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## Effect of Asanas on physical fitness of Government Residential School students

**Kum Megha KS and Dr. DM Jyoti**

### Abstract

The meaning of the Sanskrit word asana is ‘a steady and comfortable posture’. The postures performed in all yoga practices (Hatha Yoga and Ashtanga Yoga) are called asanas. Although many people believe that they are physical exercises, it does not convey their full significance. ‘Asanas aim at influencing the body, mind and consciousness, molding and yoking them into one harmonious whole’. The practice of asanas requires active involvement of one’s entire being as fully as possible. In other words, try not to think about work or friends or food while performing them. The prime aim of asana is to help us tread the path to higher consciousness so we can begin to understand and know our relationship with existence. We cannot even consider attaining higher awareness if we are ill with disease, aches and pains or mental depression. Therefore, the initial purpose of practicing asanas is to eliminate these disturbances and afflictions. A regular practice of asanas makes us acquainted with the way our body is, and we then begin to understand the importance of breathing and staying still. The opening up of the body that results after a regular practice gives us a sense of freedom not only in the body, but more importantly in the mind driving us to come to terms with whatever is happening in our mind.

**Keywords:** flexibility, and muscular endurance

### Introduction

The practice of asanas should not be divorced from the other aspects of Yoga. All Yoga techniques have the purpose of leading each of us to higher awareness. The ancient Yogis aimed at transcending the normal limitations of the mind and body. Their aim was to transcend individuality and to achieve self-realization. In this context, Asanas were not intended specifically to develop the mind and body. This was a means to an end. Their aim was to make the body so perfect and the subconscious mind so calm and trouble free that these aspects of individual existence could be forgotten. When the aches and pains and ailments of the body are removed and one is emotionally and mentally relaxed, then one automatically ceases to be aware of the physical body and the superficialities of the mind. In this way the fetters of individuality can be released and one’s true nature- pure, infinite, all pervasive consciousness- can be realized.

Yoga is a science of right living and it works when integrated in our daily life. It works on all aspects of the person: the physical, mental, emotional, psychic and spiritual. The word yoga means ‘unity’ or ‘oneness’ and is derived from the Sanskrit word ‘yuj’ which means ‘to join’.

### Yoga

Yoga aims at bringing the different bodily function in to perfect co-ordination so that they work for the good of the whole body. Swami Satyananda Saraswathi (2002) Suriya namaskar integrate and harmonize all aspects of the physical, intellectual, and spiritual body. Positions are related to energize pituitary, pineal and thyroid gland, liver solar pinal, blood flow to organ and glands efficacious for the neck, chest, abdomen and sexual gland. The regular performance of Suriya namaskar is intended to raise one’s state of conscious to higher level of realization. Suriya namaskar are mostly more popular in older men than young wrestlers. They strengthen body without strain in bones and organs of the body. Suriya namaskar are not vigorous, but they are practiced to maintain physique.

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### The Benefits of Yoga

Like yoga, the osteopathic approach to wellness focuses on your body's natural tendency toward health and self-healing. "The purpose of yoga is to create strength, awareness and harmony in both the mind and body," explains Natalie Nevins, DO, a board-certified osteopathic family physician and certified Kundalini Yoga instructor in Hollywood, California.

### Physical Benefits

"The relaxation techniques incorporated in yoga can lessen chronic pain, such as lower back pain, arthritis, headaches and carpal tunnel syndrome," explains Dr. Nevins. "Yoga can also lower blood pressure and reduce insomnia."

### Other physical benefits of yoga include:

- Increased flexibility
- Increased muscle strength and tone
- Improved respiration, energy and vitality
- Maintaining a balanced metabolism
- Weight reduction
- Cardio and circulatory health
- Improved athletic performance
- Protection from injury

### Mental Benefits

Aside from the physical benefits, one of the best benefits of yoga is how it helps a person manage stress, which is known to have devastating effects on the body and mind. "Stress can reveal itself in many ways, including back or neck pain, sleeping problems, headaches, drug abuse, and an inability to concentrate," says Dr. Nevins. "Yoga can be very effective in developing coping skills and reaching a more positive outlook on life."

