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Impact of Stress Management on Selected Physical Fitness Parameter of College Adults

Dr. Neelima Singh[1]

[1]Assistant Professor, Department of Physical Education, Govt. P.G. College Bilaspur, Rampur, Uttar Pradesh, India.

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Abstract

The purpose of the present study was to find out the impact of stress management on selected physical fitness parameters of college adults. Stress is change in behavior due to some effect caused by change in physical, mental or social condition. People who believe that things are improving (optimistic) experience less stress than do people who believe things are getting worse (pessimistic).

This experimental study consists of pre test and post test. The experimental group underwent a training program for three months period, where as the control group attended general workout sessions. Both groups shall consist of forty subjects each age's b/w 18 to 21 years. AAHPERD Health- Related Physical Fitness Test (College) was used for study. The component is Distance runs. Purpose of component Distance runs measure maximal functional capacity and cardio-respiratory endurance. It was delimited to yogic activities training schedule prepared by a book "The practical encyclopedia of ashtang yoga and meditation'' by Jean hall & Doriel hall (2009). It was delimited to Ashtang yoga of Patanjali yoga sutras comprise asana, pranayama & meditation. It was delimited to 80 students (male and female) both and 1hour morning duration training programme exclude Sunday and gazetted holidays.It was delimited to physical fitness variable i.e cardio respiratory endurance. The study shows that ashtang yoga can improve Cardio respiratory endurance of young adults.

The study shows positive result in young adults & help to remove their stress in experimental group but there is no improvement in control group. This study is really helpful for increasing the cardio respiratory endurance of young adults..

Key Words: *Ashtang Yoga, Distance Run, Cardiorespiratory Endurance, Young Adults*.

1. Introduction:

All the orthodox systems of Indian Philosophy have one goal in view, the liberation of the soul through perfection. The method is by Yoga. Yoga is an ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual. It is long popular practice in India that has become increasingly more common in Western society. "Yoga" means union of our individual consciousness with the Universal Divine Consciousness in a super-conscious state known as Samadhi.[1]

Yoga is more than just a physical discipline. It is a way of life—a rich philosophical path. And the **yamas** (restraints) and **niyamas** (observances) are ten good common-sense guidelines for leading a healthier, happier life for bringing spiritual awareness into a social context. They are for you to think about and ponder over with a rational mind, because yoga is not about mindlessly accepting externally imposed rules—it is about finding the truth for yourself—and 'connecting' with it. A **yogasana** is a posture in harmony with one's inner consciousness. It aims at the attainment of a sustained and comfortable sitting posture to facilitate meditation. Asanas also help in balancing and harmonizing the basic structure of the human body, which is why they have a range of therapeutic uses too. **'Pranayama**' is a compound term ('prana' and 'yama') meaning the maintenance of prana in a healthy throughout one's life. More than a breath-control exercise, pranayama is all about controlling the life force or prana. Ancient yogis, who understood the essence of prana, studied it and devised methods and practices to master it. These practices are better known as pranayama. Since breath or prana is basic to life, the practice of pranayama helps in harnessing the prana in and around us, and by deepening and extending it, pranayama leads to a state of inner peace. **Pratyahara** involves rightly managing the senses and going beyond them instead of simply closing and suppressing them. It involves reining in the senses for increased attention rather than distraction. Pratyahara may be practiced with mantra meditation and visualization techniques. **Dharana** involves developing and extending our powers of concentration. This consists of various ways of directing and controlling our attention and mind-fixing skills, such as concentrating on the chakras or turning inwards. **Dhyana** is the state of meditation, when the mind attains the ability to sustain its attention without getting distracted. Strictly speaking, unlike the other six limbs of yoga, this is not a technique but rather a state of mind, a delicate state of awareness. This state rightfully precedes the final state of samadhi. **Samadhi,** or total absorption, is the ability to become one with the

True Self and merge into the object of concentration. In this state of mind, the perceiver and the object of perception unite through the very act of perception—a true unity of all thought and action. This is the acme of all yogic endeavors—the ultimate 'yoga' or connection between the individual and the universal Soul.[2]

Yoga also includes a physical component that, according to research, has many positive effects. Physical activity has been defined as "any bodily movement produced by skeletal muscles that result in energy expenditure" (Shephard & Balady, Several studies have investigated yoga's effect on cognitive functions and have found that yoga has an effect on attention. One study, conducted in India, found that practicing yoga improves memory and attention in children (Sahasi, 1984). Another study found that children had improved function on measures of attention after practicing yoga (Peck, Kehle, Bray, & Theodore, 2005). Although these two studies provide statistically significant evidence supporting yoga's positive correlation with attention, not all research supports this conclusion.

