

Role of Yoga in Stress

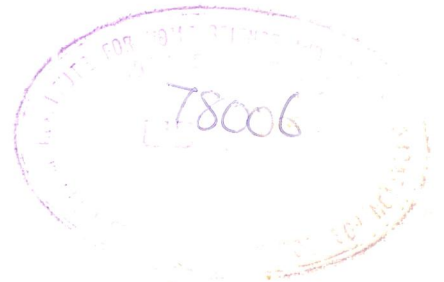
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Introduction

I INTRODUCTION

Stress! We see it everywhere; on the faces of people, in their taunt nerves, in the paroxysm of anger when the ties that control the emotions snap, in the nervous breakdown and in the wide variety of physical symptoms. Stress and tension stalk the lives of all; children, adolescents, men and women, working women and the house wives, the executive and the professional, the labourer and the unemployed. The demands of day-to-day life are so pressing that hardly few can escape the steady erosion of tension (Nair, 1988).

According to Baig (1988) stress is basically a condition of anxiety, placing strains upon the psyche in varying degrees. In the case of children and adolescents, the reaction of stress is either aggressive or a retreat into themselves. In the west this has often led to acute psychiatric conditions, drug addiction and gang grouping. To all categories of children in the school system, heavy syllabus, the burden of books and the parental drive to do well: to come first, get honours, strive for higher and higher academic achievement and poor teaching in over crowded class room situations all contribute an enormous drain upon a child's initiative, self-respect and self-confidence.

In this context Bora (1988) puts forth the fact that the child never realises his own changes and that he is under stress.

In the view of Kaur (1987) it is in school, the children sets their life goals, learn habits and the reaction pattern of their behaviour. The school child learns emotional reaction, patterns in school environment, whether he is self conscious or poised, fearful of confident, introverted and self-centered or extro-verted and active, controls his temper or outbursts.

But, how many schools are doing justice to their jobs? The schools are today functioning without specifying the aim of education. Most of them are racing to maintain their names simply by keeping the high standards which are beyond the reach of the pupil most of the time. Expecting too high is, no doubt, bad. It frustrates the dull students and creates many other problems for the bright.

It is the responsibility of schools to create such an atmosphere in the school and class room that children feel secure and their emotional development takes normal root.

It is a known fact that when the body is in a state of physical tension the mind is affected as well and when the mind is tense, it leads to physical tension and ailments.

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Suppression of emotion is not the effective solution, rather proper channelisation should be emphasised. The facilities for extra-curricular activities like games, yoga, karate, and cultural activities solve many problems. Such activities enable the children to protect their ego by providing them an opportunity to satisfy the needs of achievement (Kaur, 1987). Verma (1988) suggested that a busy daily schedule prove to be strenuous and accounts for many tension. Physical exercise helps to relax muscles and nerves and release mental tension.

Parikh (1990) rightly says that a person guided by the right ideal is free from emotional disturbances while a person actuated by wrong ideal is liable to undergo emotional changes. Yoga provides various techniques to keep one's thoughts and emotions under control, and to provide relaxation to both the body and mind.

Desai (1990) is of the opinion that the stress of modern life keeps the mind under tension and hinders concentration. To relieve this tension and soothe the nervous system, yoga offers techniques for quick relaxation through conscious effort.

McHarg (1990) exhorts that yoga is a science for self improvement of the individual and as such requires the efforts of that individual in providing its rewards. Yogendraji (1990) proclaims that yoga is essentially a technology of higher culture unconnected

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with any religion - an education in habituation to a way of life
- or, connected with the reality in all traditions of religion.

Emphasising the value of yoga, Jayadeva (1990) tells, Yamas and the Niyamas free us from our emotional relationships. Asanas free us from our physical inflexibilities. Pranayama frees us from our fixed pathway of our various system. Pratyahara frees us from the senses. Dharana and Dhyana free us from our subconsciousness cravings and wrong attitudes. While describing the objectives of yoga, Jayadeva (1989) points out that yoga as education is to teach a person how to handle himself subjectively and behaviourly - how to handle one's feelings. It is a stagewise, stepwise education, which leads to the highest stage of evolution.

During the years of high school training, when a young student has to learn self confidence, he requires an overall training for the body, mind, emotions, the sub-consciousness', he also needs to know the fundamentals of his own being, his Soul; that he learns to centre himself and builds self-confidence. The psycho physical practices of yoga, help him to build his body, increase vitality, develop a relaxed attitude, improve his health and so forth. The essence of Raja yoga in terms of attention, concentration, reflection, memory training, capacity of self-analysis will help in whatever vocation he may be in the future (Jaya deva, 1989).

