Effect of Selected Yogasanas on Physiological and Psychological Traits of College Girls

Dr. R. Auvai *

ABSTRACT

The purpose of the study was to investigate the effect of integrated approach of six-week yoga training on selected physiological variables such as blood pressure and pulse rate and psychological variables such as aggression and anxiety of engineering college girls. The sphygmomanometer and stethoscope were used to measure blood pressure. Stop watch was used to measure the pulse rate. The standardized questionnaire (SCAT questionnaire for anxiety, SMITH'S questionnaire for aggression) was used to measure the aggression and anxiety level of the Engineering college girls.

The scholar selected 30 Engineering college female students, for control group and 30 for experimental group, their ages ranging from 18 to 22, who underwent six weeks of yoga training at Crescent Engineering College Women's Hostel, Vandalur, Chennai-48. The students were selected at random. The responses to the questionnaire, before and after asanas, were analyzed through the help of key.

After six weeks of yoga training, the final readings were measured, recorded and questionnaire method was also administered for the subjects. The significant difference among the means of the variables for the pre-test and post-test means were determined by 't' ratio through the 't' test.

The results show that the integrated approach of six-weeks yoga training significantly decreased the physiological traits such as blood pressure and pulse rate of engineering college female students and also the Psychological traits such as Aggression and Anxiety showed a significant decrease in their levels.

INTRODUCTION

As lamp in a windless spot
Does not flicker to such is
Compared the yogi of controlled mind
Practicing yoga in the self.

(Bagaved Gita 6.19)

Yoga has a complete message for the humanity. There is growing popularity of Asana and its uses in strengthening the body and also in overcoming diseases. Yoga is a systematic conscious process for accelerating the growth of

* Director of Physical Education, B.S. Abdur Rahman University, Vandalur, Chennai – 48.

human being from his animal level to normalcy, then to super human level and ultimately to divinity. It is systematic methodology for all round personality development physical, mental, intellectual, emotional and spiritual components of man.

Yoga has traditionally involved the notion that bodily position and physical posture are intimately and basically linked to personality and emotion.

Today, the whole world is looking towards yoga for the answer to various problems modern man is facing. Yoga is the art of living and yogasana is a scientific procedure. This is only an exercise which cleanses most parts of the body. Yoga develops the personality of an individual, physically, mentally, morally and intellectually.

It is a known fact that regular practice of physical exercise and yogasanas relaxes the mind and considerably brings down the mental stress and physical strain.

An important aim of democratic education is the overall development of every individual's personality. Although an individual's personality is formed early in life, it can be modified later by experience. Certain personality traits like emotional stability, anxiety, aggression, self concepts etc, could be developed by doing regular yogic practices. These characteristics are very essential to a civilized rational and disciplined society.

Yoga and Physiology

Physiology is the science of functioning of all the organs and systems of an organism. For physiological systems of the body to be fit, they must function well enough to support specific activity that the individual is performing. Moreover, different activities make demand upon the organisms with respect to circulatory, respiratory, metabolic and neurological process which are specific to those activities.

Physiological Variables Chosen for this Study

An individual's fitness depends on the co-ordinated functioning of the various systems in the body. Each system has several parameters to assess its functions and its effects on the physiology of a person. For example respiratory system has the following variables namely vital capacity, oxygen consumptions, tidal volume, respiratory rate and so on. Blood circulatory system has pulse rate, heart rate, stroke volume, blood pressure and so on as its variables.

Among the many physiological variables, the researcher has selected the following variables namely pulse rate, blood pressure for engineering girls.

Psychological Variables Chosen for this Study

Among the many psychological variables the researcher has selected the following variables namely aggression and anxiety for this study.

METHODOLOGY

The main purpose of the study was to find out the effect of selected yogasanas on physiological and psychological traits of engineering college girls.

The study was conducted on 30 engineering college female students each for experimental group and control group, selected at random. Subjects were divided into two homogenous groups, based on their initial performance, who underwent six-week of yoga training (camp) at Crescent Engineering College Women's Hostel, Vandalur, Chennai, their age ranging from 18 to 22.

The design of measure adopted for this study was, questionnaire method. Two types of questionnaire were used; one for aggression and the another for anxiety.

To find out the level of aggression, Standardized Smiths Questionnaire was used. To find out the level of anxiety standardized Sports Competition Anxiety Test (SCAT) questionnaire was used.

Selection of Variables

The yogasana treatment was carried out for six weeks, an hour per day, in the morning, from Monday to Friday. A questionnaire was administered to the perspective subjects before and after the treatment for six weeks. The results were collected and analyzed.

The following physiological and psychological variables were selected.

1.	Blood pressure	Physiological
2.	Pulse rate	
3.	Aggression	Psychological
4.	Anxiety	

Blood Pressure

(Systolic and Diastolic)

Objectives

To assess the soundness of cardiac response and cardiac efficiency.

Equipment

Sphygmomanometer.

Procedure

Each subject was made to rest on the bed for 10 to 20 minutes, in a comfortable position, so that the circulating system had enough time to become normal. The blood pressure for all subjects was taken in the morning. The Sphygmomanometer was kept at the heart level to avoid any gravitational influences. The cuff was wrapped around the arm evenly with the lower edge approximately one inch above the anticubical space. It was made sure that the stethoscope was free from contact with the cuff.

The cuff was inflated until the artery fully collapsed that no pulse beat could be heard. Pressure was then gradually released by releasing the knob slowly as the investigator watched the gauge. When the first sound of pulse becomes audible, the reading in millimeters of mercury at that instant was recorded as systolic blood pressure. The pressure was further released

gradually as the sound of the pulse got reduced in intensities and quality. The index of diastolic pressure was noted in millimeters of mercury when the heart sound completely ceased. In this way the blood pressure was measured.