The paper is highlighting the yogic benefits for reaching optimum level of physical fitness of an individual. The human body needs sound relation to nature and its natural remedies which are available in our surround in this seminar I tried to highlight the need of yoga and its benefits for human being to be in physically fit.

Health Related Physical Fitness:

Physical fitness is used synonymous with Health related Physical Fitness; it is defined as "the ability to perform occupational, recreational and daily activities without unduly fatigue and possess physical attribute the minimize risk of hypo – kinetic disease and enhance the degree wellness." (Hayward, 1984)

Health related physical fitness is concerned with the development of those qualities that often protect against disease and frequently are associatedwith physical activity.The health related it isimportance to everyone and should be stressed by physical educators." Strengthening health care cost and realization of benefit to be gained from participation in health and fitness activity have prompted in many colleges and other organizations to establish programs for their students.Such institution /organization have found that such programmes promote good healthand also make economic sense since poor health is cost by in terms of illness, primitive death, development productivity and absenteeism. (Bucher, 1985)

Cardio Respiratory Endurance:

Madanmohan et al have reported that yoga training of 6 weeks duration attenuates the sweating response to step test and procedure a marked increase in respiratory pressure and endurance in 40 mmHg tests in both male and female subjects (Madanmohan, 2008).In another study, they reported that 12 weeks of yoga practice results in a significant increase in maximum expiratory pressure,maximum inspiratory pressure,breath holding time after expiration,and hand grip strength(Madanmohan T. D., 1992).Joshi et al have also demonstrated that 6 weeks of pranayama breathing course resulted in improved ventilator functions in the form of lowered respiratory rate, and increase in the forced vital capacity, forced expiratory volume at the end of first second, maximum voluntary ventilation, peak expiratory flow rate, and prolongation of breath holding time.(Joshi LN, 1992).Similar beneficial effects were observed by Makwana et al after 10 weeks of yoga practice(Makwana K, 1988)An increase in inspiratory and expiratory pressure suggests that yoga training improves the strength of expiratory and as well as inspiratory muscles.Respiratory muscles are like skeletal muscles.Yogic technique involve isometric contraction which is known to increase skeletal muscle strength.Breath holding time depends on initial lung volume.Greater lung volume decreases the frequency and amplitude of involuntary contraction of respiratory muscles,therebylessening the discomfort of breath holding.During yoga practice,one consistently and consciously over-rides the stimuli to respiratory centres,thus acquiring control over the respiration.This,along with improved cardio-respiratory performance,may explain the prolongation of breath holding time in yoga-trained subjects (Madanmohan Trakoo, 2016).(Adhikari, 1999)Conducted a study on the effect of selected yogic practices on cardio-respiratory endurance of school boys research shows that a significant improvement in the fitness test as a result of yogic practices.

Young Adults

Since young adults, especially those on college campuses are exposed to different and wide varieties of stimuli, there are many examples where their selective attention is tested through experiments and many of them tried to find out the ways to improve it. A study examining the illicit use of prescription stimulants by college students reported that one of the primary reasons students took the stimulants was to improve their ability to concentrate on their academic work (Alan D. DeSantis & Seth M.Noar, 2008).

2. Methodology:

2.1 Selection of Sample:

The investigator has tried as possible to take all possible care to ensure that the samples of the research study become a true representative of the population under study. To achieve the purpose of the study 200 students were randomnized selected.

[In quality of life scale questonnaire scoring shows higher score indicates better quality of life, with the average score 72 and more]. 80 young adults were taken from 200 students whose having score lower than 72 in quality of life scale questionnaire. These Eighty (N=80) B.A-I students were Purposive used (age group 18-21 yrs) studying in Govt. College, Bilaspur, Rampur (U.P) to impart ashtang yoga training.

First the subjects were divided into two equal groups by drawing a lot. Group A acted as experimental group and Group B acted as control group. Both groups consist of forty subjects each. Prior to the administration of test pre test scores for all the selected variables were collected. After 12 weeks of ashtang yogic training post test scores were collected on each of the selected variables. Experimental group perform selected ashtang yoga training daily for 1 hour except Sundays and gazzeted holidays. No training was imparted to the control group but they are under observation. Daily attendence taken for both groups.