Thus Kumar (1988) is of the opinion that by inducting yoga to the new generation, may be able to gain a complete new dimension in thinking which enables them to conceive a human family above caste, creede, religion and language. This will help them to understand the maladies existing in the present society. Yoga can be practiced by men and women of all ages, but youth is the ideal period for its perfection. It is a way to greater energy, better health, a more youthful figure and relaxed living (Hewitt, 1987).

Afzal (1989) exhorts that the laboratory tests have also confirmed yogis' ability to consciously control automatic or involuntary functions such as temperature, heart beat and blood pressure. Nair (1988) expounds that potential for personality development is present at birth and is shaped by the constant interplay of temperament and environment. Adolescence which is often described as the period of storm and stress is the transition period from the childhood to the adult hood. The fast changes in the last two decades have made the problem more complex for an adolescent. Yoga has much to offer here. With proper yoga training many issues involved in education like mediocrity, lack of social responsibility, immaturity and dislike for work can be dealt within a masterly way.

Hence two investigations were carried out by the department of Human Development to create awareness of the values of yoga among the people of all ages in 1987-88 and 1988-89, namely

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Impact of yoga on Adult men and Impact of yoga on certain dimensions of personality among the adolescents respectively.

To investigate the 'Role of Yoga in Stress', among the school children, this follow up study has been taken up. The study aimed to:

- i) Record the difference in the level of stress among the school children before and after the yoga training and
- ii) Trace out the children's attitudinal changes towards the benefits of yoga at the onset and end of the investigation.

Review of Literature

II REVIEW OF LITERATURE

The related literature pertaining to the study - "Role of Yoga in stress" is reviewed as listed below:

1. Definition and meaning of Yoga
2. Values of Yoga
3. Meaning of Stress
4. Causes of Stress in children and
5. Role of Yoga in stress

1. Definition and meaning of Yoga

Originally the word Yoga is derived from the Sanskrit root Yujr meaning - unite to connect. Later it is associated with the control of mind (Joshi, 1985), to join (Seth, 1986) blend, attach, direct and concentrate one's attention on to use and apply (Iyengar, 1980).

The word Yoga is derived from Sanskrit root "YUJ" means union or combining. Yoga is a union or combination of body, mind and thought. It is a combination, consummation, abstraction, realisation, absorption or meta physical philosophizing of the highest type that promises to bring close proximity between the soul and the over soul. (Singh, 1980 and Yogi Raja, 1985).

Iyengar (1983) explains that the word Yoga mean to merge, join or unite. Yoga is the union of the soul with the external truth, a state of unalloyed bliss, arising from conquest of qualities. It is 'to go to trance, to mediate' (Prasad, 1978). Yoga is often used as a suffix to indicate that the reasoning and conclusions are 'spiritual' (Dhopeshwarkar, 1976; Jingham, 1986).

Shekawat (1979) and Seth (1986) state that Yoga certainly carries the sense of collation, coming together, joining, uniting and adding. However, collation or coming together is brought about by an effort, an effort is presupposed in joining, uniting and adding. Yoga appears to mean a specific kind of action for a coming together.

Feverstein (1975) and Das (1981) the word yoga refer to that enormous body of spiritual precepts and techniques which grew up in India over several millennia and which may be regarded as the very substratum of the cultural life of Indian man. Yoga is thus the generic name for the various Indian paths of unification or the transformation of consciousness.

Singh (1980) quotes patanjali's definition of yoga as elimination of the vritis or modulations that always keep surging in the mind stuff or chit in the form of ripples.

Shri Yogendra (1971) study Yoga as an integrated holistic system of self culture which aims at the harmonious development and health of the body and mind complex. It is a sum and substance of a conceptual science and aid the process of evolution, therefore, it is eternal as an instrument to achieve all objects of life.

According to Hewitt (1987) and Feverstein (1986) Yoga is both a practice and a goal. Though the word yoga may be constructed as to referring to the union of body and mind in harmonious health and efficiency, its highest level refers to the unitary consciousness of mystic. Das (1981) refers Bhagavat Gita's view that evenness of mind is Yoga. It is a method of coming to a non-dreaming mind, and a science of being in the here and now. It is not only a view of life, but also a way of life and a means of liberation. It is an integral science of sciences, and a means of leading one to introspection and a reflection and aims at making the inner experience a basis for life rather than theory or scriptures. It is an art of being and teaches order and discipline in life and actual day living. It points out your centre within and it is skill in action and equilibrium.

