SUMMARY

In modern civilization, the impact of industrialization and technology can be visualized on every aspect of human life. This fast changing scenario has turned every individual into a living machine as his dependency on automated machines is growing with each passing day. It is due to the fact that he is always striving hard to make more-and-more money to surge ahead of others and to earn more luxuries for himself and his family. As a result, he is always living a life of immense tension and unwanted pressures. Money has become the prime mover of his life. In the pursuit of money-making he has forgotten all the social obligations, relations, morality and even his health. As a result, he is not able to spare even a short span of time to look after his health. This situation has made him more prone to all sorts of diseases due to lack of proper exercise, diet and rest. Prolonged and unscheduled working hours, improper diet and insufficient rest periods have turned him into a physically weaker, mentally disturbed, emotionally unstable and socially unharmonious individual.

In such a drastic scenario he requires such activities
which can enlighten his soul and bring an all-round development to his personality. Yoga, being a science of spirituality through meditation, can make him free from worldly sorrows, submerge him in the God, and get him eternal bliss. Also, regular practice of yoga can take him towards the higher echelons of health and fitness. Every individual can perform yogic exercises as they don’t need any special infrastructure and equipments. They can be practiced wherever you get a space to sit freely and can be done indoors as-well-as outdoors.

Similar is the case with the isometric exercises. These can be performed by individuals to enhance their motor fitness abilities. Alike yogic exercises, these also need a very little space and are easy to perform.

YOGA:

The word Yoga is derived from the Sanskrit root 'Yuj' meaning to bind, join, attach & yoke, to direct & concentrate one’s attention on, to use and apply. It also means union or communion. It is free union of our will with the will of God. According to Mahadev Desai in his introduction to the 'Gita according to Gandhi, " Yoga means the yoking of all the powers of the body, mind & soul to God; it means the disciplining of the intellect, the mind, the emotions, the will, which that Yoga presupposes; it means a poise of the soul which enables one to
look at life in all its aspects evenly."

Yoga is one of the six orthodox systems of Indian Philosophy. It was collated, coordinated and systematized by Patanjali in his classical work- Yoga Sutras, which consists of 185 terse aphorisms (brief, to the point maxims). In Indian thought everything is permeated by the Supreme Universal Spirit (God), of which, the individual human spirit is a part. The system of Yoga is so called because it teaches the means by which the Jivatama can be united to, or be in communion with the Paramatma, and so secure liberation (moksha).

In the second aphorism of the first chapter of the 'Yoga Sutras' Patanjali describes Yoga as, "Yogaschitta Vritti Nirodhah", means the restraint of the mental modification or as suppression of the fluctuations of mind. It means the withdrawal of sense organs from worldly objects and their control is called Yoga.

**ISOMETRIC EXERCISE:**

‘Iso’ means same and ‘Metric’ means length. It means the length of the muscle is kept constant. There is no extension or shortening of the muscle during the exercise. The muscle only
gets tension. Therefore, Isometric training is a systematic set of Isometric exercises performed by an individual to keep himself fit.

**Fred Kelley defines:** “An isometric exercise is one in which the resistance produces a tremendous amount of tension within the muscle itself. This resistance could consist of any object too heavy to move.”

**Gene Hook defines:** “A method of strength development which attains an overloading of the muscle by matching one part of the body against another. This is a type of muscular contraction in which the muscle does not decrease in length”.

After analyzing the above definitions, the researcher asserts that: “Isometric exercise is the development of tension within a muscle by the application of resistance. However, if the resistance is greater than the amount of force exerted by the muscle, technically there will not be any change in its length”.

**FORMS OF ISOMETRIC TRAINING:**

The types of isometrics we utilize are Iso holds, Iso Presses, Iso Contrasts, Oscillatory Isos, and Impact Absorption Isos.

**MOTOR FITNESS:**
Motor fitness evaluation by means of performance has been a popular professional pastime for many years. Physical fitness and motor fitness are often used interchangeably. Physical fitness has three basic components i.e. muscular endurance, muscular strength and cardio-respiratory endurance, whereas, motor fitness has four additional components i.e. muscular power, agility, flexibility and speed. According to Fleishman (1964), "Motor ability is more general trait which may be common to many tasks but motor ability is one's level of proficiency at a specific task and both the rate of learning and final level achieved by an individual in specific skill are limited by basic motor abilities."

