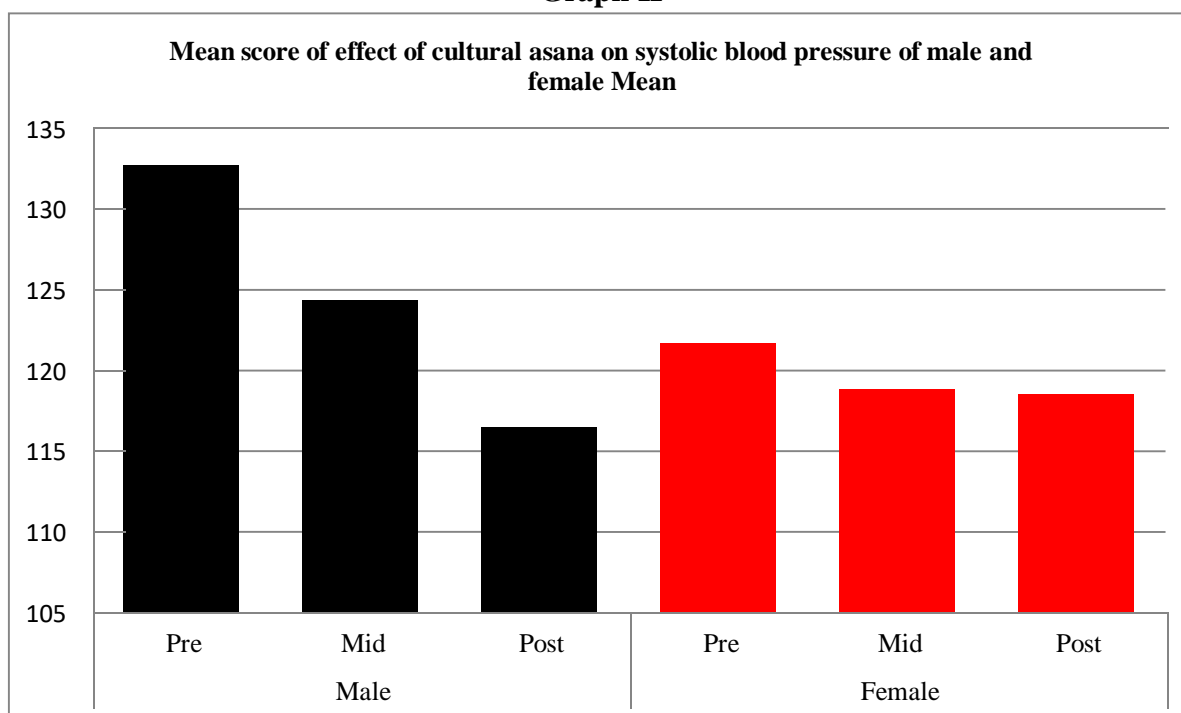
Above table indicate that the value of post hoc analysis of cultural asana for men and women was found significant at 0.05 level of significance as calculated value of t 4.25 was greater than the table value

**Table 1V**  
**Systolic blood pressure of male and female**

Variables	Test	N	Mean	SD
Male	Pre	30	132.73	7.9
	Mid	30	124.33	7.7

	<b>Post</b>	30	116.47	6.7
<b>Female</b>	<b>Pre</b>	30	121.67	12.05
	<b>Mid</b>	30	118.83	8.5
	<b>Post</b>	30	118.5	6.5

**Graph II**



**Tabel V**

**ANCOVA for effect of culturalel asanas on systolic blood pressure of male and female**

Source	Type III um of Square	Df	Mean square	F	Significance
<b>Corrected model</b>	5201.09	5	1040.2	13.92	.000
<b>Intercept</b>	2683269.6	1	2683269.6	3.59	0.000
<b>Gender</b>	1051.25	1	1051.25	14.1	0.000
<b>Training</b>	2846.2	2	1423.1	19.05	0.000
<b>Gender *training</b>	1303.63	2	651.8	8.7	0.000
<b>Error</b>	13000.3	174	74.7		
<b>Total</b>	2701471	180			
<b>Corrected total</b>	18201.4	179			

Above table reveals that the value of test of within subjects effect of cultural asana for systolic blood pressure in male and female subjects, which shows that there is significant difference was found between male and female subjects in systolic for cultural asana as the value was found 14.07 greater than table value at 0.05 level of significance.