Day (1970), Bapuji and Sharma (1980) exhort that Yoga as a complete philosophy of life. It embraces the physical, mental, and spiritual aspects of life practiced from ancient times in our country. Iyengar (1980) describes Yoga as wisdom in work and

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skillful living amongst activities, harmony and moderation. In Rigveda the technique of achieving the unachieved had been referred as Yoga. In its broad sense, any effort or combination of efforts which make it possible to achieve the highest object of one's life also known as Yoga. Rigveda also connotes Yoga as a communication link or a bond between the subject and the object, between the individual and the universe and therefore between microsm and macrosm.

According to Bahadur (1977) the word Yoga has several senses. One is the union of the personal self and impersonal self. The other senses in which Yoga is to be understood are, shaking off the fetters of sorrow, concentrating the mind on the higher self, control of the mental processes, dispassion, union of the individual self with the universal self and so forth.

2. Values of Yoga

While listing the benefits of Yoga, Mangal and Chaudha (1983) spell out that Yoga asanas:

- a) Maintain the delicate balance of bodily humours of kaff, vata and pita.
- b) Help in cure and prevention of many diseases especially those of stomach or digestion.

- c) Are the simplest forms of relaxation, hence the hanror of psycho somatic diseases does not loam large.
- d) Have a hygiene effect - tonup various internal vital organs of the body.
- e) Are panacea for mental poise and peace.
- f) Stimulate higher processes of the brain, in order to accomplish spiritual tašks.
- g) Regularise the breathing mechanism and increase the vital capacity.

Datey (1988) explains that Yoga is a boam to patients of various diseases in general and to patients of Hypertension in particular. Yogic practices will keep the body healthy and mind alert.

Mcharg (1988) voices that many people come to Yoga for a variety reasons some to aid a physical problem, some to help them cope with life better and some to increase their learning in this faculty. Agarwala (1989) explains that Yoga helps to have body awareness, positive attitude to co-ordinated functioning of our body and mind through Asanas coupled with rhythmic breathing, full control, over our emotions and mental fluctuatory and there by keeps us healthy not only physically, mentally, emotionally

but also spiritually. It makes one aware of one's body there by facilitating control and discipline which ensure better health and more stable mental state (Sadhakas, 1987 and Bapuji, 1988).

i. Physical Development

Swami Vishnudevananda (1983) opines that Asanas work on all the systems of the body, creating suppleness in the spine and joints and toning the muscles, glands and integral organs. Hewitt (1987) shared his experiences as

"The postures made by muscles firmer and better shaped". I felt stronger and more supple. My posture became more upright and my physique more athletic. My weight dropped by ten pounds in three months and my waist line was reduced one inch. The abdominal muscles became firmer and more defined. Bowel elimination became regular.

Yesudevan (1979) explains that with the yoga breathing exercise the voice becomes crystal clear and pleasant to listen, to firm the self confident.

The results of the pilot study by Hocher and Pratap (1971) and Swami Digambaraji (1975) in which the student was asked to sit on a chair and hold one leg raised as he could do. The time noted for the maintain once of leg persistence. It was

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significantly increased after yogic training of one month. Hocher and Pratap (1971-72) have given Persin's motor coordination apparatus and a hole steadiness tests along with electromechanical error counts to 13 students of G.S. College of Yoga and 24 students of Maharashtra Teacher's training camp. Comparison of results obtained during pre and post training periods showed increase in steadiness and better two hand coordination after yogic training. Gharoto (1973) conducted a study on 27 males and 12 females of the summer camp certificate course in Yoga. The findings show that the training in Yogic exercises for a period of 3 weeks definitely improved the general fitness of the males and females with special emphasis on the fitness factors of flexibility, trunk strength and equilibrium. This study suggests the utility of Yogic exercises for the improvement of physical fitness. Yoga can even help a person with some organic defect to carry on as well as normal man (Iyer, 1974).

In Kocher's (1972) study the mirror tracing test was given to 36 subjects. (21 experimental group and 15 of control group). They were asked to trace the design of the mirror drawing apparatus as quickly as possible. Scores were recorded in terms of errors and time in seconds elapsed in tracing the star completely. Significant improvement in hand steadiness was recorded in subjects of experimental group of yoga practioners as compared to subjects of control group.

