EFFECT OF YOGA ON STRESS AMONG B. Ed. STUDENTS

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GOVT. COLLEGE OF EDUCATION
JALANDHAR

Dedicated to

Reverend Gurudev Brahmrishi Vishvatma Bawra Ji Maharaj

My Sole Source of Inspiration

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Words are poor representation of sentiments. I owe a never-ending gratitude to my adored and worshipful God for his grace and blessing in the completion of this Dissertation.

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Date: 24/05/2010 **Dinesh Kumar Rai**

GURU NANAK DEV UNIVERSITY AMRITSAR

CERTIFICATE

This is to certify that this dissertation entitled **"EFFECT OF YOGA ON STRESS AMONG B. Ed. STUDENTS"** submitted by Dinesh Kumar Rai University Roll No. 480270 and a student of Govt. College of Education, Jalandhar (Session 2009-2010) has been carried out under my supervision and guidance, in partial fulfillment of the requirement for the Degree of Master of Education from Guru Nanak Dev University, Amritsar.

It is authentic record of bonafide and genuine research work to the best of my knowledge. No part of this work has been submitted for any other degree and diploma to any other university.

Dated: 24/05/2010

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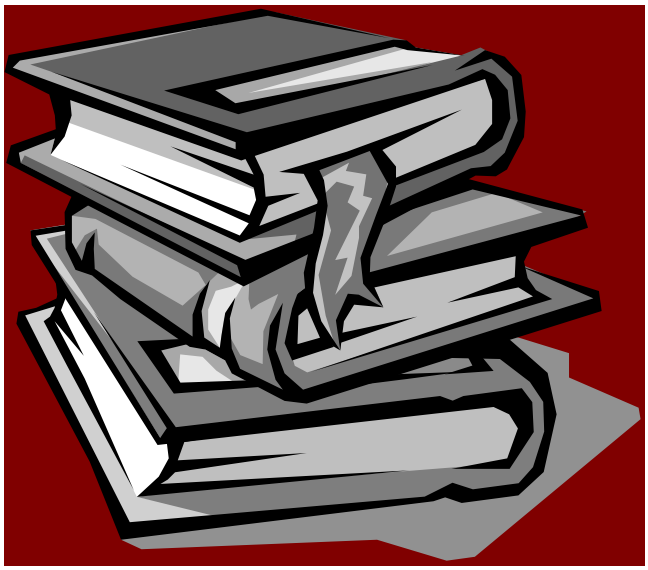

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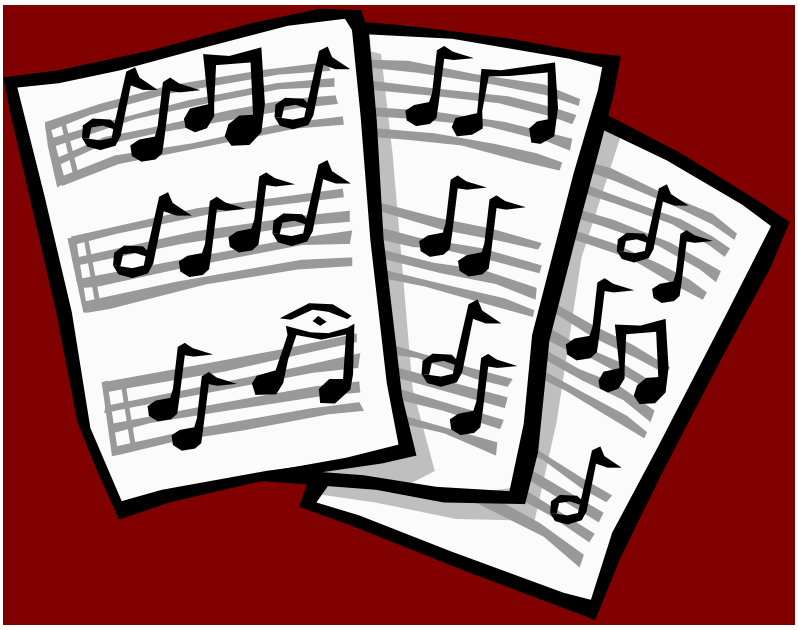

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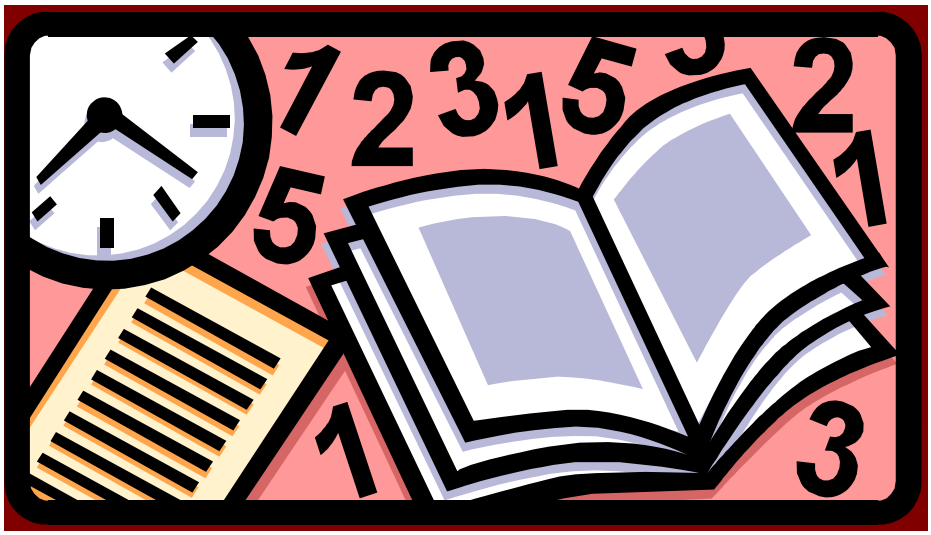

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CHAPTER-1

INTRODUCTION

Yoga is a way of life. This art of right living was performed and practiced in India thousands of year ago but, since Yoga deals with universal truth; its teachings are as valid today as they were in ancient times. Yoga is a practical aid, not a religion.

Modern age is the age of science and Technology. Man with the help of thought organization has created a marvelous scientific and technological world but human being as an individual is unhappy and frustrated, not at peace with himself, not at harmony with self. The 17th century has been called the age of enlightenment. The 18th century has been called the age of reason. The 19th century has been called the age of progress. The 20th century has been called the age of anxiety, depression and stress. We are living in the age of modern civilization facing more tensions.

Modern age is the age of machine and most modern societies are obsessed by power and much time and efforts are wasted in trying to discover more powerful and more destructive weapons. Technology has made rapid progress, but man has not. He has learned to Harness atomic energy but is unable to control his own senses and his own mind. The danger of atomic weapons lie not in the powerful destructive device themselves it arises because of uncontrolled mind of man who are corrupted by their powers.

Swami Vivekananda viewed Education as the Manifestation of the perfection already in man. To him real education is that which enable one to stand on one's own feet and elevates to higher level.

Yoga, the science of life is an effective tool to control and cure every day stress and strain. Yogic practices like Shatkriyas and Pranayama are for the common man, whatever his profession, class, religion, nationality or age. There is not one amongst us who is not interested in it and does not share a concern for the impact that science and technology makes upon human values. The present trend of thoughts based on a materialistic philosophy of power, prosperity and pleasure had resulted in a form of separate culture. Worldly

values dominate the modern man, who reacts to stimuli, struggles for self preservation, self aggrandizement and self gratification. This ego-ridden individual seeks freedom and happiness in this nerve- racking hunt after worldly objects in the external world which leads to a life of bondage, misery, worries, insecurity, despair, frustration, disillusionment and doubt.

In the process, a lot of stress is introduced in to the body. Man is caught in never ending mad rush to meet all kinds of under strained needs which wear out, tear out and destroy his vital organs much sooner than expected due to his abnormal living habits, exciting and straining life. Due to the overstraining of this human machine, either the body or the mind breaks down. And it is usually seen that mind is affected at first due to restlessness and lot of conflict going inside.

He is faced with tremendous rise of inner and outer forces making him perplexed, anxious, agitated, angry and worried due to non-fulfillment of his desires and expectations.

Thus, the man of toady needs to be re-educated to find the basis of a healthy and satisfying life, a creative and meaningful life, which is tension free, gives him real freedom, happiness and peace.

In the current mechanistic world, the matter based approach of science and technology and the associated life style have to undergo basic changes towards a more holistic worldview and healthier and harmonious living, and that is what yoga offers.

If one looks into the ancient past of mankind one can easily find out some of the methods described by the earlier philosophers, sages and spiritual leaders for maintaining tranquility of the mind. Amongst them Yoga seems to be the earliest and the most effective method for providing peace and tranquility of the mind. However, there are several methods that have developed in various parts of the world and all these have probably derived their inspirations from Yoga only in the earlier periods.

Yoga, far from being mere physical or breathing acrobatics or demonstration of magic or supernatural power, is a science of the future, with a holistic vision relevant to a progressive society.

YOGA

1.1 HISTORICAL BACKGROUND

It is believed that Yoga originated as an oral tradition that dates back over 5,000 years in India. Some believe that it originated around 500 B.C., which was the time of Gautama Buddha, the founder of Buddhism.

In 1920 archeologists discovered an ancient “Indus” civilization, which flourished between round about 3000-1900 B.C. The archeological artifacts of the Indus valley provide a base of the early Sanskrit literature. It gave rise to the great religious and cultural tradition of Hinduism.

Vedic Yoga:

Vedic Yoga teachings came from ancient Indian Culture heritage. The Sanskrit word “Veda” means “knowledge.” There are Four Vedic treaties. There are Rig-Veda (Knowledge of Manta), Yajur-Veda (Knowledge of Sacrifice), Sama-Veda (Knowledge of Chants), and Atharva-Veda (Knowledge of Atharvan).

Vedic Yoga was connected with the ritual life of the ancient Indians. It revolved around the idea of sacrifice as a means of joining the material world with the invisible world of the spirit.

Pre-classical Yoga:

Pre-classical Yoga covers the period of approximately 2,000 years until the second century A.D. The earliest practices were still based in sacrifices. Later, the rituals were left behind.

One of the most influential scriptures of 700 verses is the “Bhagavad-Gita” (“Lord’s Song”), which was composed about 500 B.C. The various pre -classical schools developed techniques for achieving deep meditation through which yogis can transcend the body and mind and discover their true nature.

Classical Yoga:

Classical Yoga is associated with the eightfold path also known as Raja Yoga, which was taught by Patanjali in his “Yoga-Sutra.” The text contains about 200 statements, which are often cryptic statements. Patanjali is often wrongly called the “father of Yoga.”

Post-classical Yoga:

Postclassical Yoga refers to many types and schools of Yoga that have arisen after Patanjali’s Yoga-Sutra. Postclassical Yoga proclaims the ultimate unity of everything. Previous generations of yogis paid no attention to the body. They were more interested in contemplation.

The new breed of Yoga masters created a system of practices to rejuvenate the body and prolong its life. This led to the creation of Hatha Yoga. The sage Svatmarama compiled the treatise on Yoga, “The Hathayoga Pradipika,” in the 15 century. He begins the treatise with the restraint of energy. Sighting the soul through the restraint of energy is called Hatha Yoga. Sighting the soul through the restraint of consciousness is called Raja Yoga. Svatmarama stress as the importance of the breath. The goal of Yoga is a state of equilibrium and peace.

Modern Yoga:

Modern Yoga is believed to begin with the Parliament of Religions held in Chicago in 1893. It was at that congress that Swami Vivekananda made an impression on the American public.

After Swami Vivekananda, the most popular Yoga teacher in the early years of Western Yoga was Paramahansa Yogananda, who came to Boston in 1920. Five years later, he established the Self-Realization Fellowship.

Swami Rama Tirtha was a former mathematics teacher who came to the United States in 1902 and founded a retreat center on Mount Shasta in California. After two years he drowned in the Ganges (Ganga) River in 1906 at the age of thirty-three.

Yogendra Mastamani arrived in Long Island in 1919. For three years he demonstrated the power and elegance of Hatha Yoga. Before returning to India, he founded the American branch of Kaivalyadhama for the scientific study of Yoga.

Ramacharka was popular for some time after the 1920's. The name was the pseudonym of two people: William Walker Atkinson, who had left his law practice in Chicago to practice Yoga, and his teacher Baba Bharata.

Paul Brunton was a journalist and editor, who became known in 1934 with his book "A Search in Secret India," which introduced the great sage Raman Maharishi to Westerners.

Jiddu Krishnamurti taught thousands of philosophically minded Westerners from the 1930's until his death in 1986.

Yoga came to America in the form of Hatha-Yoga by the Russian-born yogini Indra Devi, who has been called the "First Lady of Yoga." She opened her Yoga studio in Hollywood in 1947 where she taught movie stars and trained hundreds of teachers. She is now in her nineties and living in Buenos Aires. She is still an influential voice for Yoga.

Selvarajan Yesudian appeared in the 1950's with the book "Sport and Yoga," which has been translated into fourteen or so languages, with more than 500,000 copies sold.

In 1961, Richard Hit leman brought Hatha-Yoga to American television, and his book **"The Twenty-Eight-Day Yoga Plan,"** sold millions of copies. In the mid-1960s, the Western Yoga movement becomes popular through Maharishi Mahesh Yogi, mainly because of his brief association with the Beatles. He popularized Transcendental Meditation.

In 1965, Shrila Prabhupada came to New York and later founded the International Society for Krishna Consciousness (ISKCON).

In the 1960s and 1970s, many swamis trained by the Himalayan master Swami Sivananda, a former physician, opened their schools in Europe and America. Most of them are still active today including, Swami Vishnudevananda, Swami Satchidananda, Swami Sivananda Radha, Swami Satyananda, and

Swami Chidananda. The last-mentioned master's best-known American student is the gentle Lilias Folan, who was famous from her series Lilias, Yoga & You, during 1970 and 1979.

Other famous modern Yoga teachers include Sri Aurobindo, Ramana Maharshi, Papa Ramdas, Swami Nityananda, and his disciple Swami Muktananda, B. K. S. Iyengar, Sri Krishnamacharya, his son T. K. V. Desikachar and Brahmrishi Vishwatma Bawra Ji Maharaj.

1.2 CONCEPT OF YOGA

The term `Yoga` has been derived from Sanskrit root-` Ujir`, meaning yoke, to unite, to put together, to combine, to bind together in the union. Literally, it means the union of an individual soul with the universal spirit, which actually is the ultimate aim of the discipline of yoga.

'Yoga', tersely, being the yoga of the mind implies that the harnessing or disciplining of the mind is fundamental to all systems. This is clearly borne out by numerous authoritative statements quoted by Dr. Kumar Pal (1966) in his book, 'Yoga and Psychoanalysis':

"Yoga is the restraint of mental fluctuations and modifications".

- Patanjali

"Balance of mind is called Yoga".

- Gita

"Yoga is the best adaptive activity". - Gita

However observations made by Dasgupta (1974) show 'Yoga' as a system of thought or discipline, apart from the general metaphysical position, which it holds in common with 'Sankhya'.

In 'Prasno Upanishad ' it is said that the vital principal (Prana) derives its existence from the self and that it is from it that the other function of upward, downward and balancing activities of the body derive their power.

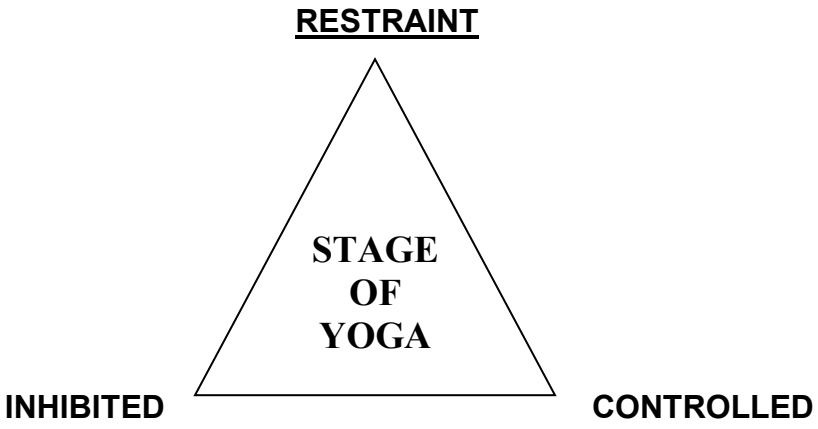
According to Anantharaman, (1975) it is unique science in that it encompasses matter, life and consciousness in one sweep and bridges the gap between the science (as it is understood today) and spirituality.

Swami Niranjanananda Saraswati, quoted by Gherand Yoga (1997) is super power or strength and strength is one of the components of healthy life and can be obtained though yoga.

States Mishra, S.P. (1997), according to Yoga Bija the union of Prana and Apana or that of one's own Rajas and Retas or that of the Sun and the Moon or that of the Jeevatama and Paramatma is called Yoga.

As understood from the above quotations, Yoga is a system of mental & spiritual development. Thus, for the practitioner, there is great scope of mental transformation.

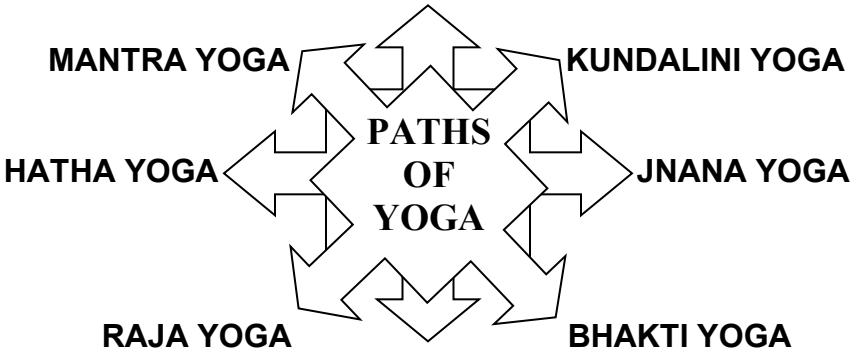
The basic approach to the practice of Yoga involves certain techniques and specific ethical values. The great Yoga classics of Patanjali, Shrimadhbhaghwat-Gita & Upanishads and others are united in this approach.



1.3 TYPES OF YOGA:

Yoga is classified in different ways in different contexts, by different texts i.e. Hath Yoga, Patanjali Yoga, Kundilini Yoga, Karma Yoga, Dhyana Yoga, Janana Yoga, Bhakti Yoga, Raja Yoga, Pram Yoga, Mantra Yoga, Sahaj Yoga, and Laya Yoga.

In the present study, yogic practices given by Patanjali and from Hath yoga given by Swatmarama have been taken. Hence, only Raja Yoga and Hath yoga are described as under:



Patanjali`s Raja yoga:

The Raja yoga is the yoga of action i: e.doing actions, which purify the mind. This removes afflictions. The afflictions are attachment, aversion, nescience, egoism, and love of life; of which nescience is the root affliction from which the others proceed. Nescience is the cause of bondage between Purusha and the external world. The yogi gradually works towards emancipation by removal of false knowledge. Patanjali has given eight accessories of yoga: 'Yama' (restraint-, 'niyama' (observance), 'asana' (posture), 'pranayama' (regulation of breath), 'pratyahara' (abstraction), 'dharana' (concentration), 'dhayana' (meditation) and 'samadhi' (trance) known as 'ashtanga Yoga'. Of these the first five are external observance, and the last three mental disciplines.

Yamas (Absentation): It brings about mental stability through social discipline. These are five main vows namely- Ahimsa, Satya, Asatya, Brahmacharya and Aparigrah.

Niyamas (Observance): Niyama is the rules of conduct towards ones self, which consist of mental and physical disciplines. These are also five- Succh (Purity of mind and body), Santosh (Contentment), Tapas (Austerity), Suadhyaya (Self study) and Ishwara Pranidhana (Truth of God).

Asana (Posture): Asanas have been evolved over the centuries so as to exercise every muscle, nerve and gland in the body.

Pranayama (regulates the breathing): Pranayama phase includes breathing exercise, which regulates the breathing pattern, in a rhythmic way. Pranayama helps in gaining control over the mind.

Pratyahara (abstraction): Pratyahara is withdrawal or withholding of all the senses.

Dharna (concentration): In dharna phase the mind is confined to a limited sphere. It is holding the mind's attention, fixed on a particular object for a long duration; it facilitates concentration, controls fluctuation of the mind and leads to development of inner strength and a strong will power and deep understanding of self.

Dhyana (meditation): Dhyana is a continuous flow of same knowledge or particular thought uninterrupted towards a chosen object, over a considerable length of time. It is a state of wonderful spontaneous control over all sorts of fluctuations of mind and body.

Smadhi (Trans-consciousness): Samadhi (super consciousness) is the final phase, which facilitates complete integration and harmony of the individual soul with the supreme soul.

Hath yoga:

Out of many authorities on Hatha Yoga, one outstanding personality is Swatmarama (1958) who compiled the Hatha Yoga Pradipika. It can also be translated as 'Light on Hath Yoga'. However, the term Pradipika actually means 'self-illuminating' or 'that which illumines'. It is a text, which illumines a multitude of physical, mental and spiritual problems for the aspirants. Gorakhnath, the chief disciple of Matsyendranath, had earlier written books, poems and prose on the Hath Yoga system in the local dialect, but Swatmarama compiled the entire wisdom of hath yoga in Sanskrit. In common with the other texts, he has expounded the techniques such as asana, pranayama and Shatkriya.

Swatmarama goes on to explain that hath yoga is to be utilized as a means of preparing oneself for raja yoga, the supreme state of yoga. The word Hatha is made up of two Sanskrit roots, `ha` and `tha`. Ha means 'moon' and tha means 'sun'. This is symbolic of the two energy forces, which exist in everything. It represents the forces of mind, and prana or vitality, which constitute the body and mind. The moon is the mental energy of chitta. It is the subtle force,

which is concerned with the mental layers. The pranic force is like the sun; dynamic and active. The two create the extremities of introversion and extroversion. It is the practice of Hatha yoga, which enables the fluctuations between these two energies to become harmonious and unified into one force.

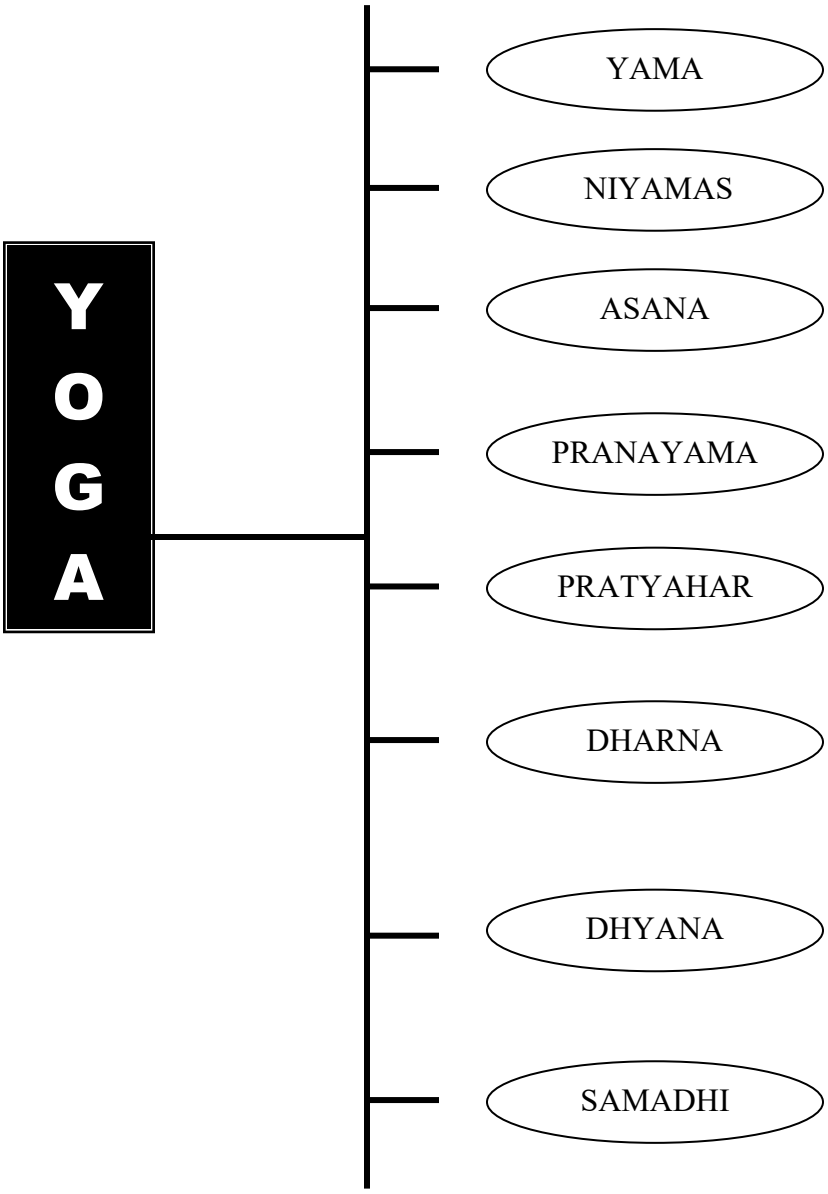
Hatha yoga is the process of establishing perfect physical, mental, emotional and psychic equilibrium by manipulating the energies of the body. It is through Hatha yoga that one prepares for the higher spiritual experience (Iyengar, 1993).