**Table VI**  
**Post Hoc Analysis of cultural asana for systolic blood pressure**

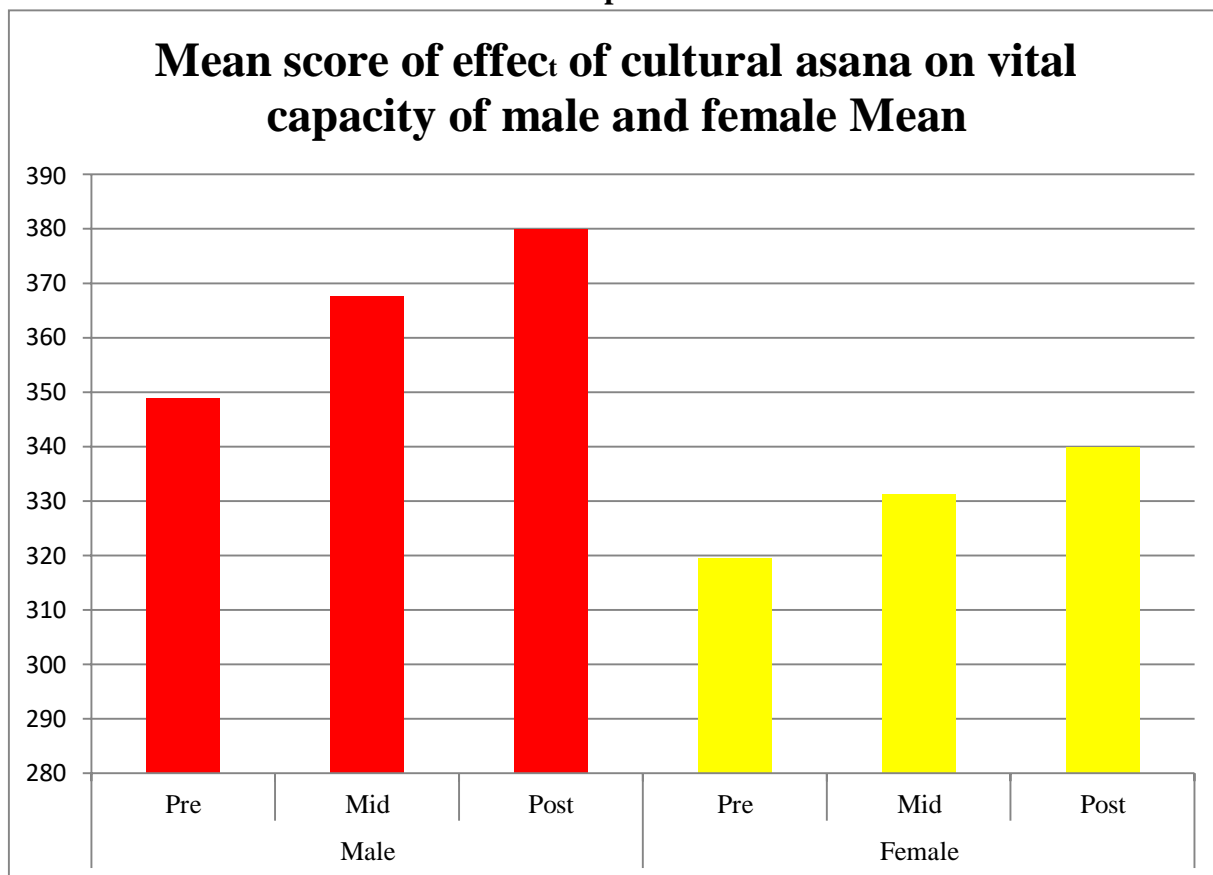
Gender I	Gender J	Mean difference(I-J)	SEm	Significance	95% Confidence Interval for difference	
					Lower Bound	Upper Bound
Male	Female	4.833	1.289	0.000	2.29	7.377
Female	Male	-4.833	1.289	0.000	-7.377	-2.29

Above table indicate that the value of post hoc test of pair wise of cultural asana for systolic blood pressure of male and female was found significant as calculated value 4.833 was greater than table value at 0.05 level of significance.

**Table VII**  
**Vital capacity of male and female**

Variables	Test	N	Mean	SD
Male	Pre	30	349	90.07
	Mid	30	367.67	88.4
	Post	30	379.83	86.7
Female	Pre	30	319.4	92.39
	Mid	30	331.3	94.63
	Post	30	339.8	95.37

**Graph III**



**VIII**

**ANCOVA for effect of cultural asanas on Vital capacity of male and female**

Source	Type III Sum of Square	Df	Mean square	F	Significance
<b>Corrected model</b>	76935.82	5	15387.2	1.85	0.106
<b>Intercept</b>	2.178	1	2.178	2.611	0.000
<b>Gender</b>	56144.67	1	56144.672	6.73	0.10
<b>Training</b>	19955.4	2	9977.7	1.196	0.305
<b>Gender *training</b>	835.7	2	417.8		0.951
<b>Error</b>	1451248.5	174	8340.5		
<b>Total</b>	2.33	180			
<b>Corrected total</b>	1528184.3	179			

The above table reveals that the value of test of within subjects effect, which shows significant difference between male and female subjects in vital capacity for cultural asana as calculated value 6.732 was found greater than the table value at 0.05 level of significance.