### Flexibility

If you ask people why they exercise, most will stay to stay healthy, keep fit, or because it makes them feel good. Not a lot will mention flexibility as a goal, but it's a key part of maintaining your health and avoiding injury, especially as you age. The stretching you do in yoga is a great way to improve your flexibility. It's a commonly held misconception that you have to already be flexible to do yoga. In fact, the opposite is true: doing yoga regularly is a sure way to become more flexible. The ten poses below target the three major muscles groups where most people are lacking flexibility: hamstrings, hips, and shoulders. These three areas tend to get even tighter from sitting for long periods or even from other types of exercise, like running.

### Muscular Endurance

Muscular endurance is the ability of a muscle or muscle group to exert force to overcome a resistance many times. Often the resistance is the body itself. The measurement of muscular endurance is based on the number of repetitions performed. Muscular endurance is specific to the assessment. The ability to perform upper-body exercises many times is separate from the ability to perform lower-body or abdominal exercises many times. Muscular endurance tests include push-ups, pull-ups and dips for the upper body, and sit-ups for the abdominals. Lower-body endurance can be assessed with squats. Consult a personal trainer to get help assessing your strength, power and muscular endurance. A trainer can also help you set reasonable goals and provide you with a training plan for reaching them. Always consult your healthcare

provider before beginning a new exercise program. Your doctor or other medical provider can assess your general health and tell you if the program is right for you.

### Statement of the Problem

"Effect of Asanas on Physical Fitness of Government Residential School Students."

### Objectives of the study

- To find out the effects of yoga on physical fitness of high school students
- To find out the effects of yoga exercise of high school students.

### Hypothesis

- There is no significant difference between pre-test and post-test group of High school students with Respect to muscular strength.
- There is no significant difference between pre-test and post-test group of High school students with Respect to flexibility scores.

### Limitations

- No motivational techniques applied while testing and training of the subjects.
- The daily routine work of the subjects might influence results, this is considered as limitation.
- Day to day activities, rest period, food habits and life style could not be controlled as it is considered as limitation of the study.

### Delimitations

- The study is an Experimental one Training pre and post-test.
- This study will be confined to Residential a high school students who are
- Studying in 8 to 10 standard
- The study will be delimited to the age group of 15 to 16 years girls.
- This study is delimited to selected yoga asanas
- This studies is delimited to flexibility, and muscular endurance, of high school students under physical fitness.
- The study is delimited to female as subjects for the study
- The study will be delimitated to Vijayapur district only.

### Significance of the study

1. 6 weeks of yoga exercise training may useful for improvement on physical, fitness of high school students.
2. The study may useful for teachers and students to know physical performance of the high school students.
3. The study may useful for to know performance of the high school students.
4. The study helps to know the effect of yoga exercise on high school students.
5. The findings of this study will helpful to the students and Teacher to improve their physical fitness.

### Chapter III

#### Methodology

The methodology adapted for the present study "Effect of Asanas on Physical Fitness of Government Residential School Students." selection of subjects, experimental design, selection of variables, selection of tests, experimental design, selection of tests, collection of data and statistical procedure have been explained in this chapter.

### Selection of subjects

The purpose of the study was to find out the "Effect of Asanas on Physical Fitness of Government Residential School Students." Age of the subjects ranged from 14 to 17 years' girls. The investigator was explaining the purpose, nature, studying in Minority Morarji Desai Residential Girls School Arakeri Taluk /District vijayapura.