Traditionally, Hatha yoga consisted only of six kriyas known as Shatkriyas. These were the practices of dhauti, basti, neti, trataka, kapalbhati and nauli. Later, Hatha yoga also included asana, pranayama, mudra and bandha, and the shatkriyas were practiced afterwards by advanced practitioners. Through these practices the consciousness can be raised without having to come into a direct confrontation with the mind. Hatha yoga regulates the body secretions, hormones, breath, brain waves and prana; then the mind automatically becomes harmonious. Hath yoga is the means and raja yoga is the goal. Hatha yoga is the stairway leading to raja yoga. Once the sadhaka reaches the stage of raja yoga, hatha yoga ceases to be necessary for him. In the present study, Shatkriyas and Pranayamas have been taken from Hatha Yoga as techniques to reduce academic stress. Hence there are described in detail as under:

1.4 TERMS DEFINED OF YOGA:

The main term Yoga has been derived from Sanskrit root-'UJIR' meaning yoke, to unite, to put together, to combine, to bind together or the union. Literally it means the union of an individual soul with the universal spirit, which actually is the ultimate aim of the discipline of yoga. Besides, yoga is the way of life. Yoga is a state of complete control of fluctuations of mind-the intellect and the ego Patanjali the father of yoga has defined yoga as "**Yogesh-chitt-vratti-nirodha" (Yoga Suter 1-2)**

He advocated eight-fold path for the ordinary man in his next known as "Yog Sutras". The eight steps (Ashtang Yoga) are:



1.5 IMPORTANCE OF YOGA

Yoga is a complete science of life that originated in ancient India many thousands of years ago. It is the oldest system of personal development in the world, encompassing body, mind and spirit. According to Rele (1968) the ultimate aim of Yoga is to prepare the body to achieve that tranquility of mind, which may be necessary for the realization of the supreme. Taking into account the interrelationship between body and mind, the ancient sages formulated a unique

method of maintaining a balance between the two – a method that combines purification & all the movements we need for physical health with the Shatkarma, physical postures, breathing and meditation techniques that ensure peace of mind.

According to Hath yoga, body of a yoga practitioner must be cleansed both internally and externally to run smoothly. Yogic Shatkriyas cleanse and tone up the all parts of the body. By the regular practice of these Shatkriyas the mind is made sharp and body's resistance to diseases is increased. The Yoga postures or Asanas exercise every part of the body, stretching and toning the muscles and joints, the spine and the entire skeletal system. They work not only on the body's frame but on the internal organs, glands and nerves as well, keeping all systems in radiant health. By releasing physical and mental tension, Pranayama and Meditation also liberate vast resources of energy. The Yogic breathing exercises known as Pranayama revitalize the body and help to control the mind, leaving us feeling calm and refreshed, while the practice of Meditation gives increased clarity, mental power and concentration.

Thus the practice of Yoga significantly reduces the catabolic process of cell deterioration and aging process.

Yoga seems to be the earliest and most effective method for providing peace and tranquility of the mind to the students also. Today's students are so busy, their syllabus is so vast and theoretical they can't get time for their overall development (physical & mental). They are occupied with their own problems & tensions. Here Yoga comes as an important tool in combating academic stress including frustration, conflict, pressure and anxiety.

1.6 BENEFITS OF YOGA

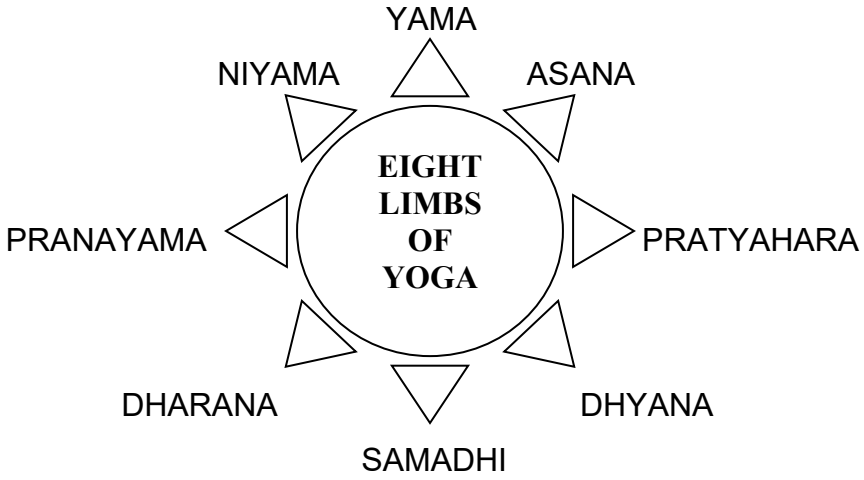
Yoga has following Physical, Mental and Intellectual benefits:

1. Yoga exercise is done very slowly without any jerk to the body parts. As a result of our body parts are exercised within in maximum time & efforts without causing stress strain, fatigue.

2. Regular Practices of Yoga will results in harmoniums development of all body parts & establish a functional balance among various organ.
3. It improves the cardiovascular fitness of heart.
4. Metabolic activities of body are improved.
5. It improved general health and efficiency of body.
6. Yoga help and control obesity by removing excess fat.
7. Blood pressure is normalized.
8. Body posture is improved.
9. Complexion and eyes become brighter, voice, sweeter and deeper.
10. It causes sound sleep.
11. Bowl becomes regular.
12. Ability to stand heart and cold is increased.

1.7 PRACTICAL ASPECTS

The Yogi is basically a practitioner, not a philosopher or psychologist, A yogi is comparable to a scientist, who works in laboratory most of time similarly a yogi never accepts facts through theorizing or guessing but takes his own experience as the sole criterion yoga has been equated, as same form of psycho therapy by many western thinkers. Although Yoga psychotherapy may achieve similar results its certain condition but unlike psychotherapy the aim, value purpose of yoga are not limited.



SHATKRIYAS:

Shatkriyas is formed by the union of two words i.e., Shat+Kriya, Shat means 'Six' and Kriyas means procedure'. These are six Kriyas, which are performed to remove various unwanted waste products from the body. Shatkriyas are the best and most effective way to keep our body sound, healthy, beautiful and clean.

Human body is made up of "Trigunas" namely Vata, Pitta and Kapha. If these are balanced in one's body, one can be free of diseases, but unfortunately, if this balance is disturbed then one gets prone to many diseases.

According to Ayurveda, there were three entities in the beginning of the universe. These were Air, Water, and Fire. The imbalance of the above three entities causes the diseases in biological world. Air called Vata in bio-life, has power to stimulate. Pitta and Kapha cannot move without Vata. Vata maintains the balance and sensitiveness in the body.

Pitta is responsible for all chemical changes and metabolism in the body; its deformities cause diseases of metabolism. Kapha provides gravity, security and shape to the body. Every guna (vata, pitta and kapha) has its own quality. Vat is light, cool, dry and stimulating. Kapha is wet, cool, heavy, sticky and stable. Pitta is light, hot and fluid.

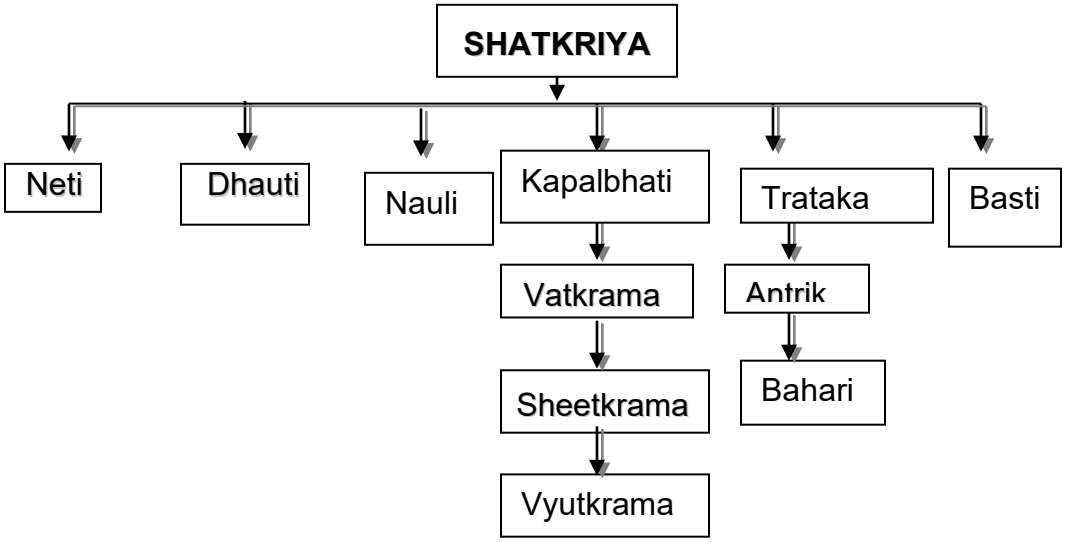
These gunas have their specific effect on body and mind. Vata is responsible for various movements, etc. All the processes of the body work in co-ordination with each other under the guidance of vatta. Vat is most important dosha. It also controls the functions of other two doshas in the body. It is responsible for the stimulation but excessive stimulation can have bad effect on the body and mind. So, one should maintain a balanced life style. Every dosha is stimulated at a specific place inside the body. Vat resides in colon (gastro – intestinal track, thigh, waste, ear, bones and skin and specifically in the colon). Pitta lives in small intestine, adipose tissues, blood, eyes, glands, but in specifically, in the small intestine. Kapha lives in chest, neck, head, pancreas, stomach, limbs, nose and tongue. When these gunas get concentrated at above places in excessive amount, then they become dosha and the body gets

diseased and the proper treatment of these doshas at these places eradicates the disease completely.

Shatkriyas help to make a balance between these three doshas (vata, pitta and kapha). In our daily life, due to some bad eating and living habits, we are heading towards many diseases. The accumulation of waste products results in occurrence of disease. Accumulated wastes are removed from the body by practicing the yogic Shatkriyas. Though this process of cleaning, the internal organism, which was functioning sluggishly, works properly and efficiently.

Types of Shatkriyas:

Shatkriyas have six main parts *Neti, Dhauti, Nauli, Basti, Kapalbhati, and Trataka.*



Neti: 'Neti' means 'Kriyas' or 'purification'. When Neti is done with water then it is called Jal Neti. Jal Neti means to purify the nose and to clean our upper respiratory tract with water. It purifies the nose with water, suter, rubber, ghee, oil, honey, and milk.

Dhauti: Dhauti means the cleaning of the stomach and esophagus. It gives relief from the various problems caused by the mucous of the stomach, food pipe etc. Dhauti is of many types as under: Anta, Hridya, Danta**,** and Mulashoudhana.

Nauli: The word Nauli comes from the root nala or nali, which means a ` reed ` or `hollow stalk` and refers to a tubular vessel, vein or nerve of the body. The word nala is the Sanskrit term for the rectus abdominal muscles. Nauli is also known as lauliki karma. The word lauliki is derived from the root Lola, which means 'to move hither and thither', which is exactly, what this technique does. It rolls, rotates and agitates the entire abdomen and the associated muscles and nerves. Nauli is of many types as under: Madhya, Vama, Dakshina.

Basti (Yogic enema): The word basti, also widely written as vasti or wasti, as a general term pertaining to lower abdomen, belly, pelvis and bladder. The technique is also known as basti karma, karma meaning 'process' or 'technique'.

Kapalbhati: The word *Kapal* means 'cranium, 'forehead' or 'frontal lobe of the brain'. Bhati means 'light' or 'splendour' and also 'perception' or 'knowledge'. Hence Kapalbhati means to shine the skull.

Kapalbhati is of three types:

1- Vatkrama Kapalbhati (Frontal brain cleansing breath)

2- Vyutkrama Kapalbhati (sinus cleansing).

3- Sheetkrama Kapalbhati (mucus cleansing**)**

Vatkrama Kapalbhati: It is the Frontal brain cleansing breath.

Benefits:

Kapalbhati purifies Ida and pingala nadi, and also removes sensory distractions from the mind. It is used to energize the mind for mental work, to remove sleepiness and to prepare the mind for meditation.

It has a similar cleansing effect on the lungs to Bhastrika and is, therefore, a good practice for asthmatics and those suffering from emphysema, bronchitis and tuberculosis.

After a few months of proper preparation, it can be effective for women to use during childbirth. It balances and strengthens the nervous system and tones the digestive organs. For spiritual aspirant, this practice arrests thoughts and visions.

Note: Kapalbhati is also one of the six Shatkarma. The Sanskrit word Kapal means, ‘cranium’ or ‘forehead’ and bhati means ‘light’ or ‘splendour’ and also ‘perception’ or ‘knowledge’. Hence Kapalbhati is the practice, which brings a state of light or clarity to the frontal region of the brain. Another name for this practice is kapalshoudhana, the word ‘ shodhana’ meaning ‘to purify’.

Trataka:

Trataka means to gaze steadily. There are two forms of the practice, one is bahiranga or external trataka and the other is antaranga or internal trataka. Bahiranga is simpler to practise because you just have to gaze at an object or symbol. However, Antaranga trataka involves clear and stable inner visualization of an object. Swatmaram has not indicated whether he is referring to the external or internal practice, therefore we will discuss both. Swatmarama suggests gazing at a small point or sukshma lakshyam. Sukshma can mean ‘small’ or ‘subtle’. In the practice of trataka an object is gazed at until it’s subtle from manifests in front of the closed eyes. The point of concentration is usually a symbol or object, which activates the inner potential, and can absorb the mind. The object most commonly used is a Deya flame, because even after closing the eyes, the impression of the flame remains for sometime and antaranga trataka can easily be practised. The purpose of focusing the eyes on an external object is to arouse the internal vision and to make that vision steady by stopping the eye movements. At a certain stage of concentration you will see a point of light in front of the closed eyes. This has to be developed and made steady because initially it tends to waver or even disappear. Trataka is a process of concentrating the mind and curbing its oscillating tendencies. The purpose is to make the mind completely one pointed and to arouse inner vision. One – pointed concentration of mind is called ‘ekagrata’.

Types of Trataka:

Bhari (external) Trataka - Crystal ball, Shiva lingam, mantra, Mandela, full moon, a star, the rising or setting sun, chakra, the symbol of your own shadow, 25 paisa coin, dot, rose, tree, a mountain.

Antrik (Internal):

The word trataka means ‘to look’ or ‘ to gaze’. It acts as a stepping-stone between physically oriented practices and mental practices, which lead to higher state of awareness. It forms a bridge between hath yoga and Raja yoga. Traditionally, it is a part of hatha yoga but it may also be considered a part of Raja yoga.

Benefits:

This practice makes the eyes clear and bright. It balances the nervous system, relieving nervous tension, anxiety, depression and insomnia. It improves the memory and helps to develop good concentration and strong will-power. It activates ajna chakra and is an excellent preparation for meditation.

Trataka benefits not only the eyes, but also a whole range of physiological and mental functions. It is therapeutic in depression, insomnia, allergy, anxiety, postural problems, poor concentration and memory. It’s most important effect is on ajna chakra and the brain.

The Gherand Samhita mentions that it promotes clairvoyance or perception of subtle manifestations. Further results of one – pointed ness of mind are strong will-power, improved memory and concentrative ability. Physiologically Trataka relieves eye ailments such as eyestrain and headache, myopia, astigmatism and even early stages of cataract. The eyes become clear and bright, able to see the reality beyond appearances.

Variations:

Trataka may be practiced on any object of personal choice. However, it is not advisable to do Trataka on the moon, a crystal ball, a mirror or darkness, as the experience may be too powerful to handle. Avoid practicing Trataka on the sun as the delicate membranes of the eyes may be damaged.

Once the object has been chosen it should not be changed, otherwise the mind will have to start from the beginning again to assimilate the new object. So, choose carefully and then stick to the choice.

Concept of Pranayama:

The Sanskrit word Prana means ‘vital force’ or ‘cosmic energy’. It also signifies ‘life’ or ‘breath’; ‘Ayama’ means the control of the Prana. Hence, Pranayama means the control of the vital force by concentration and regulated breathing. The vital force or primordial life force (Prana) manifests itself in the body as a respiratory function. It is the force motivating several other voluntary functions, like the blinking of the eyes and even yawning. The Prana not only ensures the proper functioning of the body (Including the glandular system), but is also the regulator and animator of the psyche. It is, in every sense of the word, the breath of the Spirit. Pranayama, therefore, provides a remedy for several of the physical and psychic disturbances of which modern man is the victim.

Everything called energy or force evolves out of Prana. Without Prana, there can be no life, for it is the soul of all force and energy. It is found in the air, water and food. Prana is the vital force inside each living being, and thought is the highest and most refined action of Prana.

Yoga Shastra states that Prana in the air breath fulfils several functions in the human body. Each of these has a special name:

Prana - (Here the general term takes on a specific meaning) circulates in the area around the heart and controls breathing.

Apana- Circulates in the lower regions of the abdomen and controls execratory functions (urine and faeces).

Samana- Stimulates the gastric juices, thus facilitating digestion.

Udana- Remains in the thoracic cage, controls the absorption of air and food.

Vyana- Spreads throughout the body and distributes the energy from food and breath.

“Chale vaatai chalam chitam nischale nischalam bhawait,
Yogi sathanu-tawam-apnauti tatu vayun nirodheyet.”

(Hath Yoga Pradipika)

This means that when prana moves; chitta (the mental force) moves. When prana is without movement, chitta is without movement. By this

(Steadiness of prana) the yogi attains steadiness and should thus restrain the vayu (air).

Tasmin sati svasa prasvasayho gativichhedaya pranayamah'.

This means that pranayama is the regulation of the incoming and outgoing flow of breath with retention.

According to Velan (1936), "It is science of breathing, the life force".

Joshi (1964)' defines pranayama "as the yogic breathing process by which the Prana is made silent'.

According to Kuvalayananda (1968) the word Pranayama has a deeper meaning. 'Prana' means the vital force and 'Ayama' means controlling it. So Pranayama means the science, which deals with the origin of the mysterious and invisible power, its nature and its control. The mechanism of pranayama can be explained in terms of manipulation, regulations and control of breath, vital energy or the psychic forces by introducing variations in Puraka (inhalation), Kumbhaka (retention), Rechaka (exhalation) and process.

Types Of Kumbhaka (Retention):

Sheet Kari Pranayama: Through perfection of this practice, the adept becomes like the god Kamadeva. Kama means 'desire' and deva means 'master', therefore, through this practice desire is mastered and a state of balanced purification is achieved.

Sheetali Pranayama: The Sanskrit word Sheetali is derived from the root sheet, which means 'cold'. Sheetali means 'that which is calm, passionless and soothing'.

Ujjayi Pranayama: The Sanskrit word Ujjayi means 'victorious'. It is derived from the root 'Ud', which means 'to conquer' or 'to acquire by conquest', and the prefix 'ud', means 'bondage'. Ujjayi is therefore the pranayama, which gives freedom from bondage. It is also known as the psychic breath, as it leads to subtle states of mind

Bhastrika Pranayama: The Sanskrit word Bhastrika means 'bellows'. Thus, Bhastrika pranayama is also known as the bellows breathe, as air is drawn

forcefully in and out of the lungs like the bellows of a village blacksmith. The bellows increases the flow of air into the fire, producing more heat. Similarly, Bhastrika pranayama increases the flow of air into the body to produce inner heat at both the physical and subtle levels, stoking the inner fire of mind/body.

Moorchha Pranayama: Swooping or fainting breathes**.**

Plavini Pranayama: Plavana means `to float`.

Surya Bhedhana Pranayama: The Sanskrit word Surya means 'sun', which refers to pingala nadi, while bhedhana means 'to peirce' 'pass through' or 'awaken'. Surya bhedhana, then, means to pierce or purify pingala nadi.

Anulom- Vilom\ Nadi Shoudhan Pranayama: The word '*Nadi'* means 'channel' or 'flow' of energy and shodhana means 'purification'. Nadi shodhana, there fore, means that practice which purifies the nadis. Nadi is a tubular organ of the body like an artery or a vein for the passage of prana or energy. A nadi has three layers like an insulated electric wire.

The innermost layer is called sira, the middle layer damani and the entire organ well as the outer layer is called nadi. *Soudhana* mean purifying or cleansing, so the object of Nadi Sodhana Pranayama is the purification of the nerves. A little obstruction in a water pipe can cut off the supply completely. A little obstruction in the nerves can cause great discomfort and paralyze a limb or organ.

Benefits:

Nadi shodhana ensures that the whole body is nourished by an extra supply of oxygen. Carbon dioxide is efficiently expelled and the blood is purified of toxins. The brain centers are stimulated to work nearer to their optimum capacity. It also induces tranquility, clarity of thought and concentration, and is recommended for these engaged in mental work. It increases vitality and lowers levels of stress and anxiety by harmonizing the pranas. It clears pranic blockages and balances Ida and pingala. Nadis, causing sushumna nadi to flow, which leads to deep states of meditation and spiritual awakening. The pranayama practices can prove beneficial in the following ways:

To develop the respiratory organs and to improve vital capacity (lungs capacity).

To aid the circulation of the blood. To produce inner, organic and natural harmony.

To provide efficient control over the respiratory movement. Longer and deeper breathing produces sedative effect on nerves. Useful for emotional control. Helps in steadiness of the mind and in concentration. More bio energy is absorbed and stored in the body. Preparation for meditation takes place when breathing becomes subtle.

Bhramri Pranayama: Humming Bee Breath.

Benefit:

Bhramri relieves stress and cerebral tension, alleviating anger, anxiety and insomnia, and reducing blood pressure. It speeds up the healing of body tissue and may be practiced after operations. It strengthens and improves the voice and eliminates throat ailments. Through practice of this pranayama, all diseases of the throat are radically cured. The larynx becomes strong, the voice sweet.

Concept of Meditation:

Man always likes to mould his psychosomatic apparatus in such a way that he can boldly face the stresses and strains of modern life without much difficulty. In fact, the problem of man, today, is to learn how to increase his stress threshold or stress Competence.

Meditation is an age-old technique of yoga, which is supposed to bring about deep relaxation of the body and mind. This helps a great deal to relieve tensions and establish harmony in one's life. Meditation is a means to overcome stress and the disorders caused by it.

Meditation follows concentration, concentration merges into meditation. Concentration is holding the mind on to some particular object. An unbroken flow of knowledge in that subject is meditation. Meditation is regular flow of thought with regard to the object of concentration. Meditation opens the door of the mind to intuitive knowledge and many powers. During meditation all worldly thoughts are shut out from the mind.