**Table IX**  
**Post Hoc Analysis of cultural asana for Vital capacity**

Gender I	Gender J	Mean difference(I-J)	SEm	Significance	95% Confidence Interval for difference	
					Lower Bound	Upper Bound
Male	Female	35.23	13.614	0.010	8.45	62.19
Female	Male	-35.2	-13.614	0.010	-62.19	-8.45

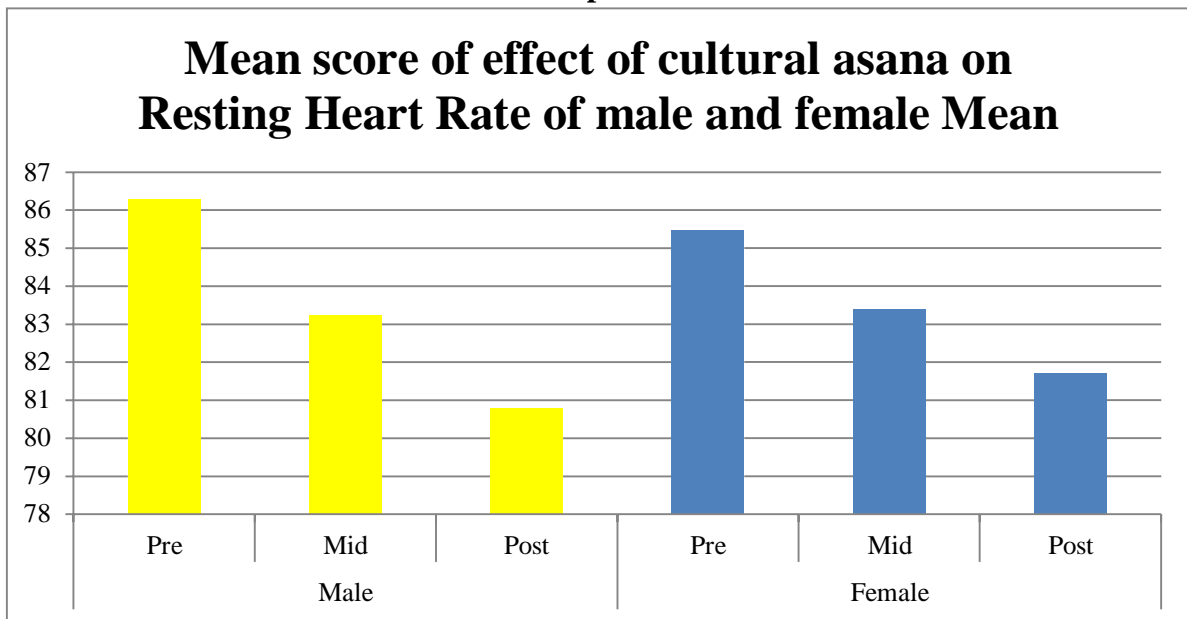
The above table indicate the value of post hoc test for lung capacity, which shows that there was significant difference was found in male and female subjects in vital capacity as calculated value 35.322 was found greater than the table value at 0.05 level of significance.

**Table X**  
**Resting Heart Rate of male and female**

Variables	Test	N	Mean	SD
Male	Pre	30	86.3	5.8
	Mid	30	83.23	5.5
	Post	30	80.8	5.57
Female	Pre	30	85.47	5.95
	Mid	30	83.4	5.91
	Post	30	81.7	6.25



**Graph IV**



**XI**

**ANCOVA for effect of cultural asanas on Vital capacity of male and female**

Source	Type III Sum of Square	Df	Mean square	F	Significance
Corrected model	669.52	5	133.9	3.94	0.002
Intercept	1254504.05	1	1254504.05	3.96	0.000
Gender	0.272	1	0.274	0.008	0.929
Training	646.5	2	323.27	9.518	0.000
Gender *training	22.7	2	11.36	0.334	0.716
Error	5909.433	174	33.96		
Total	1261083	180			
Corrected total	6578.96	179			

The above table reveals that the value of test of within subjects effect, which shows no significant difference between male and female subjects in cultural asana as calculated value 6.732 was found greater than the table value at 0.05 level of significance.

**Discussion on Findings:**

It was found that six weeks training program on cultural asana effect significantly on almost all the selected physiological variables of students. In comparison with male and female students it was also found that training effect significantly individually each variable and therefore significant difference was found in systolic and diastolic blood pressure, Vital Capacity and resting heart rate of both variables

i.e. male and female subjects. It was also found that mean difference between both the variables in comparison with their physiological variables shown significant during training and after post test it was clearly seen as a result of post test records and analysis results of collected data.

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