2.2 Administration of Test

The sequence followed for testing of different variable is as follows:

- **Physical Fitness Variable**

There AAHPERD Health – Related Physical Fitness Test (College) 2010 is simple and has test items to measure almost all the components of physical fitness. This test contains wider range of test items for males and females of 18- 21 years of age. This test diagnose fitness areas that need improvement. The following method and procedure were used for each item to collect data. The detailed description are given below. (A.Yobu, 2010)

- **Distance Runs**

Purpose: To measure maximal functional capacity and cardio-respiratory endurance.

Facilities And Equipment: A 440-yard track, 400 meter track, or any other indoor or outdoor area that is flat and can be easily measured. One score sheet and few assistants.

Procedure: Either a one-mile run or a 9minute run may be administered. Procedure for the 9-Minutes Run are to run or walk as much distance as possible in 9 minutes.

Scoring: The 9-minutes run are scored to the nearest 10 yards or 10 meters.

3. Results of the Study:

Effect of Selected Ashtang Yogic training on Physical Fitness Component:

In this section t- ratio was calculated to find out significance of difference between pre –test and post- test mean scores of experimental group as well as between post- tests mean scores of control group and experimental group.

The results have been presented in the following tables. To make the information more communicable and understandable various figures have been used at appropriate places.

TABLE - 1

Descriptive Analysis of Cardio- Respiratory Endurance at Pre and Post Test Performance in Experimental Group

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre Test	40	1245	1000	2245	1493	296.02
Post Test	40	1300	1200	2500	1636	316.06

Figure – 1

Graphical Presentation of Cardio-Respiratory Endurance in Pre And Post Test Performance of Experimental Group

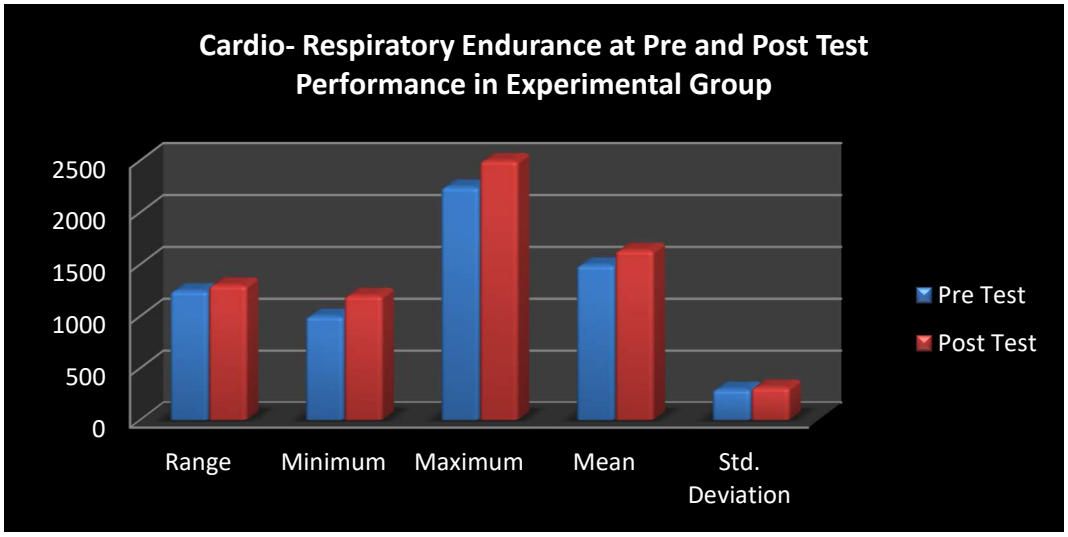


Table-1 reveals the descriptive analysis of Cardio- Respiratory Endurance at pre and post test in experimental group. In this the pre test shows the value of mean and standard deviation 1493 ± 296.02) respectively. The maximum value is 2245 and minimum value is 1000 of pre test. The post test shows the value of mean and standard deviation (1636 ± 316.06) respectively. The maximum value is 2500 and minimum value is 1200 of post test. The range between pre and post test in experimental group is 1245 and 1300.

The graphical representation of mean and standard deviation of pre and post test performance of experimental group in cardio-respiratory endurance has been presented in figure 1.