STUDENTS PERFORMING SAVASANA



TRAINING IN THRIKONASANA



ii Physiological functions

Yesudevan (1979) lists out the impact of yoga on physiological functions, that gives.

a magnificent relaxation for the heart.

reduces high blood pressure (Vaishnav, 1988).

stimulates digestion (Trivedi, 1978, and Young, 1987).

regulates intestinal activity.

gives a splendid internal message to all organs of the abdomen.

takes the pressure off the heart (Ghoshal, 1987).

freshens the blood circulation to the liver, gall bladder, stomach, spleen and kidney (Tiwari, 1985).

airs the lungs

increases the oxygen and prana supply in the blood.

sets up in the equilibrium between the positive and negative currents.

calms the entire nervous system.

regulates the activity of the heart (Hewitt, 1987).

induces a feeling of peace, quiet and security.

eliminates constipation (Kothare, 1984, and Joshi, 1986).

cleans the skin and abdominal organs, right and left side alternatively.

expels the toxins in the blood, fortifies immunity process aim at purification nervous control and coordination of muscles. Ganguly and Gharote (1974) refer the results of experiment that there is a significantly improved cardio vascular efficiency in the subject after the yogic practices.

In stressing the physiological value of Yoga Swami Tapasyananda (1979), Ghorpade (1980) and Hewitt (1987) proclaim that many thousands of men and women, from all walks of life are now practising the yoga postures and testify that their practice will rejuvenate the body, reduce obesity, strengthen and tone the muscles, make the spine and the body more supple, tone the nervous system, keep diseases at bay, prevent constipation and dyspepsia, keep the skin glowing and healthy, and promote mental alertness and serenity.

Young (1987) enlists the physiological values of yoga as the postures tone up everything in the internal organs the liver, the spleen, the pancreas, the intestines the heart, the lungs, the brain and the important inner glands. The secretions of inner

glands flowing into the blood, bring about the growth of cells and tissues and body development.

Sitadevi Yogendra (1972) views that in yoga practices through neuromuscular motility contribute directly more to the inner rather than to the external health and development of the body and there by gradually leading to education, coordination, culture and control mainly of the nervous system which is now regarded by all leading scientists as of utmost importance not only one's physical well being but also for the mental, moral and psychic stamina.

Body has a secret homeostatic mechanism which helps him to avoid danger. Yoga helps to keep this mechanism as the entire body and mind ever trim (Iyer, 1974). Tiwari (1984) describes that yogic poses render a very good help in the contraction and relaxation of the heart cause a circulation of blood throughout the body. The heart is made up of the stronger muscular - stuff but it can be always be made healthier by means of proper yogic exercises. Experimental results showed that there is a significantly increase in vital capacity after yogic training (Bhole, Karambelkar and Gharate, 1974).

Chinna, Singh and Baldev (1976) refer few research activities that neurophysiologist studied EEG during meditation

which consisted of high voltage, fast frequency waves in some stages and brain waves of theta frequency which also accompany early step. At about the same time, Gundu Rao and his colleagues at the All India Institute of Mental Health, Bangalore tried to study the effects of under ground burial in a yogic subject. The results indicated an increase in oxygen during the passage of time rather than its decrease in the air sampled from the pit.

iii Mental Power

Shri Yogendra (1972) expounds that one of the objectives of Yoga is to help to gain control over mind. Yoga asserts and proves that alike physical control of the body which imparts ability and precision, the mental control is ultimately capable of leading to self mastery - the control of personality which is the key to all success in life. Yoga is guiding you through its disciplinary code to create no problems for yourself and the society.

Jingham (1986) says that Yoga aims at development of your inner thinking power into a positive way, helping to purify your inner self. It is a way to know about your own self.

While explaining the contribution of various types of Yoga on cognitive ability of the individual, Swami Sivananda (1970) states that Karma Yoga removes the impurities of the mind and deepens the heart. Bhakthi Yoga destroys the lossing of the mind.

Raja Yoga steadies the mind and develops concentration. Jnana yoga removes the veil of ignorance and brings knowledge of self. In general yoga is the blockade of the modifications of consciousness (Lakshminarayana, 1985, and Savant, 1972).

Yesudian (1979) points out that Yoga teaches any child or adult the practical steps such as acquiring will power, resistance, concentration, self control, the retentive faculty of memory, powers of discrimination, courage, mental and physical balance, perseverance, calmness and peace of mind.

In the view of Shahai and Mahotra (1970) the numerous asanas have been found much to do with mind. Yogi practices are proved to provide perfect calmness of the mind and to increase the concentration of the predetermined thought or action plan. Yogic exercises develop power of concentration which is essential at all time of life. It develops will power of the person and a great amount of ability and suppleness (Doss and Shri Yogendra, 1970).

Palsane and Kocher (1973) are of the opinion that the short term memory related to remembrance of words would be improved after yogic training. Swami Digambaraji (1975) opines that Ujjayi Pranayama delayed the onset of mental fatigue, in performing the mathematical calculation and helped the subjects to

improve their mental efficiency. There is also significant improvement in the capacity to perform fatiguing mental work as a result of yogic training.