The term general motor ability has been defined by Larson (1981) as the ability of the individual in the elements which underline motor performance, such as muscular strength, muscular power, muscular endurance, co-ordination, agility and balance. According to Clarke (1966), "It is not limited to one but covers vast field i.e. individual to individual, profession to profession, from age to age and from group to group".

**Component of motor fitness:**

Strength, Speed, Endurance, Flexibility, Agility, Balance
and Power.

**STATEMENT OF THE PROBLEM:**

The statement of the problem may be read as under:

"EFFECTS OF SPECIFIC YOGIC AND ISOMETRIC TRAINING ON MOTOR FITNESS VARIABLES"

**OBJECTIVES OF THE STUDY:**

1. To find out the effects of specific yogic exercises on motor fitness variables UG courses boy students of Physical Education.

2. To find out the effects of isometric exercises on motor fitness variables of UG courses boy students of Physical Education.

3. To find out whether yogic or isometric exercises are more beneficial to UG courses boy students of Physical Education.

**HYPOTHESES:**

2. There will be a significant difference of specific yogic training on fitness variables of UG courses boy students of Physical Education.

2. There will be a significant difference of isometric training on motor fitness of UG courses boy students of Physical Education.
Education.

3. There will be no significant difference between specific yogic training and isometric training on motor fitness variables of UG courses boy students of Physical Education.

4. There will be no significant difference in control group.

DELIMITATIONS: (CONTROLLED)

1. The study will be delimited to UG courses boy students of Physical Education Haryana.

2. The subjects selected for the study will be of 17-21 years.

3. The study will be delimited to 120 boy subjects only.

4. Only seven components of Motor Fitness i.e. Strength, Speed, Endurance, Flexibility, Agility, Balance and Power will be assessed through this study.

METHODOLOGY

The Sample

Keeping in mind nature and purpose of present study researcher selected a purposive sample of total 120 boy students of age group 17 to 21 years studying in a B.A.R Janta College, Kaul (Kaithal) Haryana. They were the students of B.A.Part-I,II,
and III (with Physical Education).

Subjects were grouped in three groups having equal number of subjects. From these, two groups experimental, namely Yoga Experimental and Isometric Experimental, and third Group was control. The investigator used lottery system for random selection of the boy students of all the groups containing 40 subjects each. All boy students were totally new to these exercises though, have participated in games and sports as a member of their college teams but did not attend any conditioning programme like this one.

TRAINING SCHEDULE

a) Practice Session for Yoga Experimental Group

Suryanamaskar : 10 minutes
Specific Yogic Activities : 50 minutes
Cooling down or Relaxation Exercises : 10 minutes

b) Practice Session for Isometric Experimental Group

Warming up Exercises : 10 minutes
Specific Isometric Exercises : 50 minutes
Cooling down or Relaxation Exercises : 10 minutes

Only following yogic activities were given for exercises are:


**Isometric exercises** were given for training:

(i) **Plank Bridge**, (ii) **Side Bridge**, (iii) **Hundred Breath**, (iv) **Isometric push Ups**, (v) **T-arms**, (vi) **Isometric squat**, (vii) **Isometric calf raise**, (viii) **Isometric Leg Extension**, (ix) **Isometric Hip Extension**, (x) **Isometric Leg Abduction**.

Tools used:

The parameter involved in this study is motor fitness and its components which will be measured using the following battery of tests which includes 6 of AAHPER-YFT and Squat Hand Standing by The New York State Physical Fitness Test:

- Strength: Pull-Ups
- Speed: 50 Meter Dash
- Endurance: 600 Yards Run/Walk
• Flexibility: Modified Bend and Reach
• Agility: Shuttle Run
• Balance: Squat Hand Stand
• Power: Standing Broad Jump

COLLECTION OF DATA

Focusing nature and objectives of present study researcher approached Principal B.A.R Janta College, Kaul (Kaithal) and after securing permission prepared basic data for matching and group formation. Thus three groups of 40 no. of each subjects were formed. As per the details provided above, specific conditioning exercises were administrated to both experimental groups. Further the duration of training period was divided in two phases. The data collection was done on two stages, First pre test data and finally post test data of all three groups i.e. two yoga experimental Group & isometric experimental and one control group. Training was from 16th Sep, 2012 to 15th Dec, 2012. And data was collected through test battery on seven basic components of motor fitness. Similarly before start training pre-test data was recorded and final data was taken after completion of training programme.
STATISTIC USED

The mean, mode and standard deviations of motor fitness variables' scores has been calculated for all three groups - controlled, Yoga experimental and Isometric experimental group. The ‘t’ Test has been used to test the significance of differences among the group means of all the variables.