TABLE – 2

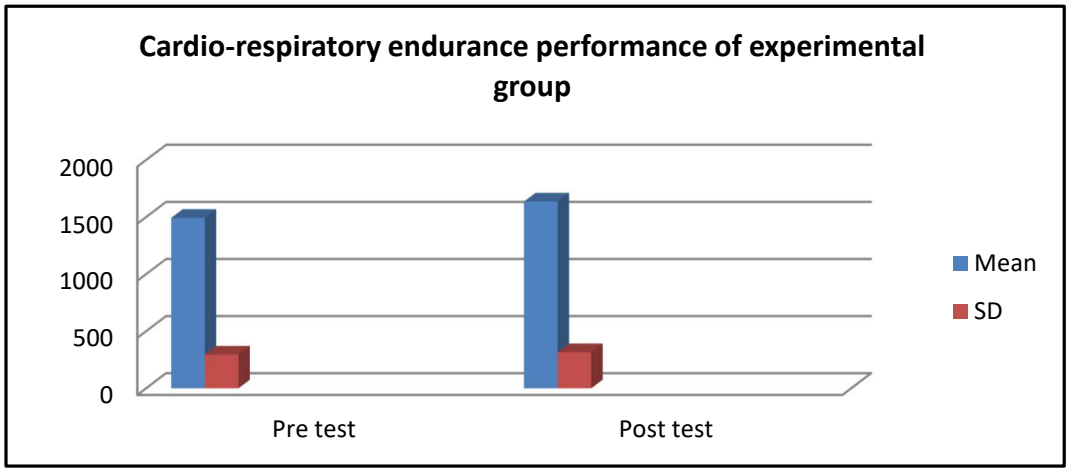
Significance of difference between Pre and Post Test Performance of Experimental Groups in Cardio- respiratory endurance (Physical Parameters)

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	"t" ratio
Pre test	1493.12	296.02	46.80	143.25	27.35	5.23*
Post test	1636.37	316.06	49.97			

*Significant at 0.05 level

$t_{.05}$ (39) = 2.042

Figure 2-Comparison of Mean and SD Scores of Pre and Post Test of Experimental Group in Cardio-Respiratory Endurance



It is evident from Table-2 that there was a significant difference between the means of pre and post test in cardio-respiratory endurance of experimental group. The mean difference was calculated as 143.25 and standard error of difference was .27.35 since the obtained value of paired 't' (5.23) was higher than the tabulated value of 't' (2.042) which was required to be significant at (39) degree of freedom with 0.05 level of confidence.

TABLE - 3

Descriptive Analysis of Cardio-Respiratory Endurance at Pre and Post Test Performance in Control Group

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre Test	40	8200	1000	9200	1803	1722.24
Post Test	40	7200	800	8000	1606.25	1411.83

Figure 3

Graphical Presentation of Cardio-Respiratory Endurance at Pre and Post Test Performance in Experimental Group

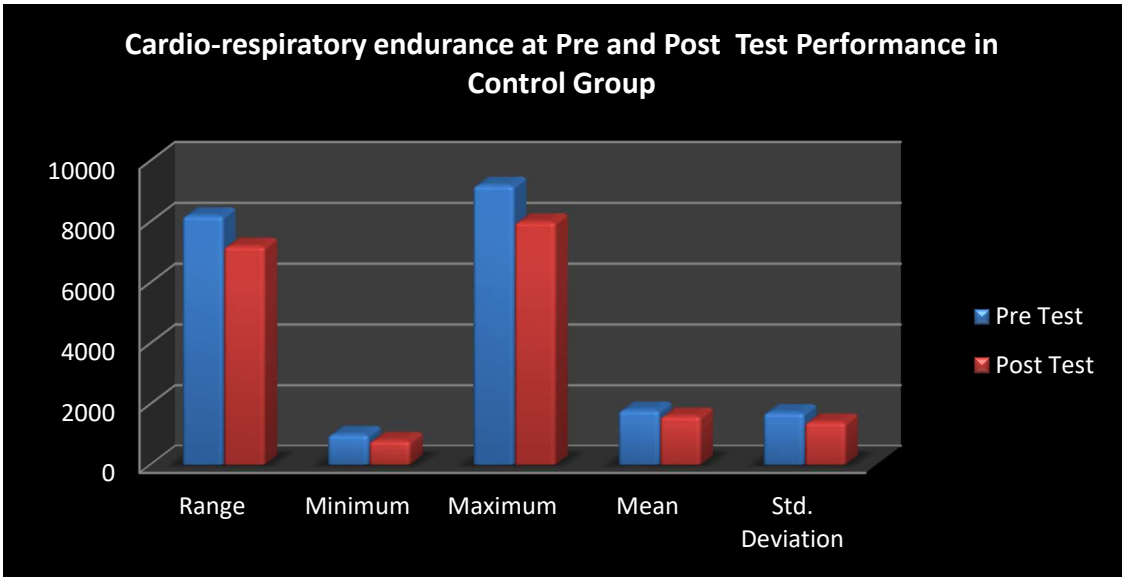


Table-3 reveals the descriptive analysis of Cardio-respiratory endurance at pre and post test in control group. In this the pre test shows the value of mean and standard deviation (1803 ± 1722.24) respectively. The maximum value is 9200 and minimum value is 1000 of pre test. The post test shows the value of mean and standard deviation (1606.25 ± 1411.83) respectively. The maximum value is 8000 and minimum value is 800 of post test. The range between the pre and post test in control group is 8200 and 7200.