Types of Meditation:

Saguna:

In Saguna meditation you focus on a concrete object on which the mind can easily dwell-on: an image or visual symbol, perhaps, or a mantra, which brings you to unity. Saguna meditation is dualistic-the mediator considers himself separate from the object of Meditation. Transcendental Meditation is also a kind of Saguna type meditation.

Nirguna:

In Nirguna meditation, the point of focus is an abstract idea. Such as the Absolute, a concept that is indescribable in words. In Nirguna meditation the mediator perceives him as one with the object.

Saguna & Nirguna Meditation:

Imagine yourself sitting in the center of a sphere, which represents the absolute. In Saguna meditation (top) you focus on and become one with a symbol on the sphere's surface, such as 'OM' or the Cross. In Nirguna meditation (above) you don't identify with any symbols and expand to merge with the sphere itself.

Benefits of Transcendental Meditation:

Rama (1998) states," Meditation is therapeutic from the beginning. It helps relax muscular tension and the autonomic nervous system, and provides freedom from mental stress. A person in meditation attains a tranquil mind, and this helps the immune system by limiting its reaction to stress and strain.

Following are the benefits of Transcendental Meditation:

(1) Through Transcendental Meditation the mind becomes expanded; awareness increases. Transcendental Meditation directly improves the ability to learn.

(2) Transcendental Meditation increases the clarity and efficiency of conscious thought processes and at the same time improves the unconscious processes leading to spontaneous and purposeful organization of thought. More spontaneous computing of orderly, purposeful, intelligent thought indicates enfoldment of full mental potential.

(3) Transcendental Meditation naturally brings about improvement in a holistic measure of mental effectiveness, the ability to succeed in academic studies, job performance improves.

(4) Transcendental Meditation program brings about improved relationships at all levels of organization, indicating more harmonious interaction among different individuals working together within an organization.

(5) There is increased vital capacity. Increases respiratory efficiency, improved resistance to disease, faster recovery from sleep deprivation, relief from insomnia beneficial effects on bronchial asthma, and normalization of weight through Transcendental Meditation.

(6) Further Transcendental Meditation increases emotional stability, decreases anxiety, reduces depression and neuroticism, makes intellect stronger, increases inner control, increases self–confidence. Stabilizes organized memory and attention.

(7) Meditation greatly reduces stress levels by reducing heart rate and consumption of oxygen. Meditation helps to prolong the body's period of growth and cell production and reduces the decaying process. After the age of 35, our brain cells die off at the rate of 100,000 per day, and they are not replaced but meditation can reduce this decline, as it changes the vibratory make-up of both the body and the mind.

(8) In meditation new patterns of thinking come to the surface and develop as one experience a new view of the universe, a vision of unity, happiness harmony, and inner peace. Negative tendencies vanish, and the mind becomes steady. Meditation brings freedom from fear. People who meditate regularly tend to develop magnetic and dynamic personalities, cheerfulness, powerful speech, lustrous eyes, physical health, and boundless energy. Others draw strength from such people and feel elevated in their presence. Meditation is only possible when all mental modifications (thought waves) have been stilled, and with this comes mental peace. Hence**,** meditation is the most effective method to cope with the stress and strain of modern life. This is a technique for expanding conscious awareness and for reducing stress and tension. The technique takes the practitiioner beyond the familiar level of wakeful experience to a state of profound rest, coupled with heightened awarenss.

1.8 CONCEPT OF STRESS

Scientific and technological progress all over the globe has made man highly sensitive, critical and creative. Associated with this growth is the emergence of stress. The term stress has become a part of our every day vocabulary. The concept of stress may differ according to the individual's state of contexts and interpretations. It is recognized that certain amount of stress is desirable, tolerable, and productive and facilitates the individuals growing performance but the term stress has come into wide use in behaviour study only within the past two decades. But in this relatively short time it has all but preempted a field previously shared by a number of other concepts like anxiety, frustration, conflict, etc. The term originated in physical sciences and means "A force/pressure exerted upon a person, who resists the force/pressure in his effort to maintain his original state and, in the process, suffers some degree of discomfort".

Lazarus (1966) states that stress is an internal state of the individual who perceives threats to physical and /or psychic well-being.

Denniston & McWilliams (1975) state that stress is any chemical or physical abnormality in the body, in the nervous system. It is caused by overload. When some physical or emotional pressure of experience distorts the system, that overload is stress. When the stresses are too deeply rooted or too numerous to be relieved by a good night's sleep then they accumulate and a persons becomes increasingly ineffective in his/her activity.

Bower et al. (1987) define stress as any stimulus that places a strain on a person's physical or psychological capacity to adjust. They further state that stress is an internal response to some disruptive or disquieting situation.

Bhaggi and Sharma (1992) define stress as highly developed capacity to tolerate emotional strain.

Chrousos and Gold (1992) describe stress as state of disharmony of threatened homeostasis.

According to Furman (1995), "Stress is anything that imposes an extra demand on a child's ability to cope, often something that is new and different**."**

According to Khare (2003), “Stress originates from the French word ‘Retrecir’ meaning narrowness, a constriction or the limiting factor of power. The most harmful type of stress – negative stress – generally occurs when one’s view changes and pressure works as a burden that leads to perceive a rising demand as a threat. One feels a sense of frustration or helplessness and tends to consider oneself as a victim of circumstances.”

Patri (1974) has classified stress on the basis of Severity, Duration, Conscious and Level given as under:

On the basis of Severity.

Mild stress

Severe stress

On the basis of Duration.

Chronic stress

Transient stress

On the basis of Conscious.

Conscious stress

Unconscious stress

On the basis of Level.

Psychological stress

Biological stress

According to Selye, H (1974), stress is of four Types**:**

Eustress:

Eustress is a type of short-term stress that provides immediate strength. Eustress arises at points of increased physical activity, enthusiasm, and creativity. Eustress is a positive stress that arises when motivation and inspiration are needed. A gymnast experiences eustress before a competition.

Distress:

Distress is a negative stress brought about by constant readjustments or alterations in a routine. Distress creates feelings of discomfort and unfamiliarity. There are two types of distress. Acute stress is an intense stress that arrives and disappears quickly. Chronic stress is a prolonged stress that exists for weeks, months, or even years. Someone who is constantly relocating or changing jobs may experience distress.

Hyperstress:

Hyperstress occurs when an individual is pushed beyond what he or she can handle. Hyperstress results from being overloaded or overworked. When someone is hyperstressed, even little things can trigger a strong emotional response. A Wall Street trader is likely to experience hyperstress.

Hypostress:

Hypostress is the opposite of hyperstress. Hypostress occurs when an individual is bored or unchallenged. People who experience hypostress are often restless and uninspired. A factory worker who performs repetitive tasks might experience hypostress.

According to Cofer and Appley (1964), stress is of two types**:**

- Systematic Stress
- Psychological Stress

Bisht (1987) developed a scale on thirteen types of stresses in a “Battery” which are existential stress, achievement stress, academic stress, self-concept stress, self-actualization stress, physical stress, social stress, role stress, institutional stress, family stress, financial stress, vocational stress and superstition stress. These stress types are having all the four components of stress viz. frustration, conflict, pressure and anxiety in them. Frustration items are based on delays, lack of resources, losses and failures. Conflict items show three types of conflict:

Approach-avoidant, double-approach and double-avoidant conflict. Pressure items are based on competitive achievement, sustained concentration of efforts and rapid changes. The worry items of anxiety are on conscious concern about consequences, negative expectations and negative self-evaluation. The emotionality items of anxiety are an uneasiness and nervousness.

ACADEMIC STRESS

Peace and stress-free life for today's student appears to be a mirage. He is caught in a dynamic technological whirlpool and seems to be precariously poised on the brink of disaster (Bector, 1995). According to Lazarus (1961), stress is the internal response of the individual to pressure, when the pressure experienced is greater than normal abilities.

In the B. Ed. level, this pressure may be accountable for individual's success and failures. Hence, this kind of stress i.e. academic stress is an important factor accounting for venation in academic achievement.

There was a time when the children used to say good night to their parents and go to bed; now a days often enough, the parents may say good night to the children and go to bed leaving the young scholars to finish their endless homework or prepare for an examination sometimes before dawn (Barnes, 1966).

1.9 CAUSES OF STRESS

- Physical: accidents, burns, surgery, infections, long sitting, backache, headache, weak eyesight, indigestion, lack of concentration.
- Psychological: conflicts, wrong notions, and doubts.
- Emotional: fear, anxiety, hate, greed, anger.
- Physiological: increased glucose levels in blood, increased heart rate and blood pressure.

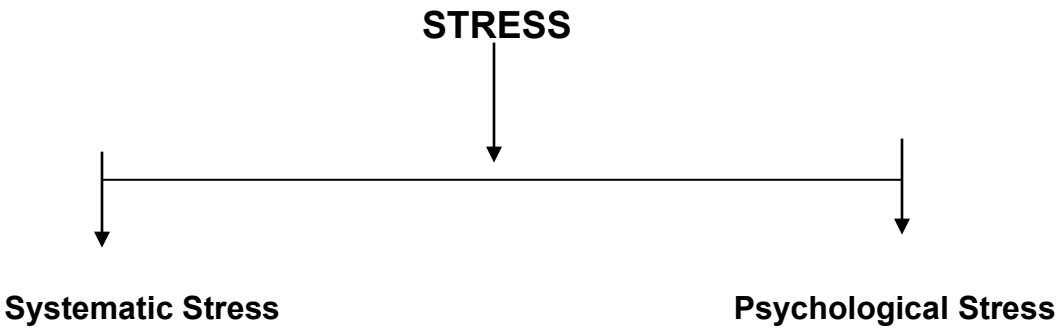
Symptoms of academic stress:

The Stress states may be expressed by apprehension, gloomy mood, foreboding, fear of dying, and feeling of insecurity and general excitement. Fatigue, insomnia, gastro-intestinal disturbances and depressions of spirits are found in many individuals. Many individuals exhibit cardio-disorders, emotional instability, inferiority feelings, panic and headaches. Indecision, intolerance, suicidal pre-occupation, panic states, subjective thought disturbances, strange fears, giddiness etc. are also noted in many cases. Many stress-ridden persons often complain of a general loss of interest and an inability to concentrate or think. Other symptoms of anxiety include heart palpitations, tremor of the hands, excessive perspiration and other physical symptoms like an increase in the frequency of muscle tremor in various parts of the body, increase in eye blink rate and a fast respiration

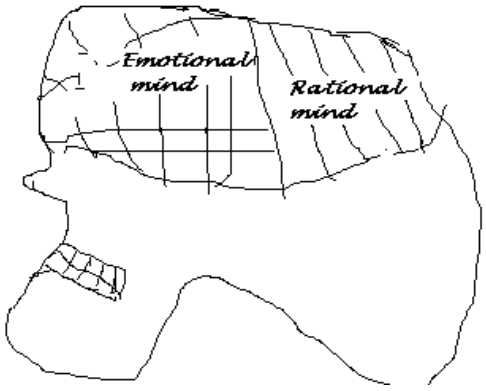
The factors like writing term papers test – anxiety, poor study skills, excessive academic load, professions and classroom environments were reposted to be the causes of academic stress which in turn form a major part of general stress in adolescent students (Edmunds, 1984; Kagan and Squires, 1984; Archer and Lomnin, 1985). The school-related problems, which were specified by the participants, were: teacher not liking them, fear of failing, not getting home work done and failing to meet parental expectations.

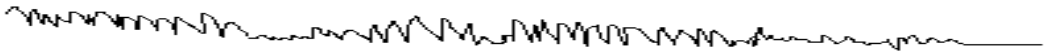
1.10 TYPE OF STRESS

According to cofer and Appley (1964), Stress is of two types:

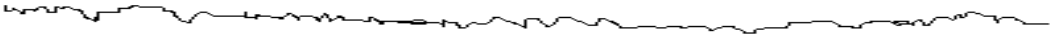


Status of Mind during Stress:





Relaxed state



Drowsy

Bisht (1987) developed a scale on thirteen types of stress in “Battery”, which are:-

1. Existential stress.
2. Achievement stress.
3. Academic stress.
4. Self-concept stress.
5. Self-actualization stress
6. Physical stress.
7. Social stress.
8. Role stress.
9. Institutional stress.
10. Family stress.
11. Financial stress
12. Vocational stress
13. Superstition stress.

Components of Stress			
Frustration	***Conflict***	***Pressure***	***Anxiety***
Based on delays, Lack of resources losses and failures.	Approach avoidant, double – approach double avoidant	Competitive achievement, Sustained Concentration of efforts and rapid changes.	Conscious concern about consequences, negative expectations and negative self-evaluation.

STRESS-REDUCTION TECHNIQUES:

Relaxation techniques are one of the most common approaches to stress reduction. These include meditation, progressive muscle relaxation, and visualization; seek therapy, music and Yoga breathing exercises. Yoga has been used as a relaxation technique in this work.

1.11 B. Ed. STUDENTS AND STRESS

Young Period is period of Stress and strain because of great change takes place in physical, intellectual, emotional and social aspect of personality but in India several studies focused on the problem of mental health among B. Ed. Students.

Most of students suffer from such problem that one easily treatable anxiety, hysteria, emotional & conduct problem. Student further revealed that 22-26 years age group is significantly the most vulnerable stage for developing mental disorder in begin an age of strain is likely to shatter the homeostasis of a growing individual (Basu 1962, Chacko 1969, Surya 1964, Sethi 1967, Dube 1970, Reo 1978, John 1980, Shariff 1982 and ICMR 1984.) .

1.12 REVIEW OF RELATED LITERATURE

Yoga as a tool of mental health is practiced from long. As lot of stress is emerging on human body and mind day by day, the significance of yogic techniques like Shatkriyas, Pranayama and the most important one i.e. Meditation on mental health is also increasing accordingly. Moreover, most of the physical disorders are found not only physical but also psychosomatic. So, for the treatment of such disorders also, again one has to seek the help of yogic practices, because unless the mind is controlled, the vital organs and functions related to them can't be at pace. The review of related literature has been given as under:-

EFFET OF YOGIC SHATKRIYAS ON STRESS:

Gore et al (1969), carried out an investigation on a yogi who practiced Surya Trataka for half an hour. He claimed that he was capable of maintaining his usual physical fitness even after a month of fasting. The results showed that hs B.P. reduced to 100/65 mm. Hg. After 25 minutes of Trataka, the HR increased within the first 15 minutes of Trataka up to 130/mm and then reduced and remained stabilized up to 117/mm. During the last 15 minutes of Trataka. The reduction in the entire variable of physical fitness except forward bending was significant after sixth day of fasting. He was mentally relaxed and emotionally more balanced after Trataka. It was concluded that the yogi has achieve special skill of sun gazing without disturbing the autonomic functions.

Kochar (1976) conducted a study to see the effectiveness of yogic practices on memory the sample consisted of 37 subjects (20 in the experimental group and 17 in the control group). Experimental group was selected from G.S College of Yoga and Cultural synthesis and control group from the Poona University, Poona. The age range of the subjects was 20 to 50 years. Results on the whole show that after eight months training of hatha yogic practices with asanas, pranayamas and kriyas, there was significant reduction in total neuroticism, anxiety and general hostility scores.

Vinod et al (1984) conducted a study on an adolescent group of 14 boys and 13 girls t find out the effect of yogic practices on anxiety, neuroticism and extraversion. The yogic practice schedule included 12 asanas, 3 pranayamas and 3 kriyas. The instrument used for data collection was Sinha's anxiety Scale and Moudeslay Personality inventory. The analysis of data on pre-test and post test scores exhibited a significant fall in mean values and anxiety as well as neuroticism. They concluded that yogic practices could produce a significant decrease in anxiety, neuroticism and general hostility. Their study further revealed that yogic practices have positive effect on physical relaxation and decrease in emotional disturbances.

EFFECT OF YOGIC PRANAYAMAS ON STRESS:

Pannu (1965) found in his research that Surya-Namasakar (one of the most comprehensive yogic exercise) rejuvenates the whole body. This study is connected more on the physical plane but if done associate with prana (breath) it helps to increase the level of concentration tremendously.

Kochar (1976) studies the 'influence of yogic practices on mental fatigue'. His sample comprised 38 young boys in the age group of 14-18 years. His treatment schedule consisted of 8 asanas and 2 pranayamas, and shavasana was prolonged for 3 to 5 minutes after the session. The yogic training continued for six months. He found that all the 38 subjects exhibited a significant positive effective of yogic practices in reducing mental fatigue.

Vicente (1987) carried out a study to explore the role of yoga therapy on anxiety, neurosis and depression patients. In his 8 years long study he found 73 patients availed of yoga therapy. They were given yoga practice for 2 to 4 hours per week for one year.

Results based on case studies exhibit very good improvement by 42 % good improvement by 52 % and 6% showed no change. Asanas were found to be significantly more effective in curbing anxiety.

Sharma (1994) explored the effect of selected yogic practices on menial health. She found that some selected breathing and concentrating exercises have highly positive effects on the maintenance of a sound mental health. For the maintenance of the social health of the society as a whole there is a need to study the mental phenomenon that results into crime or delinquency. A few efforts are done in this direction as well.

EFFECT OF YOGIC MEDITATION ON STRESS:

Wallace (1970) investigated physiological changes in Transcendental Meditation. He used a sample of 15 normal college students. He found decreased oxygen consumption, heart rate, skin conductance and specific changes in ECG during meditation.

Moy (1996) investigated if yoga and meditation as anxiety management programs were effective in reducing stress and / or trait anxiety as measures by the Speilberger State-Trait Anxiety Inventory. The study's purpose was to compare a physical technique, yoga, to a mental technique, meditation. The sample consisted of 71 male and female volunteers recruited from yoga, meditation and adult education courses. The results showed that (1) there was no significant (05) reduction in anxiety as compared to the control group in a two-tailed test after taking an 8 week yoga course and meditation.

Altman (2001) studies the effect of breathing exercise, mindful mediation and yoga stretching on the stress indicators of heart rate, blood pressure and respiration rate during a 4 week stress reduction program. The brief therapy model was tested both from quantitative and qualitative perspectives to determine its effectiveness in reducing stress. Significant reductions in the average heart rates, systolic blood pressures and respiration rates of the research participants were recorded. The findings suggest that the brief therapy model can be effective in reducing stress using breathing exercises, mindful, meditation and a major component of yoga stretching.

1.13 SUMMARY OF REVIEW OF RELATED LITERATURE

Many studies related to Yoga and its effect on stream were done by such (Kim,2005, Calvo Merino 2004, Barnes and Davis 2004, Boyle, Seyers 2004, Lee, Maneerso 2004, Rao 1983, Keenan 1998, Jarry and jary 1995, Scoti 1988, Tendal 1980, Dunham 1976). Some more studies related to menal health were compiled by (Khalsa 2004. Dagaur 1988, Kumar Kuldeep, 1988, Pad Massi 1992, Annakali 1993, Indrani 1993, Andresan 1994, Sharma Chenchal 1994, Sharma Sonia 2001, Suneta 2002, Pandey Vandana 2002, Beri Sakshi 2005).

But no study related to Yoga on stress was noticed by the investigator, who thus planned to Practice Yoga schedule to study the effect of Yoga Practices in Relation to Stress among B. Ed. Students.

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CHAPTER-2

THE PROBLEM

2.1 EMERGENCE OF THE PROBLEM

The aim of Education is all around development of child that is physical, emotional, intellectual social, spiritual, ethical, aesthetical, cultural but today main emphasis is lead on intellectual development and all other aspects are neglected. Education is becoming day by day materialistic and old values are being slowly wiped out. There will be perfect balance between physical as well as mental aspect through the practice of Yoga.

The present study has been based on well-accepted holistic philosophy of Yoga that accepts man as a whole-a complete entity infect. It is based on the fact that mind influences the body more than the body influences the mind. Hence, it is most essential to discipline the mind for an integral and harmonious all round development of a positive personality. Yogic practices can undoubtedly play a vital role in directing the mind towards creativity and constructive goals. These provide the individual with refreshing experiences, peace, happiness and developing positive thinking, self-confidence, analytical approach, smooth and calm mental state with emotional stability and strong will power. Adolescents pass through too many changes at too rapid a speed and experience multi directional challenges and consequently find themselves at a loss.

2.2 JUSTIFICATION OF THE PROBLEM

Clinical studies carried out by Grinker et al. (1963, 1966, 1967), Masteron et al. (1963, 1966, 1967) and Johnson (1966) have brought to lime light the alarming fact that in the normal adolescent population, the mentally ill and the doubtful cases outnumber the mentally healthy adolescents.

These studies conclude that many of them do not need hospitalization or even clinical assistance but most of them do need some kind of help, guidance

and skilful handling. They need timely guidance for diversion of their minds towards a channel to save themselves from disaster of entering the dark world of drug addiction and frustration.

Various studies have been conducted up till now on the topics concerned with the subject i.e. role of Shatkriyas, Pranayama, Asanas and meditation, etc. on mental health, anxiety, fatigue, etc. But, no attempt has been made towards a collective approach to mental stress and its various manifestations like Depression, Anxiety, Insomnia, Mental Conflict, Frustration, and also the collective use of these three techniques namely Shatkriyas, Pranayama and Meditation in rectifying these mental disorders.

Moreover no attempt has been made for their comparative study i.e. which of the three is most effective in eliminating mental stress and its various manifestations.

The previous work done on this topic is carried out only in the department of Physical education and Psychology, but not in Yoga education. That is why; an attempt has now been made for the same.

The research studies carried out so far test the effectiveness of different yogic exercises, Shatkriyas and Pranayamas on stress.

Yoga certainly can prove a big blessing and provide not only the above-mentioned experiences but also much more, such as mental, physical and spiritual health and complete well-being.

The present study has been focused on exploring the impact of simple yogic Shatkriyas, Pranayamas and meditation on stress.

The findings of the study would not only add to the body of knowledge but will provide a great help to psychologists, educationists, physical educationists and counselor’s in effective handling of the adolescents in their respective professions.

The findings would be of great significance to the public in general and bring about an awareness of relevance of yogic practices in modern world of stress and tensions, particularly among adolescents. The findings would also help all those who wish to attain and maintain health an easy and way.

Therefore, keeping in view the great value of this area, the investigator felt inspired, to pick up the thread from the related literature to study Stress, and further felt the need to experimentally explore various yogic techniques like Shatkriyas in groups, Pranayamas, Meditation and eclectic approach, which could prove to be effective and beneficial in reducing academic Stress.

Today as we have just entered the 21st century, a spiritual heritage is being reclaimed of which Yoga is very much a part while Yoga's central theme remains the highest of spiritual path.

Physical and mental therapies are one of Yoga's most important achievements. Request into the Effect of Yogic Practices on HIV is currently underway with promising result.

According to medieval scientist, Yoga therapy is successful because of balance created in the nervous and endocrine system which directly influences all other system and organ of the body.

Asanas remove the physical discomfort accumulated during a day to office sitting in a chair hunched over a desk. The number of Yoga practitioner grew almost 30 percent in just one year from 2006-2008.

The NCERT also has looked upon the programmed of physical education emphasis on physical exercise so that process of teaching and learning acquire a new meaning and purpose of inspiration and learning and new quest. But who will prepare this new curriculum? So this investigation includes Yoga exercise to study the "Effect of Yoga on Stress among B. Ed. Students."

2.2 STATEMENT OF THE PROBLEM

Effect of Yoga on Stress among B. Ed. Students

2.3 OBJECTIVES OF THE STUDY

This study is designed to attain the following objectives:

1. To find out the level of mental stress in male and female B. Ed. Students.

2. To find out the effectiveness of yogic Shatkriyas in reducing the level of stress among B. Ed. Students.
3. To find out the effectiveness of yogic Pranayamas in reducing the level of stress among B. Ed. Students.
4. To find out the effectiveness of Meditation in reducing the level of stress among B. Ed. Students.
5. To find out the comparative efficacy of yogic shatkriyas, pranayamas and meditation in reducing the level of stress among B.Ed. Students.