MAIN FINDINGS

The main findings of the present study are given below:

Pre- Yoga Experimental v/s Post Yoga Experimental

Strength: Specific yogic training has positive effects on strength of UG courses boy students of Physical Education.

Speed: The selected specific yogic training has positive effects on speed of UG courses boy students of Physical Education.

Endurance: In relation to endurance specific yogic training has positive effects on of UG courses boy students of Physical Education.

Flexibility: Specific yogic training has positive effects on flexibility of UG courses boy students of Physical Education.

Agility: In relation to agility specific yogic training has positive effects on of UG courses boy students of Physical Education.
**Balance:** Specific yogic training has positive effects on balance of UG courses boy students of Physical Education.

**Power:** The selected specific yogic training has positive effects on power of UG courses boy students of Physical Education.
**Post-Yoga Experimental v/s Post Control**

**Strength:** Specific yogic training has positive effects on strength of UG courses boy students of Physical Education.

**Speed:** The selected specific yogic training has positive effects on speed of UG courses boy students of Physical Education.

**Endurance:** In relation to endurance specific yogic training has positive effects on of UG courses boy students of Physical Education.

**Flexibility:** Specific yogic training has positive effects on flexibility of UG courses boy students of Physical Education.

**Agility:** In relation to agility specific yogic training has positive effects on of UG courses boy students of Physical Education.

**Balance:** Specific yogic training has positive effects on balance of UG courses boy students of Physical Education.

**Power:** The selected specific yogic training has positive effects on power of UG courses boy students of Physical Education.

**Post-Yoga Experimental v/s Post Isometric Experimental**

**Strength:** Both the training specific yogic and isometric has positive effects on strength of UG courses boy students of Physical Education.
**Speed:** Specific yogic training has more positive effects then isometric training on speed of UG courses boy students of Physical Education.

**Endurance:** Both the training specific yogic and isometric has positive effects on endurance of UG courses boy students of Physical Education.

**Flexibility:** In relation to flexibility specific yogic training has more positive effects then isometric training on speed of UG courses boy students of Physical Education.

**Agility:** Specific yogic training has more positive effects then isometric training on agility of UG courses boy students of Physical Education.

**Balance:** Both the training specific yogic and isometric has positive effects on balance of UG courses boy students of Physical Education.

**Power:** Both the training specific yogic and isometric has positive effects on power of UG courses boy students of Physical Education.
Pre-Isometric Experimental v/s Post Isometric Experimental

**Strength:** Isometric training has positive effects on strength of UG courses boy students of Physical Education.

**Speed:** The selected isometric training has positive effects on speed of UG courses boy students of Physical Education.

**Endurance:** In relation to endurance isometric training has positive effects on of UG courses boy students of Physical Education.

**Flexibility:** Isometric training has positive effects on flexibility of UG courses boy students of Physical Education.

**Agility:** In relation to agility isometric training has positive effects on of UG courses boy students of Physical Education.

**Balance:** Isometric training has positive effects on balance of UG courses boy students of Physical Education.

**Power:** The selected isometric training has positive effects on power of UG courses boy students of Physical Education.

Post-Isometric Experimental v/s Post Control

**Strength:** Isometric training has positive effects on strength of UG courses boy students of Physical Education.
**Speed:** The selected isometric training has positive effects on speed of UG courses boy students of Physical Education.

**Endurance:** In relation to endurance isometric training has positive effects on of UG courses boy students of Physical Education.

**Flexibility:** Isometric training has positive effects on flexibility of UG courses boy students of Physical Education.

**Agility:** In relation to agility isometric training has positive effects on of UG courses boy students of Physical Education.

**Balance:** Isometric training has positive effects on balance of UG courses boy students of Physical Education.

**Power:** The selected isometric training has positive effects on power of UG courses boy students of Physical Education.

**Pre-Control v/s Post Control**

**Strength:** There is no effect on strength of UG courses boy students of Physical Education.

**Speed:** There is no effect on strength of UG courses boy students of Physical Education.

**Endurance:** There is no effect on strength of UG courses boy students of Physical Education.
**Flexibility:** There is no effect on strength of UG courses boy students of Physical Education.