TABLE – 4

Significance of Difference between Pre and Post Test Performance on Cardio-Respiratory Endurance (Physical Parameters) In Control Groups

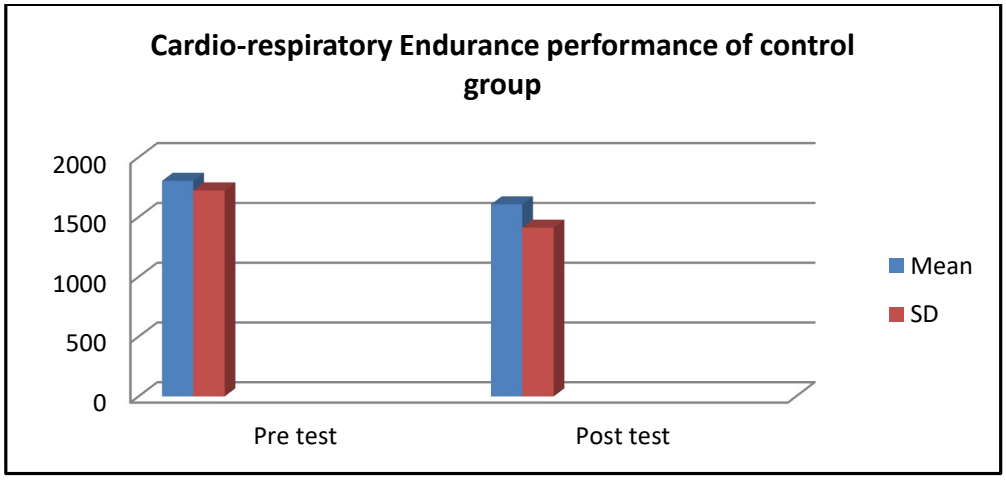
Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	"t" ratio
Pre test	1803	1722.24	272.31	196.75		
Post test	1606.25	1411.82	223.23		57.85	3.40*

*Significant at 0.05 level

$t_{.05}$ (39) = 2.042

Figure - 4

Comparison of Mean and SD Scores in Pre and Post Test of Control Group in Cardio- Respiratory Endurance



It is evident from Table-4 that there was a significant difference between the means of the pre and post test in cardio- respiratory endurance of control group. The mean difference was calculated as 196.75 and standard error of difference was 57.85 since the obtained value of paired 't' (3.40) was higher than the tabulated value of 't' (2.042) which was required to be significant at (39) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and SD of pre and post test performance of control group in Cardio-respiratory endurance has been presented in figure -4.

TABLE – 5

Significance of difference between Experimental and Control Group Post Test Performance on Cardio-Respiratory Endurance (Physical Parameters)

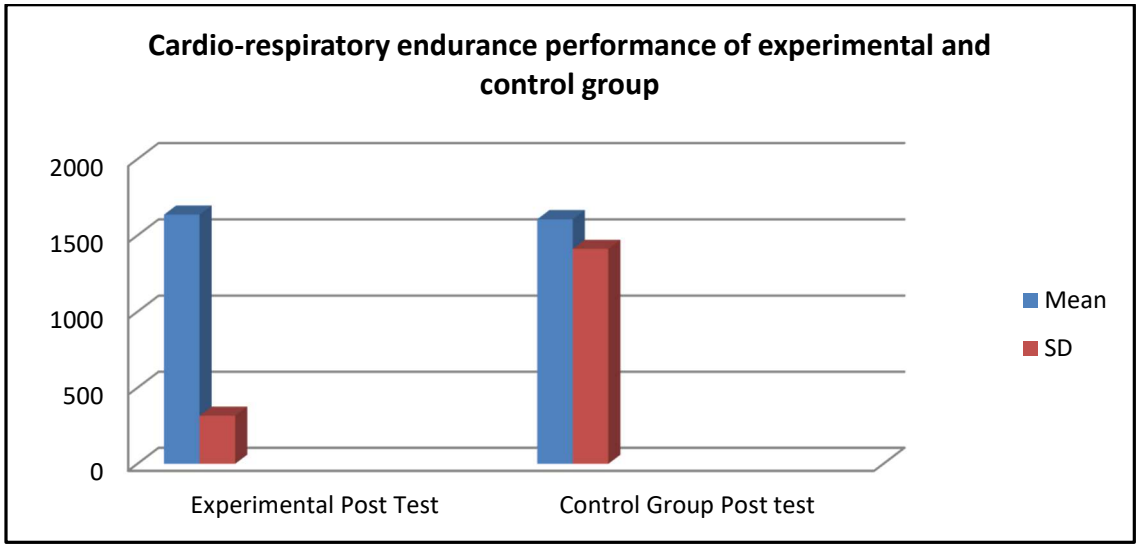
Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	"t" ratio
Experimental Post Test	1636.37	316.06	49.97	30.12	231.73	4.55*
Control Group Post test	1606.25	1411.82	223.23			