2.4 HYPOTHESES

The study is designed to test the following hypotheses:

1. There would be difference in the level of stress between male and female B. Ed. Students.

2. 'Yogic Shatkriyas' would be effective in reducing stress among B. Ed. Students.

3. The 'Pranayamas' would be effective in reducing stress among B. Ed. Students.

4. The 'Meditation' would be effective in reducing stress among B. Ed. Students..

5. There would be an increase in the intelligence and memory level of B. Ed. Students by following yoga practices.

2.5 DELIMITATIONS

1. The study will be delimited only to B. Ed. Students.

2. Three Yogic techniques namely Shatkriyas (Kapalbhati and Trataka), Pranayamas (Anulom-Vilom and Bhramari) and Meditation as well as collective approach will be taken up by the investigator.

3. Delimited to students of Jalandhar district only

2.6 OPERATIONAL DEFINITION

Some important terms are defined as:

YOGA: The word yoga means unity or oneness and is derived from Sanskrit word 'YUJ', which means 'TO JOIN'. Yoga is means of balancing and harmonizing the body, mind and emotions.

STRESS: It can be normal mood experience or a selected symptoms or a disease process. For a doctor Stress means illness that has particular presentation, course and need a specific treatment. It is mood fluctuation in natural human phenomena.

B. Ed. STUDENTS: B. Ed. Students those who fall in the age group of roughly from 21 years of age to 23-25 years. It is age of changes, during which the Love affairs reach their highest peak and highest number of development like physical, intellectual, sexual, emotional and social.

2.7 PLAN OF THE RESEARCH REPORT

The complete research report plan has been discussed in and spread over VII different chapters. All the chapters, despite being compartmentalized thematically are interlinked and related to the actual problem stated.

CHAPTER- 1: INTRODUCTION:

Introduction and rationale of the study, reflects the need of the investigative study for evaluating the impact of Yogic Shatkriyas, Pranayamas and Meditation on reducing stress of B. Ed. Students. I.e. Review of the Related Literature which provides a retrospective insight into the literature related to the Effect of Yogic Shatkriyas, Pranayama and Mediation on stress and other variables.

CHAPTER- 2: THE PROBLEM

Visualizes the Theoretical Background of the problem and duly explains the key terms and concepts like academic stress and Shatkriyas, Pranayamas and Meditation.

CHAPTER- 3: METHOD AND PROCEDURE

Method and Procedure, which includes sample, design, procedural steps adopted for identifying the stress, tools used and the operational definitions of the key terms used in the present investigative research.

CHAPTER- 4: EXPERIMENTATION

Collection of existing curriculum and analysis of existing curriculum. Development of the Yoga exercise and suggested Yoga Exercises.

CHAPTER- 5: ANALYSIS OF DATA AND DISCUSSION OF RESULTS

Statistically evaluates the effect of Yogic Practices (Shatkriyas, Pranayamas, Meditation and Eclectic approach) on reducing stress. All the hypotheses of the present investigative study would be tested and verified. The differential impact of the three Yogic practices has also been analyzed in this chapter.

CHAPTER- 6: EDUCATIONAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

SUMMARY

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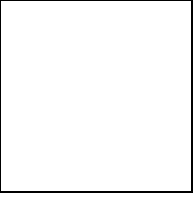


CHAPTER-3

METHOD AND PROCEDURE

3.1 DESIGN OF THE STUDY

A pre-test, post-test, control group, randomized subjects, experimental design has been employed to conduct the present study. Subjects were assigned randomly to the different experimental and control groups. Further treatments were randomly assigned to different experimental groups. Shatkriyas, Pranayamas, Meditation and collective practices were independent variables and stress was the dependent variable.

Training in Shatkriyas, Pranayamas, Meditation and combination of these three practices was given to the four experimental groups for three months whereas no training was given to the control group.

Data was collected both from Government and Private College with the help of Stress scale Prepared by Abha Rani Bist Battery of Stress Scale (1987), Raven's Standard Progressive Matrices (1988) and Short Term Memory by B.B. Asthana (1982).

3.2 SAMPLE FOR THE STUDY

A sample of 100 students was raised through randomization from 5 College of Jalandhar District only.

FIGURE 3.1

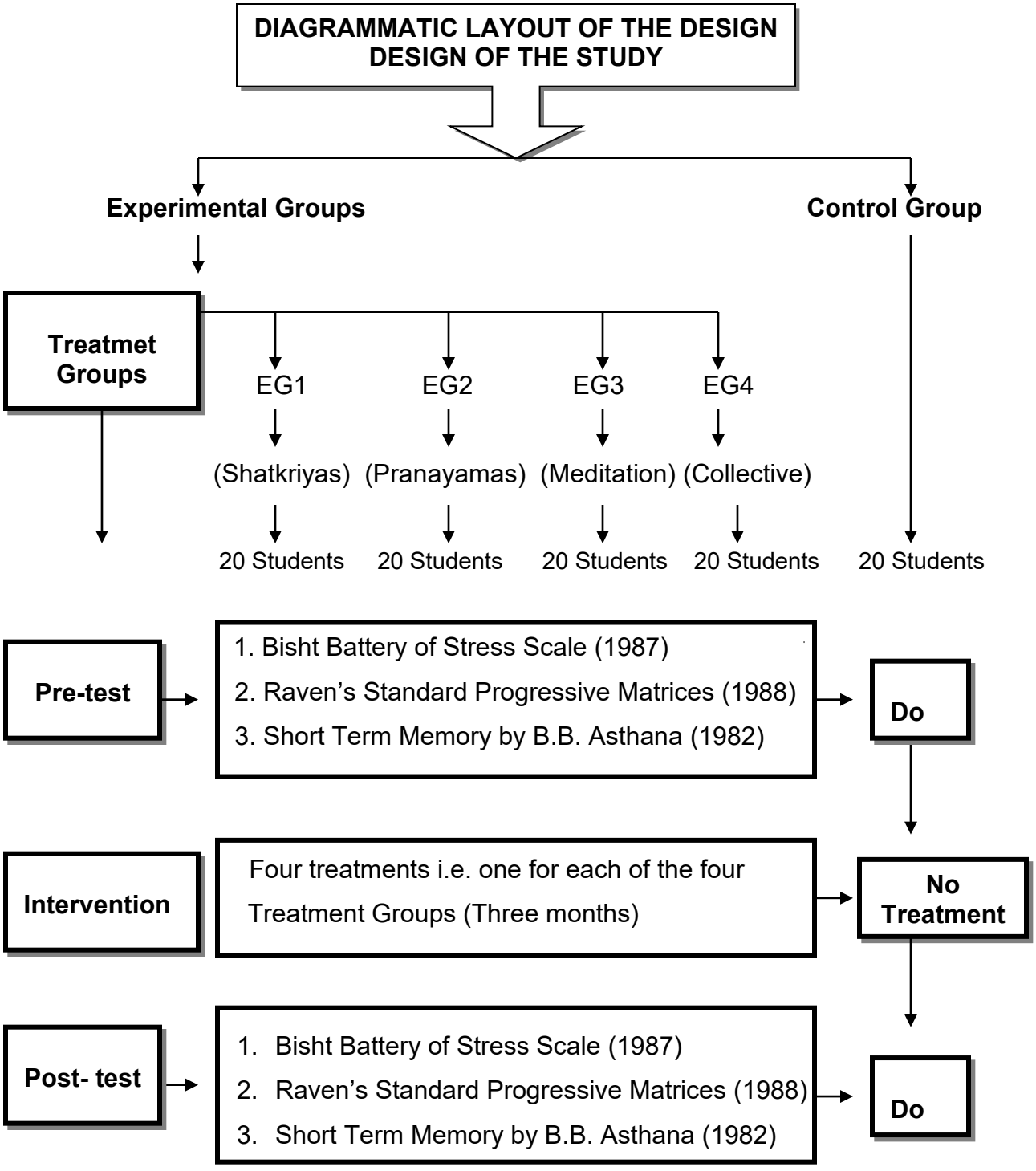

DIAGRAMMATIC LAYOUT OF THE DESIGN
DESIGN OF THE STUDY
Experimental Groups
Control Group
Treatmet Groups
EG1
EG2
EG3
EG4
(Shatkriyas)
(Pranayamas)
(Meditation)
(Collective)
20 Students
20 Students
20 Students
20 Students
20 Students
Pre-test
1. Bisht Battery of Stress Scale (1987)
2. Raven's Standard Progressive Matrices (1988)
3. Short Term Memory by B.B. Asthana (1982)
Do
Intervention
Four treatments i.e. one for each of the four Treatment Groups (Three months)
No Treatment
Post- test
1. Bisht Battery of Stress Scale (1987)
2. Raven's Standard Progressive Matrices (1988)
3. Short Term Memory by B.B. Asthana (1982)
Do

TABLE 3.1

TABLE SHOWING BREAK UP OF THE SAMPLE

S. No.	Institution	No. of Students	Male Students	Female Students	Experimental Group	Control Group
1.	Govt. College of Education	20	10	10	10	10
2.	Innocent Heart College of Education	20	10	10	10	10
3.	City College of education	20	10	10	10	10
4.	Paradise College of Education	20	10	10	10	10
5.	MGN College of Education	20	10	10	10	10
	Total	**100**	**50**	**50**	**50**	**50**

INITIAL SAMPLE

In the Initial sample, 126 male and female students studying in B. Ed. in Govt. College of Education Jalandhar were taken up. They were administered Raven's Standard Progressive Matrices (1988), Bist Battery of Stress Scales by Abha Rani (1987). Short Term Memory by B.B. Asthana (1982). On the basis of test score, those adolescents who were:

a) In the age group of 22-26 years.

b) With average intelligence.

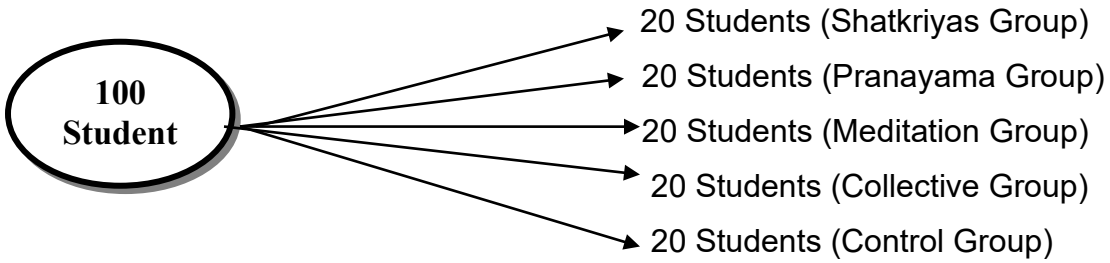
c) With stress score 70 & above;

d) Were included in the final sample.

FINAL SAMPLE

Final sample consisted of 100 students in the age group of 22-26 years studying in Govt. College of Education Jalandhar with average intelligence and, high stress.

FIGURES 3.2



3.3 TOOLS USED

After clear conceptualization of the various aspects of the problem under investigation, a thorough search was made to find out the most appropriate tools in the form of inventories, scales and questionnaire. Review of the literature available and discussion with the experts in the field revealed that the following three tools were most appropriate:

1. Bisht Battery of Stress Scales by Abha Rani. (1987)
2. Raven's Standard Progressive Matrices. (1988)
3. Short Term Memory by B.B. Asthana (1982)

3.4 DESCRIPTION OF THE TOOLS

Bisht Battery of stress scales (BBSS): The BBSS was developed and standardized by Bisht (1987) for the measurement of thirteen types of stresses. Out of 13 scales, "**Scale of Academic Stress**" was selected for the present study. This scale contains 80 items. For development and standardization purpose, six approaches were adopted for the scales of Battery, viz. methodological approach, theoretical approach, rational approach, static approach, empirical approach and normative approach. For developing the

battery of stress scale, idiographic method was taken because this is widely used method of measuring stress. It measures stress through subjective feelings of distress or interpretative perceptual responses. Stress was conceptualized as having following components:

(a) Frustration

(b) Conflict

(c) Pressure

(d) Anxiety

The inventories for different types of stresses were prepared in Hindi. The items were distributed over the four components of the different types of stresses.

SCORING: For scoring, the five-point scale is selected because it takes into account the average category too. The two continua are taken: one is of frequency i.e. Always (a), Often (O), Sometimes (S), Rarely (R) and Never (N). The other is of quantity along with which items are located in terms of quantity i.e. Very much (VM), Much (M), So-so (SS), Little (L) and Not at all (NA). The positive items of the Scale of Academic Stress are: 1, 2, 3, 4, 5, 8, 9, 11, 13, 17, 18, 20, 22, 24, 25, 26, 27, 28, 30, 31, 32, 34, 35, 36, 37, 38, 40, 41, 43, 44, 45, 46, 48, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 65, 68, 70, 72, 73, 76, 77, 79 and 80. Rests of the items are negative statements and are scored in an inverse manner. There are 26 items of Academic Frustration and these are: 2, 5, 7, 15, 18, 20, 22, 25, 33, 39, 44, 45, 46, 50, 52, 55, 56, 57, 62, 63, 67, 68, 69, 72, 75, 77 Number of items of Academic Conflict is 15 and these are: 8, 11, 16, 21, 24, 28, 37, 41, 42, 43, 47, 54, 59, 71,79 Number of items of a Academic Pressures, is 24 and the items numbers are: 3, 4, 6, 10,14, 23, 26, 29, 31, 32, 34, 35, 38, 53, 58, 60, 61, 64, 70, 73, 74, 76 Further, there are 15 items of Academic Anxiety and items numbers include 9, 12, 13, 17, 19, 27, 30, 36, 40, 48, 49, 51, 65, 66, 80.

The total score on stress was obtained by adding the two. Percentile-norms were established for the scales of the battery. The corresponding grouping of low, average and high stress in terms of percentiles for interpretation is:

Low stress - P_{30} or below

Average stress - P_{31} to P_{69}

High stress - P_{70} or above.

Reliability of the Scale: Normative data were collected from a sample of 300 students of class IX and X in the age group from 13 + to 17 years. Reliability of the scales of the battery was calculated in three ways for knowing:

i) Dependability i.e. short term test-retest correlations,

ii) Stability i.e. retest after a longer interval and

iii) Internal consistency i.e. split – half correlations.

Dependability, stability and internal consistency coefficients for the scale of academic stress were 0.87, .82, and 0.88 respectively. Internal consistency coefficients (correlation between total and component scores) were 0.37, 0.52, 0.39 and 0.58 for frustration, conflict, pressure and anxiety respectively. All these correlations were found significant at the 0.05 level of confidence.

Validity: Content validity and item validity were determined. Construct validity (discriminability) was estimated in two-fold fashion. The first type tested if the construct measured differentiated students on some related construct. For this, memory was taken as the related construct. The second type tested if the construct measured by the scales was not related to the construct predicted by the theory. For this, internal evaluation was taken. In both, the construct validity was affirmed. The methods of selecting items support the fact of item validity.

Transferability: For this, the 100 students of Almora district and same number from Lucknow district were drawn. The means of various scale scores were tested for difference by t-test. The non-significant fairly indicated that items of scales were not concentrating on one kind of situation and they can be used across different populations.

Short term Memory (STM): The time gap between presentation of items and its testing has significant impact on short term memory not just that, but the association values of the times have impact on short term recall or memory. Therefore, to study the effect of different time intervals and association values on short-term memory.

The test consists of 24 CVC trigrams prepared in such a way that eight CVC have an association value of more than 80 (72 to 97; M = 81.00; High association value); and eight CVC have an association value of 45.00 (Moderate AV); and eight CVCs have an association values less than 8 (3 to 13, M = 8.10; low AV). These 24 CVCs are randomly assigned to the presentation and test phase.

3.5 SCORING FOR DEPRESSION SCALE

The data are recorded on a data sheet and the responses are arranged in a Table format to enable statistical analysis.

The 24 cvc are arranged in random order. The independent variables of time and association value are predetermined. The last two columns are for recording the response in terms of association value and recall. After the data has been recorded and arranged in Table, the percentage recalled for (I) Time and (ii) Association are calculated and compared. Finally, the results are interpreted in terms of decay theory and interference theory.

Raven's Standard Progressive Matrices (SPM): Raven's Standard Progressive Matrices, (1988) is used internationally and consists of five sets (A, B, C, D and E) meant to test a person's capacity for apprehending meaning-less figures, seeing relation between them, completing each system of relations presented and developing a systematic method of reasoning. It is a non-verbal test of mental maturity.

The scale consists of 60 problems, that is, twelve in each of the five sets. Each problem consists of an incomplete figure or an incomplete design with various alternative responses. The subject is to select the best 'missing piece' to complete the figure or the design. The scale can be used for children as well as the adults of average or more than average intellectual ability. A person's total score furnishes an index of his intellectual capacity. It has a test reliability, which varies with age from 0.83 to 0.93 with the higher values being associated with younger subjects. It correlates .86 with the Terman Merrill Scale and has a 'g' saturation of .82 (Manual, Raven's Standard Progressive matrices, 1960).

Under normal condition, after maturity is reached, the scores on the Vocabulary test tend to remain constant, at least up to the age of 65 years. Scores on the Matrices test reach their maximum somewhere about the age of 14, remain constant for about 10 years, then begin to decline slowly, but with remarkable uniformity. Physical or mental illness does not seriously affect the test retest reliability of the SPM. In the relatively, few cases where it does, the cause has usually been traced to temporary toxic effect or to permanent brain damage. Raven's Standard Progressive Matrices was first prepared in 1938 and no general revision of it has been required except for minor variation in 1947 and 1956. The concurrent and predictive validities of SPM vary with the age, possibly sex, and homogeneity of the sample, the method of the assessment of the criterion to which the test was related and the reliabilities of the test and criterion measured in the context considered. The external criterion commonly adopted in the predictive validity investigations is scholastic achievement assessed some time after the administration of the SPM. Validity coefficients reported in studies with English and non-English speaking children and adolescents generally range up to +0.70.

Scoring of the test is very easy and requires the use of only one scoring stencil. The raw scores can be used as such or converted into percentiles. The results obtained in the form of percentile scores can be interpreted into five broad categories; 'intellectually superior', 'definitely above average in intellectual capacity', 'intellectually average', 'definitely below average in intellectual capacity' and intellectually impaired'.

3.6 PROCEDURE

The data of the present study were collected in the following four phases given as under:

Phase I – Pre- test: The process was stared on 21st January, 2010. In the first phase, 126 Students in the age group of 22-26 from B. Ed. Students of Govt. College of Education, Jalandhar were taken up. They were administered Raven's Standard Progressive Matrices (1988), Bist Battery of Stress Scale by Abha Rani

(1987) and Short Term Memory by B.B. Asthana (1982). On the basis of test scores, those 100 subjects who were having average intelligence, high stress and educational areas were selected for final sample out of 100 subjects who were included in the final sample, 20 subjects were randomly assigned to each of the five groups (four experimental and one control group). Further, treatments were randomly assigned to different groups. Homogeneity of the final sample was tested with the help of ANOVA.

Phase II: In the second phase, the subjects were given an orientation by the researcher. She explained in detail about the purpose, objectives and procedures of the experiment and the purpose of study. She assured them that their scores would be used for research purpose only. The subjects were told the advantages of yogic practices and step – wise technique of performing each of Shatkriyas, Pranayamas and about Meditation was demonstrated to them. The subjects were not allowed to undergo any other treatment or systematic training program during the intervention period. They were asked to be regular and punctual through out the experiment duration.

Phase III: The experimental treatment comprised Kriyas, Pranayamas and Meditation. All the four experimental groups, i.e. EG1, EG2, EG3 & EG4, were given regular training in Shatkriyas, Pranayamas meditation and combined procedure for 10, 10, 20, and 40 minutes daily for 3 months, separately instructions were given to all the experimental groups given as under:

Instructions given to the subjects of (EG-1) who were provided training through Shatkriyas while performing Kapalbhati

Kapalbhati: “Assume a meditative pose. Sit erect, keeping the body steady with head, neck and the back in straight line. One round of Kapalbhati comprises: two normal breaths, quick sharp jerky and audible exhalation with upward and inward movement of the stomach muscles, smooth passive and silent inhalation with relaxation of abdominal muscles. This process is repeated in quick successions for 15 to 20 times maintaining steady rhythm and

emphasizing on the exhalation. This is followed by one round of normal inhalation and exhalation and the next round of complete inhalation, retention (as long as one can retain without feeling uncomfortable) and slow exhalation. If pain or dizziness is experienced, stop the practice and sit quietly for some time. When the sensation has passed, recommence the practice with more awareness and less force. If the problem continues, consult me immediately". It was taken care of that Kapalbhati practiced only empty stomach, 3 to 4 hours after meals. (Those suffering from heart disease, high blood pressure, vertigo, epilepsy, stroke, hernia or gastric ulcer should not practice Kapalbhati.)

Instructions given to subjects of (EG-1) who were trained Through Shatkriyas while performing Trataka

"Sit in Sukhasana about three feet away from the object. Place a burning Deepak or candle, a flower or a black dot in front of eyes. Look at the object without straining the eyes. Hold back the winking of the eyes. When the eyes are tired or they shed tear, shut them and imagine the picture of that object between your eyebrows. Put your palms slowly after sometime". Care was taken that Trataka was practiced on a steady flame and there was no draught in the vicinity. The subjects were cautioned to avoid undue strain. The ability to keep the eyes open without blinking was developed gradually with consistent practice.

Instructions given to (EG2) that were provided training in Pranayama through Anulom – Vilom or Nadishoudhan

"Sit in any comfortable asana. Close the right nostril with your thumb and start inhaling through the left nostril very slowly. Close your nostrils with your thumb and ring finger and hold your breath inside. Then open the right nostril and exhale the air slowly. Now again breaths – through the right nostril, retains your breath inside and after that exhale through the left nostril. Depending on the

phase of the moon, one of the two nostrils usually becomes strongly dominant during the time of sunrise and sunset.

This is a period of intense nostril 'breath' activity and it is not advisable to alter the flow at this time. Do not take forced break under any circumstance. Never breathe through the mouth. Proceed carefully." At the slightest sign of discomfort, the subjects were asked to reduce the duration of inhalation / exhalation / retention and, if necessary, discontinue the practice for the day.

Instructions given to (EG2) who were provided training in Pranayama through Bhramri Pranayama

Sit in any meditative posture. Siddhasana is the best posture. Prepare the mind for this Pranayama. With the index finger of both the hand, close the ear. Now, breathe in slowly and completely. Now, exhale and while releasing the breath, make sound like a honeybee. The sound is produced by saying Aum (Om) with giving a little time to 'o' then 'm', and the whole left time to humming sound Repeated it from 7 to 10 times.

While performing this Pranayama keep spine & neck straight in one line and keep the eyes closed and body relaxed. The sound should be produced in constant speed. After the practice is over try to listen the "Om" inside yourself. Nails of the fingers should be properly cut. Feel the vibration in the brain and skull, and temporal region – by keeping one hand on parietal's front part."

Instructions given to subjects of (EG3) who Were trained through Meditation

"Imagine that nothing exists outside this room. You feel completely insulated from the outside world and free to explore your inner world. You turn all your attention inward, concentrating your thought, energy, on the center of the forehead. You feel a sense of detachment from your physical body and the physical surroundings. You become aware of the stillness around you and within

you. You feel that the natural peacefulness begins to steal over you. Waves of peace gently wash over you, removing any restlessness and tension from your mind. You concentrate on this feeling of deep peace. Just peace… peace is your true state of being. Your mind becomes very calm and clear. You feel easy and content."

Before actual meditation session, it was made sure that subjects were not wearing tight clothes as tight clothes interfere in the breathing process. Also, a reasonable amount of space was around them so that furniture or other objects do not disturb.

Instructions given to subjects of (EG4)

The subjects of this group were given separate instructions in Shatkriyas, Pranayamas and Mediation as they are provided training through the combined procedure of these three Yogic practices.