### Selection of variables

The research scholar reviewed the various scientific literatures pertaining to and yoga training on selected physical and variables from books, journals, and research papers, taking into consideration the feasibility of criteria, availability of instruments and the relevance of the variables of the present study, the following variables were selected. Choose an object for your concentration meditation. The object you select should be one which is easy for your attention to rest upon, which brings pleasant emotions without too much excitement or boredom. If you select an object which has meaning for you, try not to allow its associations to distract you. The goal is to focus on the object itself choosing an object of the senses is an ancient meditation technique. Some traditions encourage meditation upon the elements (earth, air, fire, water). Others focus on sacred places within the body, or chakras.

### Independent variables

Yoga	:	Suryanamaskara
Standing Asana	:	Wrikshasana, Ardakati chakrasana
Sitting Asana	:	Wajrasana, Simhasana
Supine Asana	:	Pavana muktasana, noukasana
Proline Asana	:	Makarasana, bhujangasana

### Dependent Variables

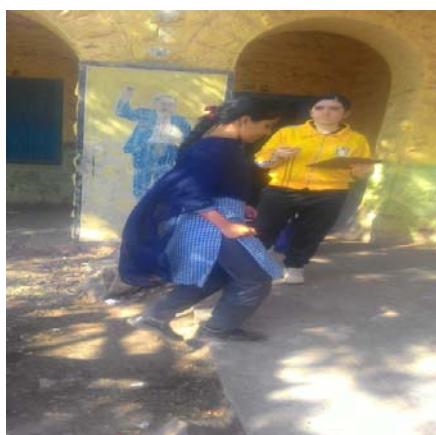
The following Physical variables will be selected as dependent variables.

1. Physical Variables
2. Muscular strength Variables: Hard word steps Plus Rate,
3. Flexibility Variables: Sit and reach

### Pulse Rate: b

#### Harvard Step Test

The Harvard Step test is a test of aerobic fitness, developed by Brouha *et al.* (1943) in the Harvard Fatigue Laboratories during. The features of this test is that it is simple to conduct and requires minimal equipment. There are many other variations of step tests too.



- **Equipment required:** step or platform 20 inches / 50.8

cm high, stopwatch, metronome or cadence tape.

- **Procedure:** The athlete steps up and down on the platform at a rate of 30 steps per minute (every two seconds) for 5 minutes or until exhaustion. Exhaustion is defined as when the athlete cannot maintain the stepping rate for 15 seconds. The athlete immediately sits down on completion of the test, and the total number of heart beats is counted between 1 to 1.5 minutes after finishing (see measuring heart rate). This is the only measure required if using the short form of the test. If the long form of the test is being conducted, there are additional heart rate measures at between 2 to 2.5 minutes, and between 3 to 3.5 minutes. See some videos of Harvard Step tests being performed.
- **Scoring:** the Fitness Index score is determined by the following equations. And the number of heart beats between 1-1.5 minutes was 90, between 2-2.5 it was 80 and between 3-3.5 it was 70, then are using the total number of heart beats in the 30 second period, not the rate (beats per minute) during that time.

### Training Schedule for Yogasanas

<b>Suryanamaskar for warm-up</b>		<b>13 min</b>
<b>Sl. No 1</b>	<b>Standing Asanas</b>	
	Vrukashasana	3min
	Ardha kati chakrasana	3min
<b>2</b>	<b>Sitting Asanas</b>	
	Vajrasana	3min
	Simhasana	3min
<b>3</b>	<b>Supine Asanas</b>	
	Naukasana	3min
	Pawanmukthasana	3min
<b>4</b>	<b>Prolineasanas</b>	
	Bhujangasana	3min
	Makarasana	3min
	<b>Relaxation</b>	<b>13 Minutes</b>
	Total	50 Minutes

### Selection of Tests

<b>Variables</b>	<b>Tests /Tools Administered</b>
Fitness variables	
Muscular strength	Hard word steps Plus Rate,
Flexibility	Sit and reach

**Collection of data:** Data will collect yoga and exercise and physical fitness as a Variables of this study yoga exercise and the training schedule. Were collect as per the method before the experimental period (Pre-test) and at the end of the 6 week (Post-test).