*Significant at 0.05 level

$t_{.05}$ (78) = 1.99

Figure- 5

Comparison of Mean and SD Scores of Experimental and Control Group in Cardio-Respiratory Endurance



It is evident from Table-5 that there exists a significant difference between the means of the experimental and control group in Cardio-respiratory endurance in post test performance. The mean difference was calculated as 30.12 and standard error of difference was 231.73 since the obtained value of independent 't'(two-sample t-ratio test) (4.55) was higher than the tabulated value of 't' (1.99) which was required to be significant at (78) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and (SD) standard deviation of experimental and control group post test performance in Cardio-respiratory endurance has been presented in figure 4.5.

4. Discussion of the Results:

The discussions of the result are as follows:

Discussion with regard to Physical fitness Variable:

The **Cardio Respiratory Endurance** of experimental group found significantly higher than the control group. The pre and the post test conclusion of the experimental and control group also shown significant differences. Might be the improvement in experimental group is due to their exercising schedule or and in control group previously learned skills or any other factor such as daily routine life activities which derives the improvement in functioning capacity of an individual. (M.L Gharote, 1976) Concluded that three weeks yogic training programme found significant improvement in minimum muscular fitness obtained through of K.W. Test was found.

5. Conclusion:

The result of this study indicates positively significant relationship between ashtanga yoga training and cardio-respiratory endurance. It means and conclude that better ashtanga yoga training enhance cardio-respiratory endurance

6. References:

[1]. A.Yobu, (2010). Test measurement and evaluation in physical education and sports (pp. 334-337). New Delhi: Friend's.
[2]. Adhikari, N. a. (1999). review. Retrieved from Mene-Sodhganga: shodhganga.inflibnet.ac.in/bitstream/10603/60875/15/15_bibliography.pdf
[3]. Alan D. De Santis, E ,& Seth M Noar, P (2008).Illicit use of prescription ADHD medications on a college campus: A multi methodological Approach journal of American College Health,315-324.
[4]. Joshi LN, J. V. (1992). Pranayama practice on breathing rate and ventilator functions of lung. Indian J Physiol Pharmacol, 105-108.
[5]. Madanmohan Trakoo, A. B. (2016). Physiological Benefits of yogic Practices: A Brief Review. International Journal of Traditional and Complementary Medicine, 0031-0043.
[6]. Madanmohan, M.S. (2008). Effects of six weeks yoga training on weight loss following step test, respiratory pressure, handgrip strength and handgrip endurance in young healthy subjects. Indian J Physiol Pharmacol,164-170.
[7]. Madanmohan, T. D. (1992). Effect of yoga training on reaction time, respiratory endurance and muscle strength. Indian J Physiol Pharmacol, 229-33.
[8]. Makwana K, K. N. (1988). Effect of short term yoga practice on ventilatory function tests. Indian J Physiol Pharmacol, 202-208.
[9]. Pallav Sen Gupta Health impacts of yoga and pranayama: A state of the art review International j Prev Med July; 3(7); PP444-458 :2012
[10]. Peck, H.(2005). Yoga as an intervention for children with attention problems. School Psychology Review,415-424.
[11]. Sahasi, G. (1984). Areplicated study on the effects of yoga on cognitive functions. Indian Psychological Review, 33-35.

Corresponding Author:
Dr. Neelima Singh
Assistant Professor, Department of Physical Education,Govt. P.G. College Bilaspur, Rampur, Uttar Pradesh, India.