Phase IV- Post – test: In the fourth phase, Standard Progressive Matrices (1988), Abha Rani Bisht Battery of Stress Scale (1987) and B.B. Asthana Short-Term Memory (1982) were re-administered to find out if there were any significant differences in the scores of all the students because of treatment provided to the them.

3.7 STATISTICAL ANALYSIS

Following statistical techniques were employed for testing research hypotheses:

1. Descriptive statistics namely, Mean Skew ness, Kurtosis and SD for all variables was obtained.

2. Analysis of variance was worked out to:

   a. Test homogeneity of the experimental and control groups.

   b. Find out variance between treatment techniques.

c. 'T-test' was applied to test the effectiveness of different yogic techniques.

d. Graphic representation was done wherever necessary.

TABLE OF CODES: The variables (Vs) with there corresponding codes used for the purpose of experimental study has been presented hereunder in Table 3.2.

TABLE: 3.2

CODES USED IN EXPERIMENTAL STUDY		
1	Experimental Group	EG1
2	Control Group	CG
3	Variables	Vs
4	Transcendental Meditation	TM
5	Shatkriyas	SHK
6	Pranayamas	PRYM
7	Meditation	MDT
8	Academic Stress	AS
9	Eclectic	ECT
10	Asanas	ASN
11	Psychology	PSY
12	Physiology	PHY
13	Experimental Group2	EG_2
14	Experimental Group3	EG_3
15	Experimental Group4	EG_4

****

CHAPTER-4

EXPERIMENTATION

4.1 COLLECTION OF EXISTING CURRICULUM

The investigator went to different Colleges and collection their existing curriculum regarding physical activities. Following table show the different activities that took place in different College daily routine.

TABLE- 4.1 DAILY ACTIVITIES OF DIFFERENT COLLEGE

Sr. No.	Name of College	Physical Exercise	Games/Sports	Co-Curricular Activities
1.	Govt. College of Education	✓	✓	✗
2.	Innocent Heart College of Education	✗	✓	✓
3.	City College of Education	✗	✓	✗
4.	Paradise College of Education	✗	✓	✗
5.	MGN College of Education	✓	✓	✓

4.2 DESCRIPTION OF THE SAMPLE

Before coming to analysis of results and its discussion, it is desirable to give the description of the sample of the present study. Description of the sample has been discussed under two major heads i.e. initial sample and final sample.

INITIAL SAMPLE

In the Initial sample, 126 male and female students studying in B. Ed. In the Govt. College and others Private College were taken up. They were administered Raven's Standard Progressive Matrices (1988), Bisht Battery of Stress Scales by Abha Rani (1987) and Asthana Short-Term Memory Test (1982). Those subjects, who did not provide complete information in the tests administered to them, were not included in the sample. Hence, in the initial sample, 110 College students whose tests were complete in every respect were included. Age and sex wise distribution of the initial sample has been presented in Table 4.2 given as under:

Table 4.2: sex wise distribution of the Initial Sample

S. No	Age	No.	M	F	M%	F%
1.	22-24	59	25	34	42.37	57.63
2.	24-26	67	29	38	43.28	57.72
3.	Total	126	54	72	42.86	57.14

AF: Academic Frustration

AC: Academic Conflict

AP: Academic Pressure

AA: Academic Anxiety

TAS: Academic Total Stress

Figure: 4.1: Pie graph showing sex wise distribution of the Initial Sample (Total 22 to 26 years, N=126)

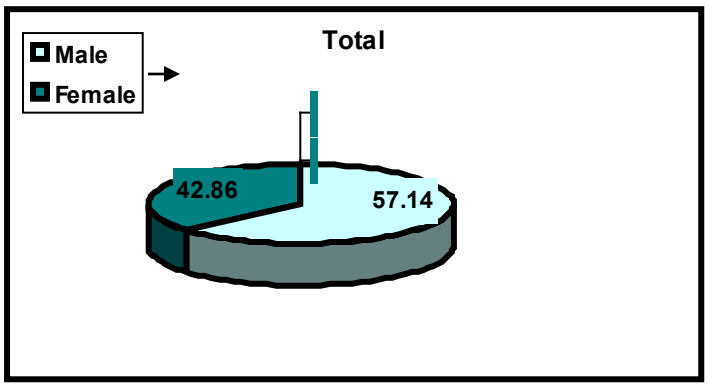


Table 4.1 shows the sex-wise distribution and percentage of the total sample of 110 students at different age levels. There were 54 male students aged 22-26 years. Their percentage in the sample was 42.86%, respectively. There were 72 female students aged 22-26 years. Their percentage in the sample was 57.14% respectively. Their were110 total students aged 22-26 years. Their age wise percentage in the sample was 42.86%, and 57.14 respectively.

Table 4.3: Sex Wise distribution of Academic Stress scores (Initial Sample).

S. No	**Group**	**AF**	**AC**	**AP**	**AA**	**Total A.S**
1	M	48.22	44.54	25.47	24.32	142.55
2	F	47.57	40.10	22.06	23.42	133.15
3	Total	47.90	42.32	23.76	23.87	137.85

AF: Academic Frustration AP: Academic Pressure

AC: Academic Conflict AA: Academic Anxiety

TAS: Academic Total Stress

Figure 4.2: Sex Wise distribution of Academic Stress scores (Initial Sample).

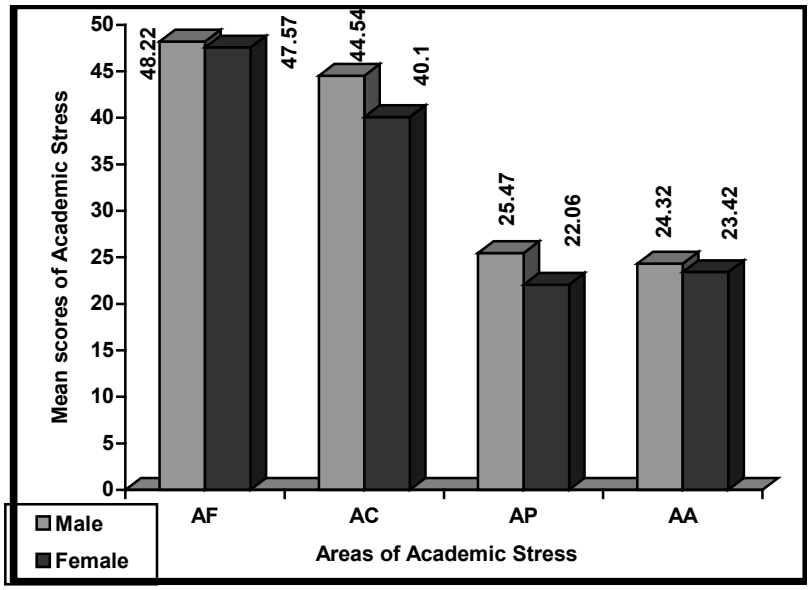


Table 4.3 represents the mean scores in different areas of academic stress between male and female senior secondary school students. Mean scores of male students in different areas of academic stress i.e. academic frustration (AF**),** academic conflict (AC), academic pressure (AP), academic anxiety and total academic stress (TAS) were 48.22, 44.54, 25.47, 24.32 and 142.55 respectively. The Mean scores of female students in different areas of academic stress i.e. AF, AC, AP, AA and total academic stress were 47.57, 40.10, 22.06, 23.42 and 133.15 respectively. This indicates that incidence of academic stress is found more in males as compared to females. The Mean scores of total academic stress in different areas of academic stress i.e. AF, AC, AP, AA and total academic stress were 47.90, 42.32, 23.76, 23.87 and 137.85 respectively.

4.2 ANALYSIS OF EXISTING CURRICULUM

Analysis was done using following techniques

1. Content analysis of curriculum
2. Actual observation of transaction of curriculum in College
3. Meeting with heads of College and discussion with teachers who are actually transacting the curriculum.

On the basis of above analysis the following conclusions were drawn:

1. Curriculum of each College was found to be different from other college.
2. No attention was paid for practicing Yoga.
3. In most of College although Morning Assembly was conducted but no time should be provided for Physical exercise.
4. In most of the Colleges sports goods were not available game period was just a formality.
5. There was no adequate playground in the College.
6. No Yoga Teacher available or appointed in the College.
7. Co-curricular activities were also not a regular free time of the College.
8. No period on time table for Yoga practice.
9. No finance available for appointment of Yoga teacher for Yoga.
10. Negative attitude of administration for Physical health of Students.

4.3 DEVELOPMENT OF EXERCISE FOR YOGA PRACTICE

On the basis of analysis of existing curriculum and in the light of objectives laid by NCERT consulting experts from the field investigator development a schedule for Yoga for College student. Following is the suggested Yoga practicing schedule.

Timing – 11.00 a.m. to 10.45 a.m.

4.4 SUGGESTED YOGA EXECERCISE

Name of Yoga Exercise	Time
1. Kapalbhati	2 Mints.
2. Trataka	,,
3. Surya Namaskara	,,
4. Savasana	,,
5. Makarasana	,,
6. Padmasana	,,
7. Sidhasana	,,
8. Sheetali Pranayama	,,
9. Sheet Kari Pranayama	,,
10. Murcha Pranayama	,,
11. Bhramri Pranayama	,,
12. Meditation	,,

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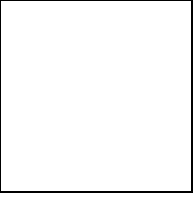


CHAPTER-5

ANALYSIS OF DATA AND DISCUSSION OF RESULTS

The raw data collected was organised into table to carry out analysis. Descriptive and inferential statistical techniques were employed in the analysis of data.

The study was conducted on a sample of 126 students of four randomly selected B. Ed. Colleges. For analysis of data pretest post test 2x2x2 factorial design was employed analysis on each variable namely depression has been done separately.

5.1 FINAL SAMPLE

Final sample consisted of 110 Students selected out of total 126 students of B. Ed. class between the ages of 22 to 26 years. Intelligence and total academic stress were the major criteria for selection of final sample.

Students who scored average intelligence on SPM scale and having scores above 70 percentile on Bisht Battery Scale were selected for the final sample. On the basis of test scores, those who fulfilled the following criteria were included in the final sample:

(i) Students in the age group of 22-26 years.

(ii) Students with average intelligence.

(iii) Students with high academic stress P_{70} and above on Academic Stress Scale.

(iv) Final sample was divided into five groups; four for treatment and one was the control group.

Table 5.1: Sex Wise distribution of Academic Stress scores (final Sample).

S. No.	**Group**	**AF**	**AC**	**AP**	**AA**	**Total A.S**
1	M	51.02	46.51	29.79	27.43	154.75
2	F	51.68	43.46	26.16	28.24	149.54
3	Total	51.35	44.99	27.97	27.84	152.15

AF: Academic Frustration AP: Academic Pressure

AC: Academic Conflict AA: Academic Anxiety

TAS: Academic Total Stress

Figure 5.1: Sex Wise distribution of Academic Stress scores (final Sample).

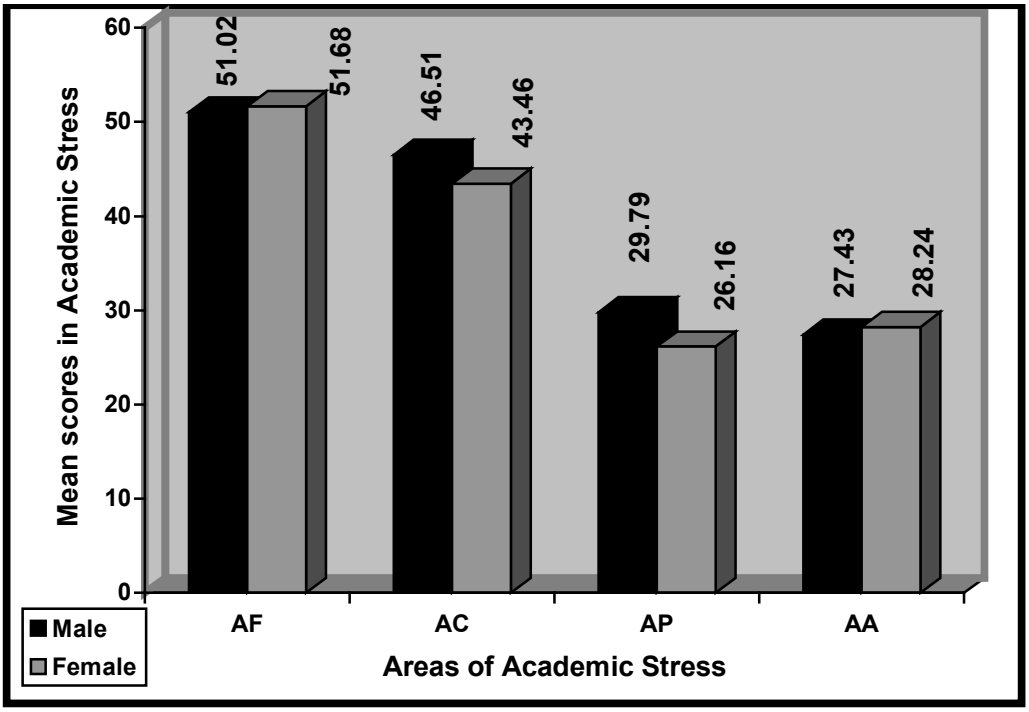


Table 5.1 represents the mean scores in different areas of academic stress between male and female students of senior secondary school students. Mean scores of male students in different areas of academic stress i.e. AF, AC, AP, AA and total academic stress were 51.02, 46.51, 29.79, 27.43 and 154.75 respectively.

The Mean scores of female students in different areas of academic stress i.e. academic frustration (AF), academic conflict (AC), academic pressure (AP), academic anxiety (AA) and total academic stress (TAS) were 51.68, 43.46, 26.16, 28.24 and 149.54 respectively. The Mean scores of total academic stress in different areas of academic stress i.e. AF, AC, AP, AA and total academic stress were 50.98, 45.18, 25.75, 27.63 and 152.15 respectively.

5.2 ANALYSIS OF VARIANCE

The subjects of the final sample were randomly assigned to five groups four treatment and one control group. Further, treatments were also randomly assigned to different experimental groups. To test whether the five groups differ significantly from one another in respect of scores of stress on the basis of pre test scores, the analysis of variance was employed.

Before applying the technique of analysis of variance, the variance within the groups was tested by applying Leven's Test of Homogeneity of Variance as given in Table 5.2.

Table 5.2: Test of Homogeneity of Variances

	Levine's Statistic	Df1	Df2	Level of Significance
Age	1.426	4	95	.231
Intelligence	.948	4	95	.440.
Memory	1.848	4	95	.126
Academic Stress	1.667	4	95	.164

Table 5.2 shows that variance within the groups with regard to age, intelligence; memory and academic stress was almost equal as none of values was significant at.01 or .05 level of significance.

5.3 ANOVA SUMMARY

Table 5.3 Summery of Analysis of Variance of pre –test Scores for Age

Source of Variation	df	Sums of Squares	Mean Squares	F-Value
B/w Groups	4	.483	.121	.515
Within Groups	95	22.267	.234	
Total	99	22.750		

Table 5.3 representing summery of analysis of variance of pre –test scores for Age scores of the five different groups (four – experimental and one control group) show that total F. -value between groups and within groups is .515 which is not significant at any level of confidence. This indicates that the scores of five groups did not vary from each other significantly, hence were homogeneous.

Table 5.4 Summery of analysis of variance of pre –test scores for intelligence.

Source of Variation	df	Sums of Squares	Mean Squares	F-Value	Level of Significance
B/w Groups	4	63.137	15.784	.546	.703
Within Groups	95	2748.023	28.927		
Total	99	2811.160			

Table 5.4 representing summery of analysis of variance of pre–test scores for Intelligence scores of the five different groups (four experimental and one control group) show that F -value between groups and within groups is .546 which is not significant at any level of confidence.

This indicates that the scores of five groups did not vary from each other on the variables of Intelligence significantly, hence were homogeneous.

Table 5.5: Summery of analysis of variance of pre –test scores for Memory.

Variation	df	Sums of Squares	Mean Squares	F-Value	Level of Significance
B/w Groups	4	99.914	24.979	.116	.977
Within Groups	95	20496.846	215.756		
Total	99	20596.760			

Table 5.5 : representing summery of analysis of variance of pre–test scores for memory scores of the five different groups (four–experimental and one control group) show that total F -Value between groups and within groups is .116, which is less than the table value. This indicates that the scores of five groups did not vary from each other significantly, hence were almost homogeneous.

Table 5.6: Summery of analysis of variance of pre –test scores for Academic Stress.

Source of Variation	df	Sums of Squares	Mean Squares	F-Value	Level of Significance
B/w Groups	4	409.528	102.382	.396	.811
Within Groups	95	24533.472	258.247		
Total	99	24943.000			

Table 5.6 representing summery of analysis of variance of pre –test scores for Academic Stress scores of the five different groups (four experimental and one control group) show that F-Value between groups and within groups is .396 which is not significant at any level of confidence. This indicates that the scores of five groups did not vary from each other significantly, hence, were almost homogenous and were ready for experimental testing.

On the basis of insignificant F- values between groups and within groups entered in Table 5.5-5.9, it was concluded that all the groups were homogeneous with regard to age, intelligence, memory and academic stress, hence, were ready for experimental testing.

5.4 EFFECT OF SHATKRIYAS, PRANAYAMAS AND MEDITATION ON REDUCING STRESS

The present study mainly being experimental aims at testing the effectiveness of different yogic techniques. It purports to verify the following hypotheses:

1. There would be differentials in the level of academic stress between male and female B. Ed. Students.

2. Yogic Shatkriyas would be effective in reducing stress among B. Ed. Students.

3. The Pranayamas would be effective in reducing stress among B. Ed. students.

4. The Meditation would be effective in reducing stress among B. Ed. students.

5. There would be an increase in the intelligence and Memory level of B. Ed. students.

5.5 TESTING OF HYPOTHESES-1

Hypothesis I states, “There would be difference in the level of Stress between male and female B. Ed. students”.

This hypothesis has been tested with the help of Table 5.7 Pictorial form of Table 5.7 has been presented in Figure 5.2.

Results

Table 5.7: Mean differentials in the different areas of academic Stress between male and female students.

Areas of Academic stress	M_1 (N=254)	M_2 (N=146)	SD_1	SD_2	t-value	Level of Significance
Frustration	48.22	47.57	9.52	9.14	0.67	NS
Conflict	44.54	40.10	9.34	9.85	4.48	.01
Pressure	25.47	22.06	8.78	10.05	3.54	.01
Anxiety	24.32	23.42	7.93	8.87	1.05	NS
Total academic stress	142.29	132.77	23.38	22.86	3.95	.01

M_1 = Mean pre-test scores of male students in different areas of academic stress.

M_2 = Mean post-test scores of Female students in different areas of academic stress.

SD_1 = Standard deviation of pre-test scores in different areas of academic stress of male students.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of female students.

Figure 5.2. : Mean scores in different areas of academic stress of male and female students.

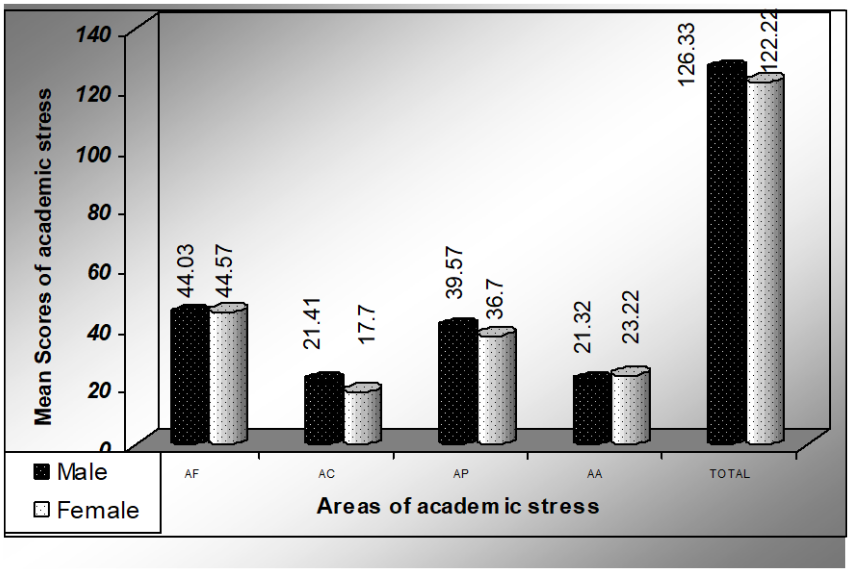


Table 5.7. Represents the mean differentials in different areas of academic stress between male and female B. Ed. Students (54 males and 72 females). Mean scores of male students in different areas of academic stress i.e. Academic Frustration, Academic Conflict, Academic Pressure, Academic Anxiety and total academic stress were 48.22, 44.54, 25.47, 24.32 and 142.29 respectively. The mean scores of female students in different areas of academic stress i.e. AF, AC, AP, A A and total academic stress were 47.57, 40.10, 22.06, 23.42 and 132.77 respectively. Standard deviation of scores (SD_1) of males in different areas of academic stress i.e. AF, AC, AP, AA & total academic stress were 9.52, 9.34, 8.78, 7.93 and 23.38 respectively. Standard deviation of scores (SD_2) of female in different areas of academic stress i.e. AF, AC, AP, AA and total academic stress were 9.14, 9.85, 10.05, 8.87 and 22.86 respectively. The respective t-values between the scores of male and female students in different areas of academic stress i.e. AF, AC, AP, AA and total academic stress were .67, 4.48, 3.54, 5.05 and 3.95. The t-values between male and female students with regard to scores in AF, AC, AP, AA and total academic stress were significant at .01 level of significance.

5.6 DISCUSSION OF THE RESULTS

Results entered in Table 5.7 shows that the t-values in different areas of academic stress between male and female students the initial sample of 110 students are 0.67, 4.48, 3.54, 1.05 and 3.95 respectively in the areas of AF, AC, AP, AA and total academic stress. The mean differentials in academic conflict (AC), academic pressure (AP) and total academic stress are found to be significant at .01 level of significance whereas in can of academic frustration and academic anxiety, the mean differentials are not significant statistically. These findings suggest that B. Ed. male and female students do not differ significantly in the areas of academic frustration and academic anxiety. The significant t-values between male and female students in the areas of academic conflict, academic pressure and total academic stress indicates that B. Ed. male students experience more academic conflict, academic pressure and total academic

stress as compared to female students. On the basis of as one discussion it can be concluded that gender differences exit, with regard to academic conflict, academic pressure and total academic stress among B. Ed. Students. Hence, the hypothesis, namely, There would be difference in the level of academic Stress between male and female B. Ed. Students", has been verified to a great extant.

5.7 TESTING OF HYPOTHESES- 2

Hypothesis II states, "Yogic Shatkriyas would be effective in reducing stress among B. Ed students". This hypothesis has been tested with the help of Table 5.8, 5.9, and 5.10.

Table 5.8: Mean differentials between the pre and post scores in the different areas of academic stress of EG_I (Shatkriyas).

Areas of Academic stress	M_1	M_2	SD_1	SD_2	t-value	Level of significance
Frustration	51.65	44.25	8.34	6.84	5.667	.01
Conflict	25.10	21.40	7.26	5.64	4.149	.01
Pressure	46.10	39.50	6.89	7.37	3.850	.01
Anxiety	29.65	24.25	5.81	4.74	4.872	.01
Total Academic Stress	149.55	130.05	14.80	17.71	9.180	.01

M_1 = Mean pre-test scores of EG_1 in different areas of academic stress.