**Statistica Technique:** The following statistical procedure will be present study used statistical analysis for the study, the mean, standard deviation and 't' value procedures were used for find out the significant differences among the group.

### Chapter IV

#### Analysis and interpretation of data

The study was intended to carry out to assess the Effect of Asanas on Physical Fitness of Government Residential School Students. Studying in Minority Morarji Desai Residential Girls School Arakeri Taluk /District vijayapura. The selected physical research variables were such Flexibility, Muscular strength as, variables the has chosen for the study and yoga the analyses of data collected to find out the influence of yoga and exercises has been presented in this chapter.

However valid, reliable and adequate the data may be, it does not serve any useful purpose unless it is carefully processed, systematically classified and tabulated, scientifically

analyzed, intelligently interpreted and rationally concluded. Table no 1 indicates the Mena, SD and t-value of Pulse rate of school students between pre-test and post test.

Sl no	Type of test	Mean	SD	t-value	df	p-value	Remark
Experimental group	Pre test	84.2000	9.19670	9.160	29	.000	S
	Post test	75.9000	8.18893				
Control group	Pre test	76.7333	7.28216	1.409	29	.169	N S
	Post test	76.5667	7.11813				

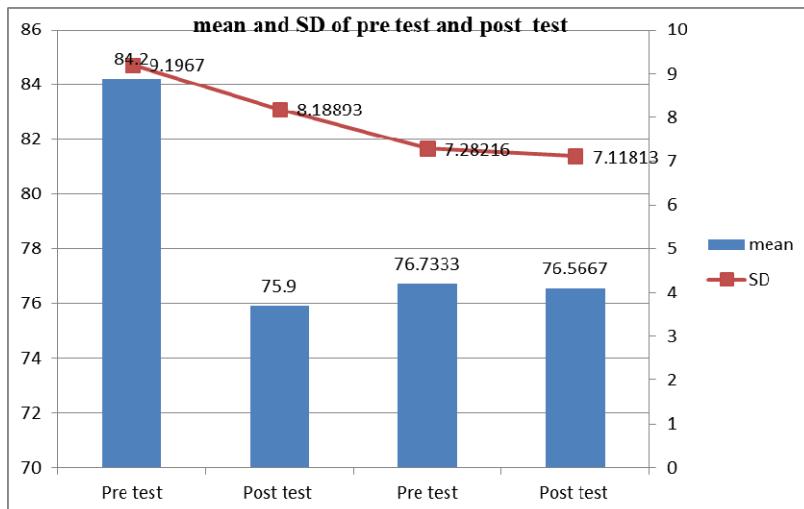


Table- 1 shows mean, SD and t- value of muscular strength of school students with respect to pretest and posttests of experimental and control groups under study. It is observed that mean scores and SD values of pretest and posttest of experimental group found to be  $84.2000 \pm 9.196$ ,  $75.900 \pm 8.18893$  respectively. There is a high significant difference is found between pretest and posttest with respect to muscular strength ( $t=9.160$ ,  $df=29 p<.05$ ) with 29 df at 1% of level of significance. It means that pulse rate differ between pretest and posttest group of school students. It can be concluded that treatment given to the experimental group influenced positively as result of which pulse rate as decreasing in posttest group.

In case of control group mean value and SD of muscular strength of pretest and posttest found to be  $76.7333 \pm 7.28216$  and  $76.5667 \pm 7.11813$  respectively. There is a no significant difference is found between pretest and posttest with respect to muscular strength ( $t=1.409$ ,  $DF=29 p<.05$ ) with 29 DF at 1% of level of significance. It means that pulse rate does not differ between pretest and posttest group of school students. It can be concluded that treatment given to the control group does not influenced positively as result of which pulse rate between pretest and posttest group remain same.