Pulse Rate

To know the pumping rate of the heart.

Equipment

Stop watch.

Procedure

The pulse rate of all the subjects was recorded in the sitting position in the morning session. Before taking the resting pulse rate the subjects were asked to sit in a chair and relax for 20 to 30 minutes. To record the pulse rate, the finger tips were placed on the radial artery at the wrist in such a manner, that palpation was counted for 30 seconds and then double to record for a minute.

Aggression Test

Standardised Smith's Questionnaire for sporting aggression was used to score the aggression of engineering college women students. The test consists of four questions with five levels of responses. The level changes from strongly disagree to strongly agree. The respondents were made to encircle the appropriate number, which suited their attitude.

Scoring

The inventory was scored with the help of the scoring key given below. The range of score was from 4 to 20. The higher the score, the more aggressive the student is.

Scoring Key

Responses	Score
Strongly disagree	1
Disagree	2
Undecided	3
Agree	4
Strongly agree	5

Anxiety Test

The standardized Sports Competition Anxiety Test (SCAT) was used to measure the anxiety of Engineering College Women Students. The test consists of fifteen statements. Each statement consists of three responses namely hardly ever, sometimes and often, respondents were requested to put a tick mark (Ö) on any one of the responses that suited them.

Scoring

The inventory was scored with the help of a scoring key which is given below. A separate scoring method was followed for positive and negative statements. The scores obtained in both positive and negative statements were added. The range of score was 15 to 45 points. The higher the score, the higher the anxiety.

Scoring Key

Responses	Scores for positive statement	Scores for negative statement
Hardly ever	1	3
Sometimes	2	2
often	3	1

Descripton of Asanas

Vajarasana, Gomukhasana, Naukasana, Vakrasana, Bhujansana, Sarvangasana, Salabhasana, Halasana, Trikonasana, Savasana, were asana techniques given to the subjects for six weeks yogic training.

RESULTS & DISCUSSION

The initial and final measurements of the aggression and anxiety of engineering college girls were recorded. The scores of each questionnaire were counted and compared. Physiological variables such as blood pressure (Systolic and diastolic), pulse rate were tested and measured.

The initial and final measurements of the blood pressure (Systolic and Diastolic) pulse rate of the engineering college girls were recorded.

The purpose of the study was to find out the effect of yogasanas, for a period of six weeks, on engineering college girls. The obtained data were statistically analyzed to assess the significance at 0.05 level of confidence. The required 't' value was obtained from the table for the level of significance, since the data is to be compared and the degree of freedom chosen was $N_1 + N_2 - 2$.

To determine the influence of integrated of six weeks of yoga training on blood pressure (Systolic and Diastolic) and pulse rate, aggression and anxiety, the 't' ratio test was employed. The obtained results pertaining to this study have been presented in the following Tables.

Table-1 : Computation of 't' ratio for the Blood Pressure (Systolic and Diastolic) Scores before and after Yogasanas of Engineering College Girls (N = 30)

	Mean	Difference between the mean	Standard error of the difference between the mean	't' ratio
Before yogasanas				
1. Systolic pressure	123.73	8.93	1.48	6.07
2. Diastolic pressure	86.73			
After yogasanas				
1. Systolic pressure	115.93	8.33	2.77	3.18
2. Diastolic pressure	78.40			

Table value = 2.00 $df = (n_1 + n_2 - 2) = 30+30-2 = 58.00$

Since, the obtained 't' value was greater than the table value, so, it was significant.

Table-2: Computation of 't' ratio for the Pulse Rate Scores before and after Yogasanas of Engineering College Girls (N = 30)

	Mean	Difference between the mean	Standard error of the difference between the mean	't' ratio
Before yogasanas	74.83	8.43	1.48	5.69
After yogasanas	66.40			

Table value = 2.00 df = (n1+n2-2) = 30+30-2 = 58.00

Since, the obtained 't' value was greater than the table value, so, it was significant.

Table-3: Computation of 't' ratio for Aggression Scores before and after Yogasanas of Engineering College Girls (N = 30)

	Mean	Difference between the mean	Standard error of the difference between the mean	't' ratio
Before yogasanas	16.63	2.07	0.57	6.94
After yogasanas	14.56			

Table value = 2.00 df = (n1+n2-2) = 30+30-2 = 58.00

Since, the obtained 't' value was greater than the table value, so, it was significant.

Table-4: Computation of 't' ratio for Anxiety Scores before and after Yogasanas of Engineering College Girls (N = 30)

	Mean	Difference between the mean	Standard error of the difference between the mean	't' ratio
Before yogasanas	33.16	4.86	0.70	3.61
After yogasanas	28.86			

Table value = 2.00 df = (n1+n2-2) = 30+30-2 = 58.00

Since, the obtained 't' value was greater than the table value, so, it was significant.

CONCLUSION

The integrated approach of six weeks of yoga training significantly decreased the physiological traits such as blood pressure and pulse rate of engineering college women students.

As a result of six weeks of yoga training the psychological traits such as aggression and anxiety showed a significant decrease in their levels.

RECOMMENDATIONS

After elaborate analysis, the following recommendations were drawn :

1. Yogasanas may be recommended for the improvement of general fitness of any person belonging to different age group.
2. Yogasanas may be recommended to develop cardiovascular, muscular fitness, flexibility etc. in the field of sports and games.
3. A similar study may be undertaken for the school and the college men students.
4. The results of the study may be recommended for persons suffering from psychosomatic ailments.

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