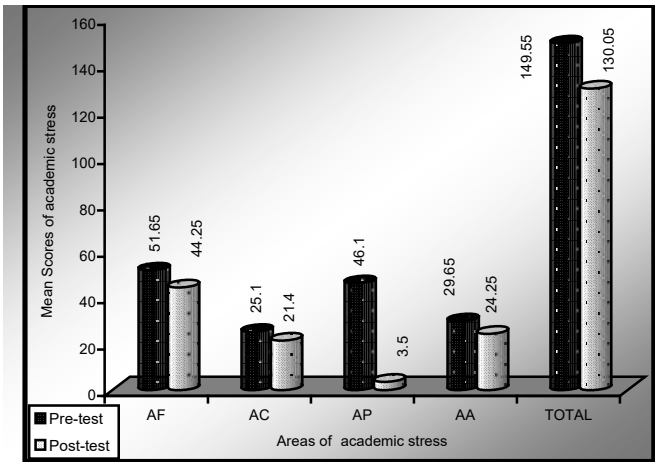
M_2 = Mean post-test scores of EG_1 in different areas of academic stress.

SD_1 = Standard deviation of pre-test scores in different areas of academic stress of EG_1.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of EG_1

The pictorial form of Table 5.8.has been given in Figure 5.3.

Figure 5.3. : Mean pre and post scores of different areas of academic stress of EG_I (Shatkriyas).



5.3. Represents means, SDs and mean differentials (t-value) between pre and post-test scores on academic stress of B. Ed. Students, who were provided training through Shatkriyas (EG_1).

The mean pre-test scores (M_1) of EG_1, on different areas of academic stress i.e. frustration, conflict, pressure, anxiety and total academic stress were 51.65, 25.10, 46.10, 29.65 and 149.55 respectively.

The mean post-test scores (M_2) of EG_1 in these areas were 44.25, 21.40, 39.50, 24.25 and 130.05 respectively.

Standard deviations of pre-test scores (SD_1) of EG_1, on different areas of academic stress and total academic stress were 8.34, 6.89, 7.26, 5.81 and 14.80 respectively.

The respective standard deviations of post-test scores (SD_2) in these areas of academic stress were 6.84, 7.37, 5.64, 4.74 and 17.71. The t-values between the pre- and post- test scores of different areas of academic stress i.e. frustration, conflict, pressure, anxiety and total academic stress were 5.667, 4.149, 3.850, 4.872 and 9.180 respectively. All these t-values are significant at .01 level of significance.

Table 5.9: Mean differentials between in the post-test scores in the different areas of academic stress of EG_I and CG.

Areas of Academic stress	M_1	M_2	SD_1	SD_2	t-value	Level of significance
Frustration	44.25	52.10	6.84	5.68	3.95	.01
Conflict	21.40	24.80	5.64	9.05	1.99	.05
Pressure	39.50	44.70	7.37	9.09	2.43	.05
Anxiety	24.25	27.75	4.74	6.39	1.97	NS
Total academic stress	130.05	149.30	17.71	19.87	3.23	.01

M_1 = Mean post-test scores in different areas of academic stress of EG_1.

M_2 = Mean post-test scores in different areas of academic stress of CG.

SD_1 = Standard deviation of post-test scores in different areas of academic stress of EG_1.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of CG.

Pictorial form of this table has been presented in: Figure 5.4 given as under:

Figure 5.4: Mean of post-test scores in different areas of academic stress of EG_I and control group.

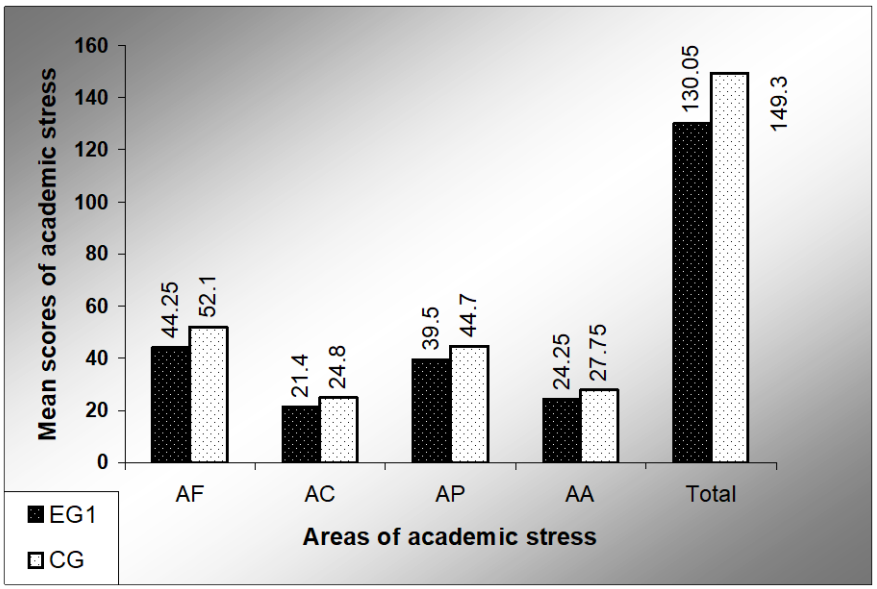


Table 5.9 represents means, SDs and mean differentials (t-values) between the post-test scores in academic stress of B. Ed. Students who were provided training through Shatkriyas (EG_1) and those who were not provided training (CG). The mean post-test scores (M_1) of EG_1, in different areas of academic stress i.e. frustration conflict, pressure, anxiety and total academic stress were 44.25, 21.40, 39.50, 24.25 and 130.05 respectively.

The mean post-test scores (M_2) of CG, in these areas of academic stress and total academic stress were 52.10, 24.80, 44.70, 27.75 and 149.30 respectively. Standard deviations of post-test scores (SD_1) of EG_1, in different areas of academic stress. I.e. frustration, conflict, pressure, anxiety and total academic stress were 6.84, 5.64, 7.37, 4.74 and 17.71 respectively. Standard deviation of post-test scores (SD_2) of CG, in these areas of academic stress and total academic stress were 5.68, 9.05, 9.09, 6.39 and 19.87 respectively.

The t-values between the post-test scores of EG_1 and CG and in different areas of academic stress i.e. frustration, conflict, pressure, anxiety and total were 3.95, 1.99, 2.43, 1.97 and 3.23 respectively. The t-values between the post-test scores of EG_2 and CG in frustration and total scores are significant at .01 level whereas in that of academic pressure and conflict are significant at .05 level. However, mean differential between post-test scores in academic anxiety of EG_1 and CG are not statistically significant.

Table 5.10: Mean differentials in the different areas of academic stress between the pre and post-test scores of CG.

Areas of Academic stress	M_1	M_2	SD_1	SD_2	t-value	Level of significance
Frustration	52.75	52.10	6.03	5.68	0.208	N.S
Conflict	24.85	24.80	9.49	9.09	0.746	N.S
Pressure	44.30	44.70	9.42	9.05	0.252	N.S
Anxiety	27.95	27.75	6.75	6.39	0.777	N.S
Total Academic Stress	149.85	149.30	21.07	19.87	0.942	N.S

M_1 = Mean pre-test scores of CG in different areas of academic stress.

M_2 = Mean post-test scores of CG in different areas of academic stress.

SD_1 = Standard deviation of pre-test scores in different areas of academic stress of CG.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of CG.

Figure 5.5: Mean pre and post-test scores of different areas of academic Stress of CG.

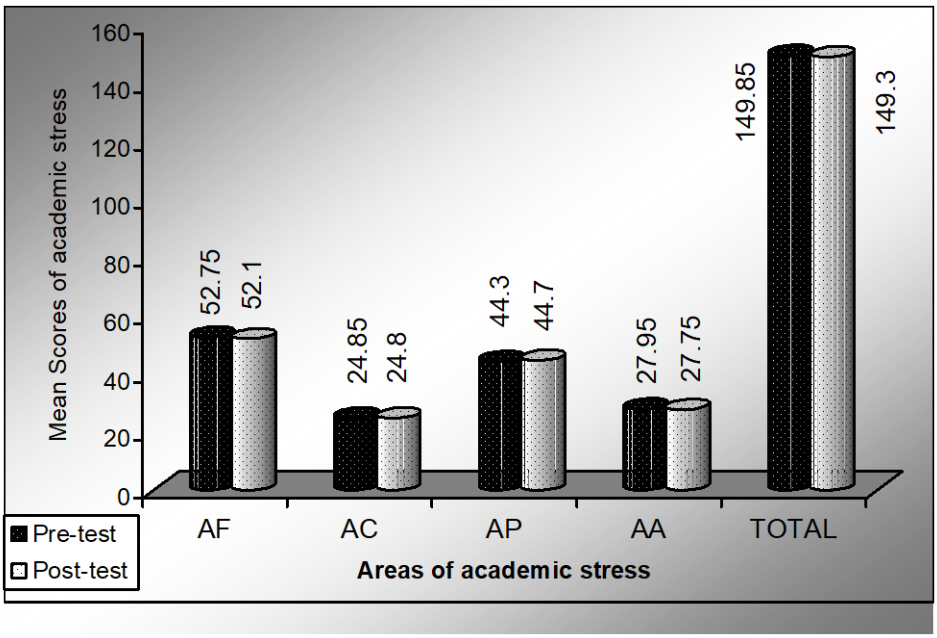


Table 5.10 Represents means, SDs and mean differentials (t-values) between pre and post-test scores in academic stress of B. Ed. Students, who were not provided training control group (CG), The mean pre-test scores (M_1) of CG, in different areas of academic stress i.e. frustration, conflict, pressure, anxiety and total scores were 52.75, 24.85, 44.30, 27.95 and 149.85 respectively. The mean post-test scores (M_2) of CG in these areas were 52.10, 24.80, 44.70, 27.75 and 149.30 respectively. Standard deviations of pre-test scores (SD_1) of CG, on different areas of Academic Stress i.e. Frustration, Conflict, Pressure, and Anxiety and Total Academic Stress were 6.03, 9.49, 9.42, 6.75 and 21.07 respectively. Respective standard deviations of post-test scores (SD_2) in these areas of Academic Stress were 5.68, 9.09, 9.05, 6.39 and 19.87

respectively. The t-values between the pre and post-test scores of different areas of Academic Stress i.e. Frustration, Conflict, Pressure, Anxiety and Total Academic Stress were 0.208, 0.746, 0.252, 0.777 and 0.942 respectively. All these t-values are statistically insignificant.

5.8 DISSCUSSION OF THE RESULTS

Results entered in Table 5.8 show the mean differentials between pre- and post-test scores in different areas academic stress of EG_1 (trained through Shatkriyas) Entries made in this table show that all the calculated t-values between the pre and post test scores in different areas of academic stress are significant at .01 level of significance. This suggests that academic stress of the subjects who were provided training through Shatkriyas (Kapalbhati and Trataka) (EG_1) has considerably decreased. This decrease in academic stress level of students can be attributed to the efficacy of Shatkriyas.

Entries made in Table 5.9 further show that t-values calculated between the post-test scores of EG_1 and CG academic frustration (AF) total academic stress are significant at .01 level of significance where as t-values with regard to academic conflict (AC) academic pressure (AP) are significant at .05 level of significance. However, the t-value between the post-test scores of EG_1 and CG with regard to academic anxiety was not statistically significant. This indicates that Shatkriyas have successfully reduced Academic Frustration; Conflict, Pressure and Total Academic Stress but could not substantially reduce academic anxiety of B. Ed. Students. Further, entries made in Table 5.10 shows that there was no decrease in the academic stress of B. Ed. Students belonging to the control group. This suggests that the reduction in academic stress of students belonging to EG_1 is due to training provided through Shatkriyas (Kapalbhati and Trataka).

On the basis of discussion of the results, it can be concluded that Shatkriyas have substantially and significantly reduced the Academic Frustration, Conflict, Pressure and Total Academic Stress found in B. Ed. Students but could

not reduce academic anxiety significant. Hence, second hypothesis, namely, "The Yogic Shatkriyas would be effective in reducing academic stress of B. Ed. Students", stands verified to a great extent.

5.9 TESTING OF HYPOTHESES- 3

Hypothesis III states, "The 'Pranayamas' would be effective in reducing Stress of B. Ed. Students". This hypothesis has been tested with the help of Table 5.11 and 5.12.

Table 5.11: Mean differentials in the different areas of academic stress between pre and post-test scores of EG_2 (Pranayamas).

Areas of Academic stress	M_1	M_2	SD_1	SD_2	t-value	Level of significance
Frustration	46.30	41.50	7.89	5.83	5.040	.01
Conflict	27.15	20.45	10.09	8.19	4.239	.01
Pressure	46.45	39.10	6.32	4.96	5.963	, 01
Anxiety	27.05	20.70	6.01	5.69	4.725	.01
Total Academic Stress	149.15	121.75	11.65	14.96	13.410	.01

M_1 = Mean pre-test scores in different areas of academic stress of EG_1.

M_2 = Mean post-test scores in different areas of academic stress of EG_1.

SD_1 = Standard deviation of pre-test scores in different areas of academic stress of EG_1.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of EG_1.

Figure 5.6: Mean pre and post-test scores in different areas of academic Stress of EG_2 (Pranayamas).

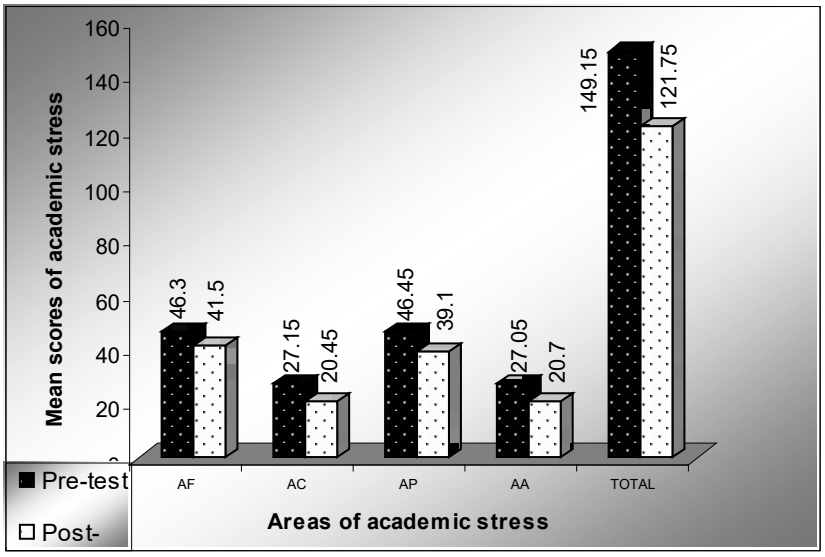


Table 5.11 represents means, SDs and mean differentials (t-value) between pre and post-test scores of academic stress of B. Ed. Students, who were provided training through Pranayamas (EG_2). The mean pre-test scores (M_1) of EG_2, in different areas of academic stress i.e. frustration, conflict, pressure, anxiety and total academic stress were 46.30, 27.15, 46.45, 27.05 and 149.15 respectively.

The mean post-test scores (M_2) of EG_2 in these areas were 41.50, 20.45, 39.10, 20.70 and 121.75 respectively. Standard deviations of pre-test scores (SD_1) of EG_2, on different areas of academic stress i.e. frustration, conflict, pressure, anxiety and total academic stress were 7.89, 6.32, 10.09, 6.01 and 11.65 respectively.

The respective standard deviations of post-test scores (SD_2) of these areas of academic stress were 5.83, 4.96, 8.19, 5.69 and 14.96. The t-value between the pre and post test scores of different areas of academic stress i.e. frustration, conflict, pressure, anxiety and total academic stress were 5.040, 5.963, 4.239, 4.725 and 13.410 respectively. All these t-values are significant at .01 level of significance.

Table 5.12: Mean differentials in the post-test scores in different areas of academic stress between EG_2 and control group.

Areas of Academic stress	M_1	M_2	SD_1	SD_2	t-value	Level of significance
Frustration	41.50	52.10	5.83	5.68	5.82	.01
Conflict	20.45	24.80	8.19	9.05	2.42	.05
Pressure	39.10	44.70	4.96	9.09	2.43	.05
Anxiety	20.70	27.75	5.69	6.39	6.39	.05
Total academic stress	121.75	149.30	14.96	19.87	4.95	.01

M_1 = Mean post-test scores in different areas of academic stress of EG_1.

M_2 = Mean post-test scores in different areas of academic stress of CG.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of EG_1.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of CG.

Figure 5.7: Mean post-test scores in different areas of academic stress of EG_2 and control group.

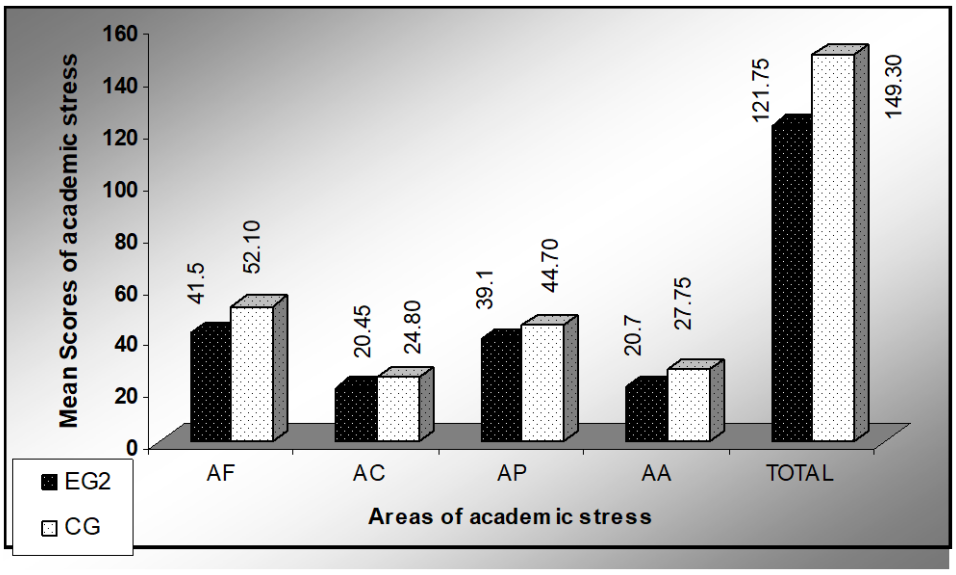


Table 5.11 represents means and mean differentials (t-values) between the post-test scores in different areas of academic stress of EG_2, who were

provided training through Pranayamas and control group who were not provided training. The mean post-test scores (M_1) of EG_2, in different areas Of Academic Stress I.E. Frustration, Conflict, Pressure, Anxiety and Total Academic Stress were 41.50, 20.45, 39.10, 20.70 and 121.75 respectively. The mean post-test scores (M_2) of CG, in these areas of academic stress and total academic stress were 52.10, 24.80, 44.70, 27.75 and 149.30 respectively. Standard deviations of post-test scores (SD_1) of EG_2, in different areas of academic stress and total academic stress were 5 .83, 4.96, 8.19, 5.69 and 14.96 respectively. Standard deviations of post-test scores (SD_2) of CG, on different areas of Academic Stress and Total Academic Stress were 5.68, 9.05, 9.09, 6.39 and 19.87 respectively. The t-values between the post-test scores of EG_2 and CG in different areas of Academic Stress i.e. Frustration, Conflict, Pressure, Anxiety and Total Academic Stress were 5.82, 2.42, 2.43, 2.05, and 4.95 respectively. The t-values between the post-test scores of EG_2 and CG in Frustration and Total Academic Stress are significant at .01 level whereas in that of Academic Pressure, Conflict and Anxiety are significant at .05 level.

5.10 DISSCUSSION OF RESULTS

Table 5.11. regarding the mean differentials between pre-and post-test scores in academic stress of EG_2 (trained through Pranayamas) indicate that the academic stress level of B. Ed. Students of EG_2 has considerably decreased as all the t-values are significant at .01 level of significance. This decrease in Academic Stress level of Students can be attributed to the efficacy of Pranayamas (Anulom-Vilom and Bhramri).

Further entries made in Table 5.12 show that t-values calculated between the post-test scores of EG_2 and CG in different areas of Academic Stress i.e., AF, AC, AP, AA, and total of academic stress are statistically significant. This suggests that Pranayamas have successfully reduced Academic Frustration, Academic Conflict, Academic Pressure, Academic Anxiety and Total Academic Stress of B. Ed. Students.

On the basis of discussion of the above results, it can be concluded that Pranayamas have substantially and significantly reduced the academic stress found in B. Ed. Students. Hence, third hypothesis, namely, "The Pranayamas would be effective in reducing academic stress of B. Ed. Students", stands verified.

5.11 TESTING OF HYPOTHESES- 4

Hypothesis IV states, "Meditation would be effective in reducing Stress of B. Ed. Students". This hypothesis has been tested with the help of Table 5.13, and 5.14.

RESULTS

Table 5.13: Mean differentials between the pre and post scores in the different areas of academic stress of EG_3 (Meditation).

M_1 = Mean pre-test scores in different areas of academic stress of EG_3.

M_2 = Mean post-test scores in different areas of academic stress of EG_3.

SD_1 = Standard deviation of pre-test scores in different areas of academic stress of EG_3.

SD_2 = Standard deviation of post-test scores in different areas of academic stress of EG_3.

Figure 5.8: Mean pre and post scores of different areas of academic stress EG_3 (Meditation).

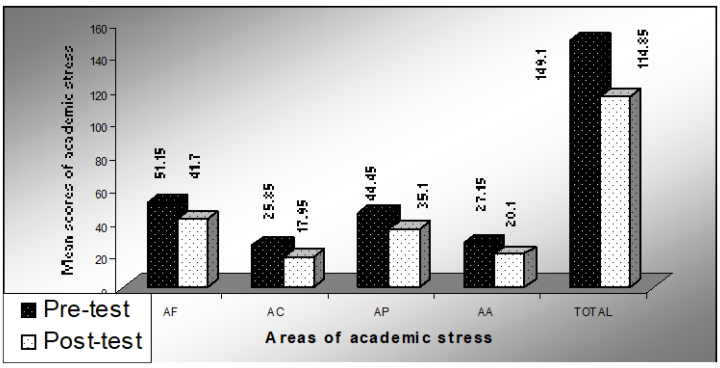


Table 5.13 represents means, SDs and mean differentials (t-values) between pre and post-test scores on academic stress of B. Ed. Students, who were provided training through Meditation (EG_3). The mean pre-test scores (M_1) of EG_3, in different areas of Academic Stress i.e. Frustration, Conflict, Pressure, Anxiety and Total Academic Stress were 51.15, 25.85, 44.45, 27.15 and 149.10 respectively. The mean post-test scores (M_2) of EG_3 in the areas were 41.70, 17.95, 35.10, 20.10. And 114.85 respectively.

Standard deviations of pre-test scores (SD_1) of EG_3, on different areas of Academic Stress and Total Academic Stress were 9.29, 8.12, 8.12, 5.26 and 17.00 respectively. The respective standard deviations of post-test scores (SD_2) of there areas of Academic Stress were 7.13, 6.00, 6.66 4.78 and 16.12.

The t-value between the pre and post test scores of different areas of Academic Stress i.e. Frustration, Pressure, Conflict, Anxiety and Total Academic Stress were 5.50, 74.771, 6.736, 6.080 and 10.142 respectively. All these t-values are significant at.01 level of significance.

Areas of Academic stress	**M_1**	**M_2**	**SD_1**	**SD_2**	**t-value**	**Level of significance**
Frustration	41.70	52.10	7.13	5.68	5.10	.01
Conflict	35.10	44.70	6.66	9.09	2.82	.01
Pressure	17.95	24.80	6.00	9.05	3.81	.01
Anxiety	20.10	27.75	4.78	6.39	8.29	.01
Total Academic Stress	114.85	149.30	16.12	19.87	6.02	.01

RESULTS

Table 5.14: Mean differentials in different areas of academic stress between the post- test scores of EG_3 and control group.

Areas of Academic stress	M_1	M_2	SD_1	SD_2	t-value	Level of significance
Conflict	25.85	17.95	8.12	6.00	4.771	.01
Pressure	44.45	35.10	8.12	6.66	6.736	.01
Anxiety	27.15	20.10	5.26	4.78	6.080	.01
Total Academic Stress	149.10	114.85	17.00	16.12	10.142	.01

M_1 = Mean post-test scores in different areas of academic stress of EG_3.