Mena, SD and t-value of flexibility test of school students between pre-test and post test

Sl no	Type of test	Mean	SD	t-value	df	p-value	Remark
Experimental group	Pre test	2.6500	.71955	-3.105	29	.004	S
	Post test	3.0500	.79687				
Control group	Pre test	2.2033	.61222	-.542	29	.592	N S
	Post test	2.2200	.59619				

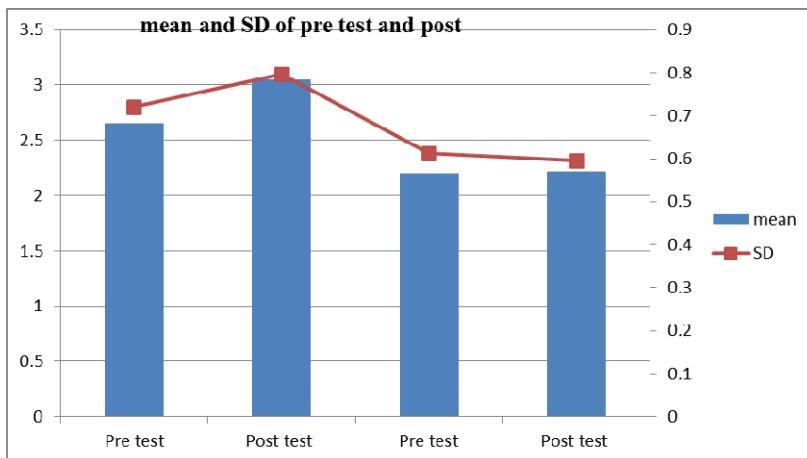


Table- 1 shows mean, SD and t- value of flexibility of school students with respect to pretest and posttests of experimental and control groups under study. It is observed that mean scores and SD values of pretest and posttest of experimental and control group found to be  $2.6500 \pm .71955$ ,  $3.050070 \pm .79687$  respectively. There is significant difference flexibility is found between pretest and posttest ( $t=9.160$ ,  $df=29$   $p<.05$ ) with  $df=29$  at 1% of level of significance. It means that flexibility differ between pretest and posttest group of school students. It can be concluded that treatment given to the experimental group influenced positively as result of which flexibility as increasing in posttest group.

In case of control group mean value and SD of flexibility score of pretest and posttest found to be  $2.2033 \pm .61222$  and  $2.2200 \pm .59619$  respectively. There is a no significant difference is found between pretest and posttest with respect to flexibility scores ( $t=1.409$ ,  $df=29$   $p>.05$ ) with  $29$  df at 1% of level of significance. It means that pulse rate does not differ between pretest and posttest group of High school students. It can be concluded that treatment given to the control group does not influenced positively as result of which flexibility scores between pretest and posttest similar.

## Chapter V

### Summary, conclusion and recommendations

The purpose of the study was to investigate the "Effect of Asanas on Physical Fitness of Government Residential School Students". The researcher selected physical fitness variables pulse rate Flexibility and Muscular endurance asanas variables. six weeks of physical fitness and yoga training were given to 60 school children Subject before training the researcher conducted pre-test performance on physical fitness and yoga variables. The performance of the pre-test was recorded. After the 6weeks of physical fitness and Asanas exercises training the post-test performance was recorded on physical and asanas performance. The result of post-test performance indicates significant improvements.

### Conclusions

- Based on the findings the following conclusion were draw from the present study.
- Six weeks Asanas yoga training has shown significant improvement on physical performance variables of the subject.
- Six weeks of Asanas exercise training has shown significant improvement on physical performance variables of the subject.

### Recommendation

- Based on the results of the study the following recommendations were drawn by the investigator.
- The result of the study may help the physical education teachers to improve the physical and Asanas performance variables of the students.
- Coaches/trainer can utilize the outcome of the study in their training programme.
- Similar study may be conducted to examine the effect of asanas exercises physical and variables for the different age groups.
- Further similar researcher may be undertaken considering secondary school girls students.
- Similar study may be replicated with medium duration different intensities of the training other than mentioned in the present study.
- Similar studies may be conducted on sports persons and non-sports persons.

- Similar studies may be conducted on rural and urban area students.

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