**Agility:** There is no effect on strength of UG courses boy students of Physical Education.

**Balance:** There is no effect on strength of UG courses boy students of Physical Education.

**Power:** There is no effect on strength of UG courses boy students of Physical Education.

**Recommendations:**

1. Yoga as a subject must be included in the curriculum right from the primary school to high and higher educational systems.

2. It is also recommended that more and more yoga institutions should be established in our country. Good yoga teachers with good professionally trained must be appointed in such institutions.

3. Under U.G.C. scheme more special yoga universities, like Bihar Yoga Bharti and Dev Sanskriti Vishwavidalya, should be opened to bring more specialization in this stream.
4. Institutionalization and formalization of yoga education is necessary to discourage self-styled and fake yoga teachers and so called yoga experts. For his certification and monitoring at governmental level is must.

5. It is also recommended that yogic activities should be made compulsory for industry workers and other personnel. The hunch is that yogic activities can improve working capacity and can also increase productivity as it has been experimented in Japan.

6. Rakesh Sharma, the first Indian astronaut, proved that the yogasanas were very useful even in the space. Therefore, it is recommended that yogasanas should be made compulsory for the pilots, air hostesses etc.

7. To start and propagate yoga in education system physical education teachers are not recommended but full time yoga teachers should be appointed. This is because yoga teacher need special mental and emotional attitude and dedication with more humbleness. Physical education teachers are trained with little bit more aggression which is not suitable for yoga.
**Educational Implications:**

1. The researcher is of firm opinion that yoga will certainly of great help to the students and yogic activities should start at primary level to higher educational levels. It is recommended to start at the age of 8 years. This will help in following ways: (i) yogic activities enhance physical and mental discipline in students, (ii) yogic activities also arrests the process of degeneration of Pituitary gland which is crucial for controlling sexuality, (iii) yogic activities also increase concentration, (iv) Stamina for longer duration sittings for study.

2. Yoga is recommended strongly for the teachers because they are also an important part of educational system. Yogic activities enhance physical and mental discipline; and level of ethics among the teachers enhance stamina for longer duration of teaching hours. Yogic activities reduce stress level and increase concentration.

3. Yogic activities also recommended in higher educational system because it harmonizes emotional personality of the students and also prevent criminal tendencies among them.
4. At higher educational level yogic literature become instrumental to search roots of many humanity sciences like Ethical System, Legal system, Sociology, Ancient Education, Healing, Naturopathy and Ayurveda etc. Study and practice of yogic activities create deeper insight in the investigation of evolution of all these discipline.

5. Yogic activities can help in concentration, mind alertness, increasing memory power, increasing self-confidence and determination etc. Therefore, yoga is boon for the students.

6. Yogic activities helps in assimilation of taught knowledge in actual life which further enhances process of social changes for betterment of future.

7. Various principles of Psychology, Medical Science, Engineering and Computer Science etc. may be traced back into yogic literature. Further Yoga may provide help to students of all professional streams.

**Suggestions for the Future Research:**

1. Researcher suggests that the same research can be done at different level students, i.e. at primary, secondary and college levels students and employees of any age groups.

2. Similar study can be conducted taking sample from sex
different as of only Girls or Boys or taking mixed sample from any co-educational institution.

3. Further more experimental study may be conducted for industrial workers, clerks and other officials as sample to establish whether yogic activities increase productivity in the factories and industries, etc.

4. A comparative study between these yogic activities and some other physical exercises, like, gymnastic exercises may be taken to examine their respective efficacy.

5. An experimental study may be conducted to examine effects of yogic activities on psychological parameters.

6. An experimental study may be conducted to examine effects of yogic activities using bio-feedback machines like E.E.G. and E.C.G. etc.

7. An experimental study may be conducted to see the effects of yogic activities on self-discipline, brotherhood, hostility and national integration,

8. The above researches can be conducted by taking same activities on any level citizen of the various societies. Specific effect of just one or two yogic activities also can be studied in relation to any particular problem or parameter.
9. An experimental study can be taken up to see whether these yogic activities increase subjective qualities of the samples like creativity, intelligence, social adjustment, level of satisfaction and co-existence etc.

10. Some literary descriptive and analytical researches are also recommended which prepare ground for further stage experimental researches.

11. For more comprehensive research work one must consider sample from Ashram inmates where yogic style life including meditation as practice prevails and further duration of experiment should be sufficiently longer.