M_2 = Mean post-test scores in different areas of academic stress of CG.

SD_2 = Standard deviation of post-test scores in different areas of academic Stress of EG_3.

SD_2 = Standard deviation of post-test scores in different areas of academic Stress of CG.

Figure 5.9: Mean post- test scores in different areas of academic stress of EG_3 and control group.

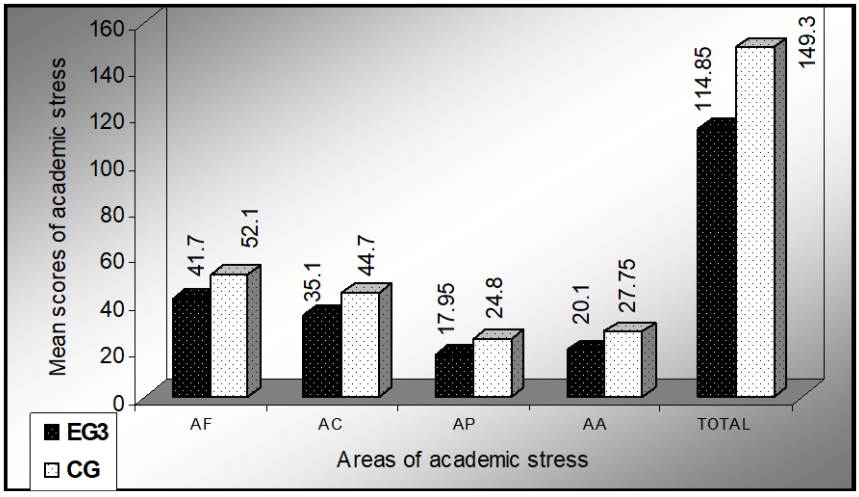


Table 5.14 represents means SDs and mean differentials (t-values) between the post-test scores in different areas of academic stress of EG_3, (provided training through Meditation) and control group who were not provided

training. The mean post- test scores (M_1) of EG_3, in different areas of Academic Stress i.e. Frustration, Conflict, Pressure, Anxiety and Total Academic Stress were 41.70, 35.10, 17.95, 20.10, and 114.85 respectively.

The mean post-test scores (M_2) of CG, in these areas of Academic Stress and Total Academic Stress were 52.10, 24.80. 44.70, 27.75 and 149.30 respectively. Standard deviation of post-test scores (SD_1) of EG_3, in different areas of i.e. Frustration, Conflict, Pressure, Anxiety and Total Academic Stress were 7.13, 6.00. 6.66, 4.78 and 16.12 respectively. Standard deviations of post-test scores (SD_2) of CG, on these areas of Academic Stress and Total Academic Stress were 5.68, 9.09, 9.05, 6.39 and 19.87 respectively. The respective t-values between the post-test scores of EG_3 and CG in different areas of Academic Stress i.e. Frustration, Pressure, Conflict, Anxiety and Total Academic Stress were 5.10, 2.82, 3.81, 4.29, and 6.02. All these t-values between are significant at .01 level of significant.

5.12 DISSCUSSION OF RESULTS

Results entered in Table 5.13 showing mean differentials between pre and post-test scores in different areas of Academic Stress of EG_3 (trained through Meditation) indicate that the level of Stress B. Ed. students of EG_3 has considerably decreased since all the calculated t-values are significant at .01 level of significance. Further t-values calculated between the post-test scores of EG_3 and CG (Table 5.4.3) in different areas of academic stress i.e. AF, AC, AP, AA, and total academic stress are statistically significant at .01 levels. This suggests that Meditation has successfully reduced Academic Frustration, Academic Conflict, Academic Pressure, Academic Anxiety and Total Academic Stress of B. Ed. Students.

On the basis of discussion of the results, it can be concluded that Meditation has substantially and significantly reduced the academic Stress found of B. Ed. students. Hence, fourth hypothesis, namely, “Meditation would be effective in reducing academic stress of B. Ed. Students”, has been confirmed.

5.13 TESTING OF HYPOTHESES- 5

Hypothesis V states, “There would be an increase intelligence and memory level of B. Ed. Students by following Yoga Practices”. This hypothesis has been tested with the help of Table 5.15, 5.16, 5.17 and 5.18.

Table: 5.15: Mean differentials between pre and post test scores in intelligence of B. Ed. Students belonging to different EGs and CG.

Groups	M_1	M_2	SD_1	SD_2	t-value	Level of significance
EG 1	47.40	51.30	5.28	2.34	4.646	.01
EG 2	46.50	52.25	4.95	3.11	8.654	.01
EG 3	47.80	52.50	4.81	3.02	6.039	.01
EG 4	48.30	51.40	5.31	4.64	7.339	.01
CG	48.90	49.45	6.39	6.10	0.19	NS

M_1= the mean pre-test scores of different EGs & CG in intelligence.

M_2= the mean post-test scores of different EGs & CG in intelligence.

SD_1= the mean pre-test scores of different EGs & CG in intelligence.

SD_2 = the mean post-test scores of different EGs & CG in intelligence.

Figure 5.10: Mean pre- and post- test scores in intelligence of B. Ed. Students belonging to different EGs and CG.

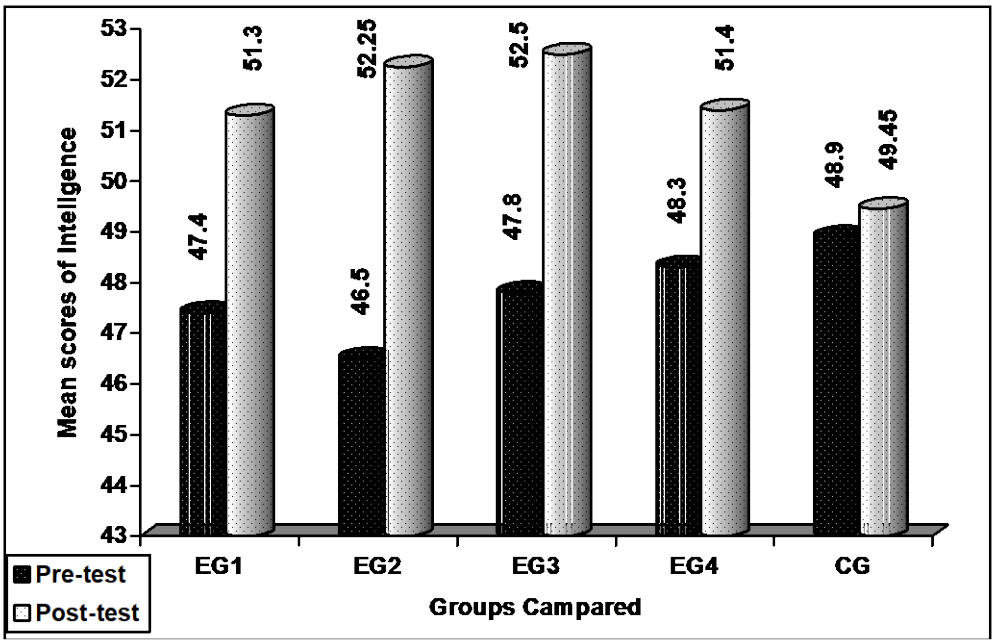


Table 5.15 represents means, SDs and t-values between of pre and post-tests scores in intelligence of different experimental groups (EGs) and control group (CG). This table shows that M_1, M_2, SD_1 and SD_2 and t-value between pre and post–tests in intelligence of EG_1 were 47.40, 51.30, 5.28, 2.34 and 4.646 respectively. M_1, M_2, SD_1, SD2 and t-values of EG_2 were 46.50, 52.25, 4.95, 3.11 and 8.654 and of EG_3 were 47.80, 52.50, 4.81, 3.02 and 6.039 respectively. Further, M_1, M_2, SD_1, SD_2 and t-values of EG_4 were 48.30, 51.40, 5.31, 4.64 and 7.339 and of CG were 48.90, 49.45, 6.39, 6.10 and 0.19 respectively.

The t-values of all the four experimental groups were significant at .01 level of significance and of the control group was not found statistically significant. Hence, it is clear from table 7.7.1 that their mean of post-tests scores in intelligence of all EGs are significantly higher than the respect cal mean pre-test scores in intelligence. These results are in consonance with the expectation of the investigator.

Table 5.16: Mean differentials between post- test scores in intelligence of different EGs and CG.

Groups Compared	M_1	M_2	SD_1	SD_2	t-value	Level of significance
EG_1-CG	51.30	49.45	2.34	6.10	1.266	NS
EG_2 - CG	52.25	49.45	3.11	6.10	1.829	NS
E $_3$ -CG	52.50	49.45	3.02	6.10	2.004	.05
EG_4 -CG	51.40	49.45	4.64	6.10	1.138	NS

M_1= the mean post-test scores of different (EGs & CG) in intelligence.
M_2= the mean post-test scores of different (EGs & CG) in intelligence.
SD_1= the mean post-test scores of different (EGs & CG) in intelligence.
SD_2 = the mean post-test scores of different (EGs & CG) in intelligence.

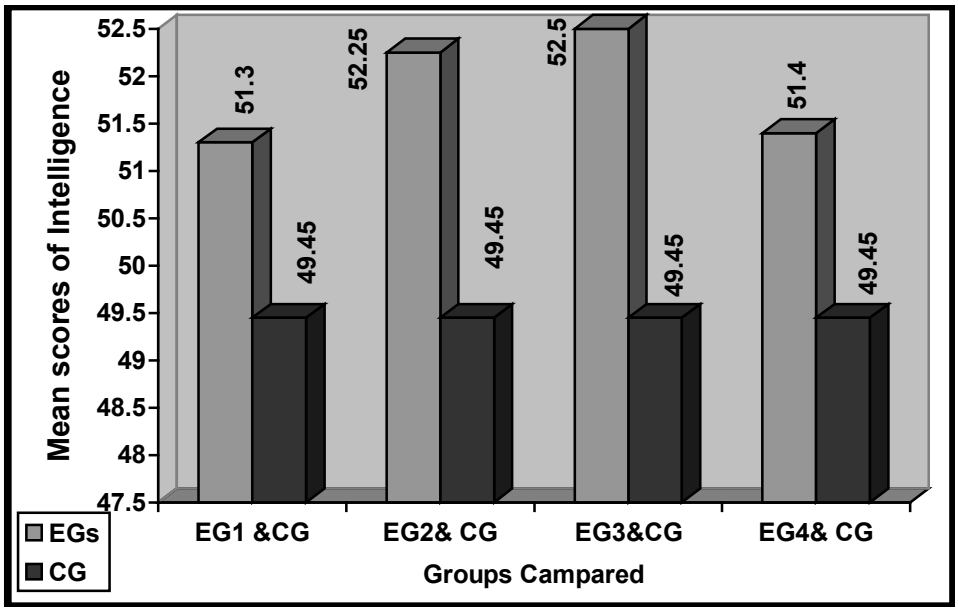
Table 5.16 represents means, SDs and t-values between of post-test scores of different EGs and CG scores in intelligence. This table shows that mean (M_1) and standard deviation (SD_1) of EG_1 whose subjects were trained through shatkriyas was 51.30 and 2.34 respective.

The t-value calculated between post –tests scores EG_1 and CG was 1.266 which is statistically insignificant. The mean (M_1) scores and standard deviation (SD_1) of EG_2 whose subjects were trained through Pranayamas were 52.25 and 3.11 respective. The t-value calculated between post –tests scores EG_2 and CG was 1.829 which is statistically insignificant.

The mean (M_1) scores and standard deviation (SD_1) of EG_3 whose subjects were trained through Meditation were 52.50 and 3.02 respective. The t-value calculated between post –tests scores EG_3 and CG was 2.004 which is statistically significant. The mean (M_1) scores and standard deviation (SD_1) of EG_4 whose subjects were trained through shatkriyas, Pranayamas and

Meditation, trio were 51.40 and 4.64 respective. The t-value calculated between post–tests scores EG_4 and CG was 1.138 which is statistically insignificant.

Figure 5.11: Mean post-test scores in intelligence of B. Ed. Students belonging to different EGs and CG.



5.14 DISCUSSION OF RESUTLS

Results obtained from Table 5.15 show that there were intelligence gains in all the experimental groups but there was no improvement in intelligence of the control group.

This suggests that children who were provided training through various Yogic practices i.e. Shatkriyas, Pranayamas and Meditation trio had gained their intelligence but those who did not receive any training showed no improvement in intelligence. Further this indicates that intelligence increases as the academic stress decreases.

Results obtained from Table 5.16 show that there were intelligence gains in all the experimental groups. But could not substantially increase intelligence of B. Ed. Students. However, the t-value between the post-test scores of EG_1 and

CG with regard to intelligence was statistically significant. Further this indicates that intelligence increases as the academic stress decreases.

It is clear form the above discussion that reduction is stress results in gains in intelligence. This improvement in intelligence can be attributed to the fact that with the reduction in academic stress of subjects their increased concentrated.

Thus, the 5th hypothesis, namely, "Reduction in stress statement of hypothesis is incorrect may result in intelligence gains stands verified. In other words, intelligence of students increases as the academic stress decrease.

Hence, it can be concluded that academic stress decrease and intelligence increases as a side effect of intervention provided for the reduction of academic stress.

Table: 5.17: Mean differentials between pre and post- test scores of different EGs and CG in memory of B. Ed. Students.

Groups	**M_1**	M_2	**SD_1**	**SD_2**	**t-value**	**Level of Significance**
EG_1	73.85	91.20	12.29	7.70	7.286	.01
EG_2	73.55	88.10	13.17	7.28	6.312	.01
EG_3	71.05	87.55	17.49	10.65	5.493	.01
Eg_4	72.90	90.00	11.03	7.96	7.348	.01
CG	72.75	73.20	18.08	18.00	0.82	NS

M_1 = the mean pre-test scores of different EGs & CG in memory.

M_2 = the mean post-test scores of different EGs & CG in memory

SD_1**=** the mean pre-test scores of different EGs & CG in memory.

SD_2 = the mean post-test scores of different EGs & CG in memory.

Figure 5.12: Mean differentials between pre and post test scores of different EGs and CG in memory of B. Ed. Students.

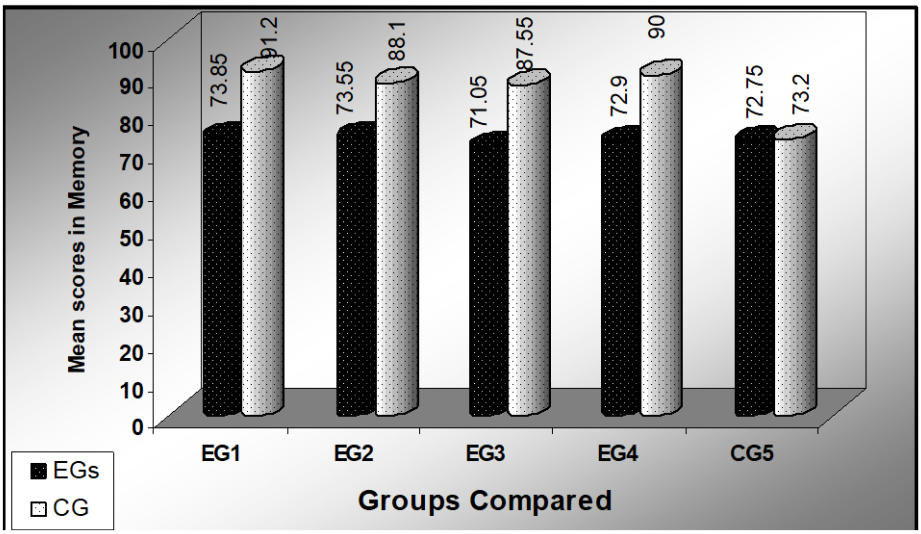


Table 5.17 represents means, SDs and mean differentials (t-values) between of pre and post-tests scores in memory of different experimental groups (EGs) and control group. The number of students in each EG was 20. Mean pre and post-test scores (M_1 and M_2) of EG_1 were 73.85 and 91.20 respectively. Its SD_1 and SD_2 were 12.29 and 7.70 respectively and t-value between pre and post-test scores of EG_1 was recorded 7.286.

The mean pre- and post-test scores (M_1 and M_2) of EG_2 were 73.55 and 88.10 respectively and SD_1 and SD_2 were found to be 13.17 and 7.28 respectively. Its t-value was 6.312. Further, M_1, M_2, SD_1 and SD_2 of EG_3 were 71.05, 87.55, 17.49 and 10.65 respectively.

Its t-value was 5.493; M_1, M_2, SD_1 and SD_2 of EG_4 were 72.90, 90.00, 11.03 and 7.96 respectively. Its t-value was 7.348. Again M_1, M_2, SD_1 and SD_2 of CG were 72.75, 73.20, 18.08 and 18.00 respectively. Its t-value was found to be 0.82, which was not significant. The t-values of EG_1, EG_2, EG_3 and EG_4 are significant at .01 level of significance where as that of CG is not statistically significant.

Table: 5.18: Mean differentials between post- test scores in Memory of different EGs and CG.

Groups Compared	M_1	M_2	SD_1	SD_2	t-value	Level of significance
EG_1-CG	91.20	73.20	7.70	18.00	4.111	.01
EG_2 - CG	88.10	73.20	7.28	18.00	3.431	.01
E_3 -CG	87.55	73.20	10.65	18.00	3.067	.01
EG_4 -CG	90.00	73.20	7.96	18.00	3.817	.01

M_1= the mean post-test scores of different EGs & CG in Memory.
M_2= the mean post-test scores of different EGs & CG in Memory.
SD_1= the mean post-test scores of different EGs & CG in Memory.
SD_2 = the mean post-test scores of different EGs & CG in Memory.

Table 5.18 represents means, SDs and t-values between of post-test scores of different EGs and CG scores in Memory. This table shows that mean (M_1) and standard deviation (SD_1) of EG_1 whose subjects were trained through Shatkriyas was 91.20 and 7.70 respective. The t-value calculated between post–tests scores EG_1 and CG was 4.111 which is statistically significant. The mean (M_1) scores and standard deviation (SD_1) of EG_2 whose subjects were trained through Pranayamas were 88.10 and 7.28 respective. The t-value calculated between post–tests scores EG_2 and CG was 3.431 which is statistically significant. The mean (M_1) scores and standard deviation (SD_1) of EG_3 whose subjects were trained through Meditation were 87.55 and 10.65 respective. The t-value calculated between post–tests scores EG_3 and CG was 3.067 which is statistically significant. The mean (M_1) scores and standard deviation (SD_1) of EG_4 whose subjects were trained through Shatkriyas, Pranayamas and Meditation, trio were 90.00 and 7.96 respective. The t-value calculated between post –tests scores EG_4 and CG was 3.817 which is statistically significant.

5.15 DISCUSSION OF RESUTLS

Results obtained from Table 5.18 show that there was gains in memory scores in the subjects of all the experimental groups but there was no improvement in memory of the control group. This suggests that children who were provided training through various Yogic practices i.e. Shatkriyas, Pranayamas and Meditation trio had gained their memory but those who did not receive any training showed no improvement in memory. Further this indicates that memory increases as the academic stress decreases.

Results obtained from Table 5.18 show that there was memory gains scores in the subjects of in all the experimental groups but there was no improvement in memory of the control group. This suggests that children who were provided training through various Yogic practices i.e. Shatkriyas, Pranayamas and Meditation trio had gained their memory but those who did not receive any training showed no improvement in memory. Further this indicates that memory increases as the academic stress decreases.

It is clear form the above discussion that reduction is stress results in gains in memory. This improvement in intelligence can be attributed to the fact that with the reduction on academic stress of subjects their concentration increases which further contributes to the improvement in their memory during the practice. “There would be an increase in the in memory level of B. Ed. Students as a side effect of reduction in academic stress**”** may result in Memory gains stands verified. In other words, Memory of students increases as the academic stress decreases”. Hence, it can be concluded that academic stress decrease and Memory increases as a side effect of intervention provided for the reduction of academic stress.

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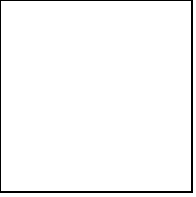

CHAPTER-6

EDUCATIONAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER STUDY

The study revealed many educational implications for B. Ed. Students, teachers as well as society.

Compulsion of competitive examination has effected major changes in today's educational system. Students work non-stop for more than eighteen hours a day and their tutors exert themselves to help such students succeed in competitions. This tremendous stress is doing terrible damage to the health of the students. The findings of this research indicate that Yoga is the right solution for today's stress filled education. A little time devoted to practices of Yoga would bring radical changes in the performance of the students.

Yoga can be initiated by practice of the right kind breathing, which brings many positive changes in the body and mind. Stress on the eyes can be totally eliminated by the practice of Trataka. Meditation improves and sharpens one's memory. Pranayama restores the mind – body balance and fills new productive energy into the body system. Combined module of Trataka, Pranayama and Meditation would relax the total nervous system. Any ailment of the body and mind related to academic stress can be managed by these Yoga practices. These practices also create an optimistic temperament, which is the most valuable asset of an individual. Such a temperament helps the individual in handling own and others problems. Thus it creates and improves co-operation in educational atmosphere.

The out come of this research indicates creative and promotive possibilities in the field of education. Data of the research indicates clearly that Yoga practices can boost the creative and qualitative receptivity among the students. Various kinds of stress related problems among the students can be managed through integration of Yoga with education. Various kinds of Yoga

modules can be introduced in educational curriculum. Other implications may be observed as under:

Introduction of Yoga would increase the general discipline in the educational system by providing peaceful atmosphere for study. It will also improve the results.

Teachers would also be benefited by practice of Yoga as they will be able to perform their task more effectively and will be able to create meditative and stress free atmosphere during teaching hours.

Most benefited part of education system would be students. Students will be able to improve their concentration in the educational work by elimination of stress related problems like anxiety, conflict, frustration and pressure through the practice of Yoga.

All above benefits can be obtained by introducing Yoga as a practice in the institutional curriculum for students as well as teachers.

Finally, it can be said that implications of Yoga practices like Shatkriyas, Pranayamas and Meditation can efficiently remove academic pressure and anxiety; eliminates conflicts; and vitalizes an individual for satisfactory performance in the area of student's work and relationship.

6.1 SUGGESTIONS FOR FURTHER RESEARCH

- Due to paucity of time, the present study was delimited to Effect of Yoga on Stress among B. Ed. Students. The Purpose was to find out how to reduce or eliminate stress of the B. Ed. Students. Such studies should also be conducted among Students of Sec. Level and Post Graduate Level to reduce or eliminate other stress problems as well.

- Effectiveness of other Yogic techniques has been dealt with in the present study among B. Ed. Students. It would be also fruitful to replicate the present study on B.A. level.

- Students with average intelligence were included in the present study. It would be fruitful and of great worth to conduct such research work on mentally retarded children.

- In the present study, reduction in stress has resulted in reduction of other stress as well as IQ gains. To confirm such results, the present study should be replicated.

- Further research work should be undertaken to replicate the present study in other regions of India and abroad.

- The Present study was delimited to B. Ed. Students of Jalandhar District only. The same can be extended to wider geographical area.

- The Present Study was delimited to B. Ed. Students only. The study can be extended to other classes also.

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SUMMARY

7.1 INTRODUCTION

Yoga certainly can prove a big blessing and provide not only Spiritual experiences but also much more, such as mental, physical and spiritual health and complete well-being. The present study has focused on exploring the impact of simple yogic Shatkriyas, Pranayamas and meditation on stress. The findings of the study would not only add to the body of knowledge but will provide a great help to psychologists, educationists, physical educationists and counselors in effective handling of the Students and youth in their respective professions. The findings would be of great significance to the public in general and bring about an awareness of relevance of yogic practices in modern world of stress and tensions, particularly among adolescents. The findings would also help all those who wish to attain and maintain health in easy way.

Modern age is the age of machine and most modern societies are obsessed by power and much time and efforts are wasted in trying to discover more powerful and more destructive weapons. Technology has made rapid progress, but man has not. He has learned to harness atomic energy but is unable to control his own senses and his own mind. The danger of atomic weapons lie not in the powerful destructive device themselves it arises because of uncontrolled mind of man who are corrupted by their powers.

Yoga, the science of life is an effective tool to control and cure every day stress and strain. Yogic practices like Shatkriyas and Pranayama are for the common man, whatever his profession, class, religion, nationality or age. There is not one amongst us who is not interested in it and does not share a concern for the impact that science and technology makes upon human values.

The present trend of thoughts based on a materialistic philosophy of power, prosperity and pleasure had resulted in a form of separate culture. Worldly values dominate the modern man, who reacts to stimuli, struggles for self preservation, self aggrandizement and self gratification. This ego-ridden individual seeks freedom and happiness in this nerve- racking hunt after worldly

objects in the external world which leads to a life of bondage, misery, worries, insecurity, despair, frustration, disillusionment and doubt.

The present study has been based on well-accepted holistic philosophy of Yoga that accepts man as a whole- a complete entity infacts. It is based on the fact that mind influences the body more than the body influences the mind. Hence, it is most essential to discipline the mind for an integral and harmonious allround development of a positive personality. Yogic practices can undoubtedly play a vital role in directing the mind towards creativity and constructive goals. These provide the individual with refreshing experiences, peace, and happiness and developing positive thinking, self-confidence, analytical approach, smooth and calm mental state with emotional stability and strong will power. Adolescents pass through too many changes at too rapid a speed and experience multi directional challenges and consequently find themselves at a loss. Clinical studies carried out by Grinker et al. (1963, 1966, 1967), Master on et al. (1963, 1966, 1967) and Johnson (1966) have brought to lime light the alarming fact that in the normal adolescent population, the mentally ill and the doubtful cases out number the mentally healthy adolescents. These studies conclude that many of them do not need hospitalization or even clinical assistance but most of them do need some kind of help, guidance and skilful handling. They need timely guidance for diversion of their minds towards a channel to save themselves from disaster of entering the dark world of drug addictions and frustration.

Various studies have been done up till now related to the topics concerned with the subject i.e. role of Shatkriyas, Pranayama, Asanas and meditation etc. on mental health, anxiety, fatigue etc. But, no attempt has been made towards a collective approach to mental stress and its various manifestations like Depression, Anxiety, Insomnia, Mental Conflict, Frustration, and also the collective use of these three techniques namely Shatkriyas, Pranayama and Meditation in rectifying these mental disorders.

Moreover no attempt has been made for their comparative study i.e. which of the three is more effective in eliminating mental stress and its various manifestations. The previous works done on this topic are carried out only in the

department of Physical education and Psychology, but not in Yoga education. That is why; an attempt has now been made for the same. The research studies carried out so far test the effectiveness of different yogic exercises, Shatkriyas and Pranayamas on stress. The Investigator has studied the Effect of Yoga on Stress among B. Ed. Students.

7.2 STATEMENT OF THE PROBLEM

Effect of Yoga on Stress among B. Ed. Students

7.3 DELIMITATIONS

1. The study will be delimited only to B. Ed. Students.

2. Three Yogic techniques namely Shatkriyas (Kapalbhati and Trataka), Pranayamas (Anulom-Vilom and Bhramari) and Meditation as well as collective approach will be taken up by the investigator.

3. Delimited to students of Jalandhar district only

7.4 OBJECTIVES OF THE STUDY

This study is designed to attain the following objectives:

1. To find out the level of mental stress in male and female B. Ed. Students.
2. To find out the effectiveness of yogic Shatkriyas in reducing the level of stress among B. Ed. Students.
3. To find out the effectiveness of Yogic Pranayamas in reducing the level of stress among B. Ed. Students.
4. To find out the effectiveness of Meditation in reducing the level of stress among B. Ed. Students.
5. To find out the comparative efficacy of Yogic Shatkriyas, Pranayamas and Meditation in reducing the level of Stress among B. Ed. Students.

7.5 HYPOTHESES

The study is designed to test the following hypotheses:

1. There would be difference in the level of stress between male and female B. Ed. Students.
2. 'Yogic Shatkriyas' would be effective in reducing stress among B. Ed. Students.
3. The 'Pranayamas' would be effective in reducing stress among B. Ed. Students.
4. The 'Meditation' would be effective in reducing stress among B. Ed. Students.
5. There would be an increase in the intelligence and memory level of B. Ed. Students by following yoga practices.

7.6 DESIGN OF THE STUDY

A pre-test, post-test, control group, randomized subjects, experimental design will be employed to conduct the present study. Subjects will be assigned randomly to the experimental and control group. Shatkriyas, Pranayamas and Meditation will be independent variables and Stress will be the dependent variable. Training in Shatkriyas, Pranayamas and Meditation will be given to the experimental groups for three months whereas no training will be given to the control group.

7.7 SAMPLE

Initial Sample

In the Initial sample, 126 male and female students studying in B. Ed. Colleges in Jalandhar District were taken up. They were administered Raven's Standard Progressive Matrices (1988), Bist Battery of Stress Scales by Abha Rani (1987). B. B. Asthana short-term memory (1982). On the basis of test score, those who fulfilled the following criteria were included in the final sample:

Final sample

Final sample consisted of 110 adolescent students in the age group of 22-26 Years studying in B. Ed. in Training Colleges with average intelligence and high stress.

7.8 TOOLS USED

1. Bist Battery of Stress Scales by Abha Rani. [1987]
2. Raven's Standard Progressive Matrices. (1988)
3. B.B. Asthana short term memory (1982)

7.9 PROCEDURES FOR DATA SCORING AND ANALYSES

The data of the present study were collected in the following four phases gives under:

Phase I – Pre- test- In the first phase, 126 Students in the age group of 22-26 from B. Ed. Colleges were taken up. They were administered Raven's Standard Progressive Matrices (1988), Abha Rani Bist Battery of Stress Scale (1987) and B.B. Asthana short-term memory (1982). On the basis of test score, those 100 subjects who were having average intelligence, high stress and educational areas were selected for final sample. Total 100 subjects who were included in the final sample, 20 subjects were randomly assigned to each of the five groups (four experimental and one control group). Further, treatments were randomly assigned to different groups. Homogeneity of the total sample was tested with the help of ANOVA. Summary of ANOVA is given in table 5.11, 5.12.

Phase II- In the second phase, the subjects were given an orientation by the researcher. She explained in detail about the purpose, objectives and procedures of the experiment and also the purpose of scales. She assured them that their scores will be kept for research purpose. They were told about the advantages of yogic practices and explained with the help of demonstration the

step – wise technique of performing each of Shatkriyas, Pranayamas and about meditation. The subjects were not allowed to undergo any other treatment or systematic training program during the intervention period. They were asked to be regular and punctual through out the experiment duration.

Phase III- The experimental treatment comprised Kriyas, Pranayamas and meditation. All the four experimental groups i.e. EG_1, EG_2, EG_3 and EG_4 were given regular training in Shatkriyas, Pranayamas Meditation and Combined procedure as follow: -

1. 1. EG-1: Given training in Shatkriyas only. (10 minutes)
2. EG-2: Given training in Pranayama only. (10 minutes)
3. EG-3: Given training in Meditation only. (20 minutes)
4. EG-4: Given training in Shatkriyas, Pranayama & Meditation. (40 minutes)

Separate instructions were given to all the four experimental groups. Detailed instructions are given in Appendix V. They were given practice at morning except on Sunday. Group V was treated as control group and was not subject to any experimental treatment. However, this group was allowed to engage in informal play during the experimental hour.

Phase- IV- Post –test- In the fourth phase, Standard Progressive Matrices (1988), Abha Rani Bist Battery of Stress Scale (1987) and B.B. Asthana short-term memory (1982) were read ministered to find out if there were any significant gains in all the students as a result of treatment provided to the subjects.

7.10 STATISTICAL ANALYSIS

Various statistical techniques were employed for testing research hypotheses. Analysis of variance was worked out to find out variance (difference) between various treatments techniques. Further t – test was applied to different

treatment groups to test the efficacy of various Yogic techniques. Descriptive statistics namely mean and SD, Analysis of variance, 't-test', Graphic representation, and other relevant technique would be employed as and when required.

7.11 RESULTS AND CONCLUSION

Effect of Shatkriyas:

The mean differentials between pre and post test scores in different areas of academic stress of B. Ed. Students, who were provided training through Shatkriyas are significant at .01 level of significance. This suggests that Shatkriyas are effective in reducing the academic stress of students. Further, the t–values calculated between the post test scores of experimental group and control group, academic frustration, total academic stress, academic conflict and academic pressure are significant. However, the t – value between the post test scores of Shatkriyas and control group with regard to academic anxiety was not statistically significant. This indicates that Shatkriyas have successfully reduced academic frustration academic conflict, academic pressure and total academic stress but could not substantially reduce academic anxiety of B. Ed. Students.

There was no decrease in the academic stress of B. Ed. Students belonging to the control group. This suggests that the reduction in academic stress of students belonging to experimental group is due to training provided through Shatkriyas.

Effect of Pranayamas:

The mean differentials between pre and post scores in academic stress of B. Ed. Students, who were provided training through Pranayamas, indicate that the academic stress level of B. Ed. Students has decreased as all the t – values are significant. Further the t–value calculated between the post test scores of experimental group and control group in different areas of academic stress i.e.

academic frustration, academic conflict, academic pressure, academic anxiety and total of academic stress are statistically significant.

This suggests that Pranayamas have substantially and significantly reduced the academic stress found in B. Ed. Students.

Effect of Meditation:

The mean differentials between pre and post test scores in academic stress of students , who were provided training through Meditation, indicate that the level of academic stress B. Ed. Students of experimental group has decreased as all the t–values are significant. Further the post test scores of experimental group and control group in different areas of academic stress i.e. academic frustration, academic conflict, academic pressure, academic anxiety and total academic stress are statistically significant.

Effect of Combined Procedure:

The mean differentials between pre and post test scores in different areas of academic stress of B. Ed. Students, who were provided training through trio are significant at .01 levels. This suggests that trio is effective in reducing the academic stress of students. Further the t – value calculated between the post test scores of experimental group and control group in different areas of academic stress i.e. academic frustration, academic conflict, academic pressure, academic anxiety and total academic stress are statistically significant. These indicate that trio effective in reducing the stress of students.

Comparative Effectiveness of Yogic practice:

The mean differentials calculated between Shatkriyas and Pranayamas, Shatkriyas and Meditation, Shatkriyas and trio, Pranayamas and Meditation, Pranayamas and trio and Meditation and trio were less than the table value i.e. these t – value were not statistically significant at any level of significance. This t-value indicates that these techniques do not differ from each other in reducing

the academic frustration. All these Yogic practices are equally effective in reducing academic frustration of the students.

Mean differentials calculated between Shatkriyas and Pranayamas, Shatkriyas and Meditation, Pranayamas and Meditation, Pranayamas and trio and Meditation and trio were less than the table value i.e. these t – values were not statistically significant at any level of significant. This indicates that these techniques do not differ from each other in reducing the academic conflict of B. Ed. Students. All these techniques are equally effective in reducing academic conflict of the students. Further the t – value calculated between Shatkriyas and trio was significant at level of .01. The mean score of academic conflict of the subjects of trio is less than the mean score of Shatkriyas. It can be concluded that the academic conflict of those subjects who were provided training through Shatkriyas, Pranayamas and Meditation trio was reduced significantly more than the subjects who were provided training through Shatkriyas alone.

Mean differentials calculated between Shatkriyas and Pranayamas, Meditation and trio were not statistically significant that any level of significant. Pranayamas and trio were significant at level of .01. Since the mean score of academic pressure of the subjects of trio is less than the mean score of Pranayamas. It can be concluded that the academic pressure of those subjects who were provided training through Shatkriyas, Pranayamas and Mediation trio was reduced significantly more than the subjects who were provided training through Pranayamas alone. Shatkriyas and Meditation, Shatkriyas and trio, Pranayamas and Mediation were significant at level of .05. Since the mean score of trio was less than the mean score of Shatkriyas this suggests that combined procedure of Shatkriyas, Pranayamas and Mediation is more effective than the Shatkriyas also in reducing the academic pressure of students.

The mean differentials calculated between Pranayamas and Meditation was less than the table value i.e. this t – value was not statistically significant at any level of significant. This indicates that these techniques do not differ from each other in reducing the academic anxiety of students.

The t – value calculated between Shatkriyas and Meditation, Shatkriyas and trio, Pranayamas and Meditation, Meditation and trio are statistically significant. The mean scores of Pranayamas, Meditation and trio in academic anxiety are less than the mean scores of Shatkriyas. This suggests that

Shatkriyas, Meditation and trio are more successfully than Shatkriyas. Combined procedure more effective in reducing academic anxiety than Pranayamas.

Mean differentials calculated between Shatkriyas and Pranayamas, Pranayamas and Meditation, Meditation and trio were less than the table value i.e. these t – values were not statistically significant at any level of significant. These insignificant t – values indicate at these techniques do not differ from each other in reducing the academic stress of students. All these techniques are equally effective in reducing academic stress of students. Shatkriyas, Meditation and Pranayamas trio were significant at level of .01. The mean post – test scores in academic stress of Meditation was less than the mean score of Shatkriyas. This suggests that Meditation is more effective than the “Shatkriyas alone in reducing the academic stress of students. The mean scores of trio was less than the mean score of Pranayamas. This suggests that trio is more effective than the Pranayamas alone in reducing the academic stress of students.

Side effects of Intelligence:

There were intelligence gains in all the experimental groups but there was no improvement in intelligence of the control group. This suggests that Students who were provided training through various Yogic practices i.e. Shatkriyas, Pranayamas and Meditation trio had gained their intelligence but those who did not receive any training showed no improvement in intelligence.

The post test scores of experimental groups and control group with regard to intelligence was statistically significant. This indicate that intelligence increases as the academic stress decreases.

Side effects of Memory:

There was gain in memory scores in the subjects of all the experimental groups but there was no improvement in memory of the control group. This suggests that children who were provided training through various Yogic practices i.e. Shatkriyas, Pranayamas and Meditation trio had gained their memory but those who did not receive any training showed no improvement in memory.

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CASE STUDY-1

S_1: Kanchan **Sex:** Female

Age: 25 Years. **Class:** B. Ed.

Hobbies: Playing Badminton, Reading books.

Intelligence Grade: Intellectually average

(Percentile b/w 50&75)

		Scores		
S.NO	**Variables**	**Pre- test**	**Post- test**	**Difference**
1	Intelligence Score of SPM	47	48	1
2	Memory	63	96	33
•	Academic Frustration	52	48	4
•	Academic Conflict	27	24	3
•	Academic Pressure	43	40	3
•	Academic Anxiety	33	23	10
3	Total Stress	155	135	20

(Kanchan) a Female, aged 25 years was studying in B. Ed. She enjoyed playing Badminton and reading books. She scored 47 out of 48 in SPM (Intelligence test). Her Pre-test scores in memory test, academic frustration, academic conflict, academic pressure and academic anxiety were 63, 52, 27, 43, and 33 respectively. Her total pre-test stress score was 155. After three months of training provided through Shatkriyas, (Kapalbhati and Trataka) her score was 96 in memory test. The post-test scores of academic frustration, academic conflict, academic pressure and academic anxiety were reported as 48, 24, 40, and 23 respectively.

The Post-test score of total stress was 135. Consequently, there was a gain of 33 scores in memory test. Similarly there was difference of 4, 3, 3 and 10 between the pre-test and post-test scores of academic frustration, academic pressure, academic conflict and academic anxiety and there was a difference of 20 scores in the pre-test and post-test of total stress.

This suggests that his memory had increased and stress had decreased due to training provided to her through Shatkriyas.

CASE STUDY-2

S_2: Aditi **Sex:** Female

Age: 24 Years. **Class:** B. Ed.

Hobbies: Reading books, Listening song.

Intelligence Grade: Intellectually average

(Percentile b/w 50&75)

		Scores		
S.NO.	**Variables**	**Pre- test**	**Post- test**	**Difference**
1	Intelligence Score of SPM	48	51	3
2	Memory	75	100	25
•	Academic Frustration	54	50	4
•	Academic Conflict	28	12	16
•	Academic Pressure	52	30	22
•	Academic Anxiety	25	20	5
3	Total Stress	159	112	47

S_2 Aditi a Female, aged 24 years was studying in B. Ed. She enjoyed playing Computer Game and reading books. She scored 48 out of 51 in SPM (Intelligence test). Her Pre-test scores in memory test, academic frustration, academic conflict, academic pressure and academic anxiety were 75, 54, 28, 52, and 25 respectively. Her total pre-test stress score was 159. After three months of training provided through Shatkriyas, (Kapalbhati and Trataka) her score was 100 in memory test. The post-test scores of academic frustration, academic conflict, academic pressure, and academic anxiety were reported as 50, 12, 30 and 20 respectively. The Post-test score of total stress was 112. Consequently, there was a gain of 25 scores in memory test. Similarly there was difference of 4, 16, 22, and 5 between the pre-test and post-test scores of academic frustration, academic conflict, academic pressure, and academic anxiety and there was a difference of 47 scores in the pre-test and post-test of total stress. This suggests that his memory had increased and stress had decreased due to training provided to her through Shatkriyas.

CASE STUDY- 3

S_3: Monica **Sex:** Female

Age: 23 Years. **Class:** B. Ed.

Hobbies: Reading books.

Intelligence Grade: Intellectually average

(Percentile b/w 50&75)

		Scores		
S.NO	**Variables**	**Pre- test**	**Post- test**	**Difference**
1	Intelligence Score of SPM	40	49	9
2	Memory	92	92	0
•	Academic Frustration	55	44	11
•	Academic Conflict	20	18	2
•	Academic Pressure	47	44	3
•	Academic Anxiety	29	28	1
3	Total Stress	151	134	17

S_3 Monica a Female, aged 23 years was studying in B. Ed. She enjoyed playing Badminton and reading books. She scored 40 out of 49 in SPM (Intelligence test). Her Pre-test scores in memory test, academic frustration, academic conflict, academic pressure, and academic anxiety were 92, 55, 20, 47 and 29 respectively. Her total pre-test stress score was 151. After three months of training provided through Pranayamas, (Anulom-Vilom and Bhramri) her score was 92 in memory test. The post-test scores of academic frustration, academic conflict, academic pressure, and academic anxiety were reported as 44, 18, 44 and 28 respectively.

The Post-test score of total stress was 134. Consequently, there was a gain of 0 scores in memory test. Similarly there was difference of 11, 2, 3 and 1 between the pre-test and post-test scores of academic frustration, academic pressure, academic conflict and academic anxiety and there was a difference of 17 scores in the pre-test and post-test of total stress.

This suggests that her memory had increased and stress had decreased due to training provided to her through Pranayamas.

CASE STUDY- 4

S_4: Neha **Sex:** Female

Age: 24 Years. **Class:** B. Ed.

Hobbies: Reading books & Swimming.

Intelligence Grade: Intellectually average

(Percentile b/w 50&75)

		Scores		
S.NO	**Variables**	**Pre- test**	**Post- test**	**Difference**
1	Intelligence Score of SPM	50	53	3
2	Memory	84	96	12
•	Academic Frustration	48	45	3
•	Academic Conflict	25	13	12
•	Academic Pressure	48	32	16
•	Academic Anxiety	30	23	7
3	Total Stress	141	113	28

S_4 (C.M) a Female, aged 24 years was studying in B. Ed. She enjoyed playing cricket and reading books. She scored 50 out of 53 in SPM (Intelligence test). Her Pre-test scores in memory test, academic frustration, academic conflict, academic pressure, and academic anxiety were 84, 48, 25, 48 and 30 respectively. Her total pre-test stress score was 141. After three months of training provided through Pranayamas, (Anulom-Vilom and Bhramri) her score was 96 in memory test. The post-test scores of academic frustration, academic conflict, academic pressure and academic anxiety were reported as 45 13, 32 and 23 respectively. The Post-test score of total stress was 113. Consequently, there was a gain of 12 scores in memory test. Similarly there was difference of 3, 12, 16 and 7 between the pre-test and post-test scores of academic frustration, academic conflict, academic pressure, and academic anxiety and there was a difference of 28 scores in the pre-test and post-test of total stress. This suggests that her memory had increased and stress had decreased due to training provided to her through Pranayamas.

CASE STUDY- 5

S_5: Jyoti **Sex: Female**

Age: 25 Years. **Class:** B. Ed.

Hobbies: Listening song, Reading books.

Intelligence Grade: Intellectually average

(Percentile b/w 50&75)

		Scores		
S.NO	**Variables**	**Pre- test**	**Post- test**	**Difference**
1	Intelligence Score of SPM	50	51	1
2	Memory	79	88	9
•	Academic Frustration	55	42	13
•	Academic Conflict	23	9	14
•	Academic Pressure	47	39	8
•	Academic Anxiety	31	15	16
3	Total Stress	146	105	41

S_5 Jyoti a female, aged 25 years was studying in B. Ed. She enjoyed Swimming and reading books. She scored 50 out of 51 in SPM (Intelligence test). Her Pre-test scores in memory test, academic frustration, academic conflict, academic pressure and academic anxiety were 79, 55, 23, 47 and 31 respectively. Her total pre-test stress score was 146. After three months of training provided through Shatkriyas, Pranayamas, Meditation (Kapalbhati and Trataka) (Anulom-Vilom and Bhramri) (TM) her score was 88 in memory test. The post-test scores of academic frustration, academic conflict academic pressure, and academic anxiety were reported as 42, 9, 39 and 15 respectively. The Post-test score of total stress was 105. Consequently, there was a gain of 9 scores in memory test. Similarly there was difference of 13, 14, 8 and 16 between the pre-test and post-test scores of academic frustration, academic conflict, academic pressure, and academic anxiety and there was a difference of 41 scores in the pre-test and post-test of total stress. This suggests that her memory had increased and stress had decreased due to training provided to her through combined yogic technique (Shatkriyas, Pranayamas and Meditation).

CASE STUDY- 6

S_6: Rabbia **Sex: Female**

Age: 24 Years. **Class:** B. Ed.

Hobbies: Coin collection.

Intelligence Grade: Intellectually average

(Percentile b/w 50&75)

		Scores		
S.NO	**Variables**	**Pre- test**	**Post- test**	**Difference**
1	Intelligence Score of SPM	51	53	2
2	Memory	67	75	8
•	Academic Frustration	51	45	6
•	Academic Conflict	30	26	4
•	Academic Pressure	53	40	13
•	Academic Anxiety	26	20	6
3	Total Stress	160	131	29

S_6 Rabia a female, aged 24 years was studying in B. Ed. She enjoyed Collection Money and reading books. She scored 51 out of 53 in SPM (Intelligence test). Her Pre-test scores in memory test, academic frustration, academic conflict, academic pressure and academic anxiety were 67, 51, 30, 53 and 26 respectively. Her total pre-test stress score was 160. After three months of training provided through Shatkriyas, Pranayamas, Meditation (Kapalbhati and Trataka) (Anulom-Vilom and Bhramri) (TM) her score was 75 in memory test. The post-test scores of academic frustration, academic conflict, academic pressure, and academic anxiety were reported as 45, 26, 40 and 20 respectively. The Post-test score of total stress was 131. Consequently, there was a gain of 8 scores in memory test. Similarly there was difference of 6, 4, 13 and 6 between the pre-test and post-test scores of academic frustration, academic conflict, academic pressure and academic anxiety and there was a difference of 29 scores in the pre-test and post-test of total stress. This suggests that her memory had increased and stress had decreased due to training provided to her through combined yogic technique (Shatkriyas, Pranayamas Meditation).

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