Pocock (1974) tells his own feelings as 'my mind is more content and calmer than previously when even it is upset or dispersed into many thoughts. I have simply to relax or mediate to calm it. Another plus is in concentration. I have always good concentration but now I am more aware of when it is complete and when it is diffused.'

Swami Vishnudevananda (1983) exhorts by releasing physical and mental tension, they also liberate vast resources of energy the yogic breathing exercises known as Pranayama revitalize the body and help to control the mind, leaving you feeling calm and refreshed. Patanjali, affirms that the conquest of mind is achieved through four additional sathanas, they are meant for higher reaches in Yoga, for it has been said that he conquers the world who conquers the mind (Shri Yogendra, 1966).

Kameswara Rao (1984) explains that Asanas improves the memory. In inverted position semen instead of flowing down is forced to go up and is converted into Ojhas and this helps concentration.

iv Spiritual Values

Shri Shankaracharya defines Bhakthi as devotion into

Atman. It is a path of trust and love. It is a surrender to divine will. A devotee shows intense faith and love for God. In its oldest known form, Yoga was a spiritual practice intimately connected with the religious virtual of ancient Indians (Feverstein, 1975). The first aim of Yoga is to open the mind to a higher spiritual consciousness (Aurobindo, 1976). Yoga means the spiritual communication of the devotee with his chosen deity (Sinha, 1987). It takes us into higher realms of spiritual awareness (Seth, 1986). Gopal and Shastri (1972) is of the opinion that proper practice of yoga produces nerve current through the spine which can be utilized for awakening of the spiritual power in man. It is a practical and truth (Savant, 1972), where the deeper meaning underlying is the spiritual purpose (Phelan, 1976).

Swami Sivananda (1977) assures that many great Yogic have reached the high stage of spiritual development through the practice of yoga. Man can rule his internal and external nature and transmit himself into divinity. In order to make rapid progress along the spiritual paths, one may select Jnana Yoghi.

The yoga practices were simple but with deep concepts to help in life, in prayer and in spiritual life. Concepts like Synchronisation, concentration, humility like how to pray better, concepts like karma yoga, how to offer one's actions to God, they captured quickly (Castillo, 1989).

Iyengar (1983) describes that the study of Yoga discipline sharpens the power of discernment and leads to words understanding, the true nature of the soul which cannot be fully comprehended by the senses or the intellect alone. The study of Yoga enables one to obtain the pure state of consciousness and to realise the inner self.

Sri Ramakrishna explains so luminously, out of the same food the mother prepares different dishes to suit the appetites and digestive capacities of her different children, Gita, the mother also presents different Yogas tailored to the needs of different types of personalities.

Hewitt (1987) points out that Bhakti Yoga union by devotion involves faith and worship. It is the yoga of devotion. Involving concentration and meditation on the devine. It is as much the way of the emotions as Jnana is of the intellect. It asks for service, to your fellowmen and unselfishness. To °Joshi (1985) is the union of individual with God.

3. Meaning of Stress

Gross (1970) exhorts that stress has been defined as the failure of routine methods for managing threats. Lazarus (1966) define coping as the diverse pattern of reaction to threat. Pareek

specific effects induced by a stress or agent and the effect induced by such stimulation, which are not specific to it. It is the response to the wear and tear in the body.

According to Miller (1953) by contrast, treats stress as a stimulus variable. He defines it as any vigorous, extreme, or unusual stimulation which, being a threat, causes some significant change in behaviour. On the other hand, if we were to change the stress as the state of the organism resulting from such stimulation, the definition does denote the kind of stimulation that leads to stress, the requirement that a significant change in behaviour results.

Psychological stress is something that each of us has experienced at one time or another. It is virtually impossible to escape its effects. Stress can come in many forms. Its Intensity may vary, but its effects are never in doubt. It will force you to change, to adopt one or two, cope with the situation facing you. And when the cumulative effects of frustration, conflict, and pressure reach a certain point, stress can cause serious health problems or even kill (Pareek, 1983).

4. Causes of Stress in Children

Bargoankar (1988) lists out the sources of stress of men as tension at the work place, illness in the family, educational

problems of children and the financial constraints. Nair (1988) spells out the sources of stress as disturbing social and economic changes, coupled with the under demands of science and technology, the crippling competition in the educational field, urbanisation, break up of the traditional family, failure to meet the basic needs of housing, health and nutrition all tends to take heavy toll of mental and physical health.

Modernisation, migration, war, natural calamities and civil disturbances, a part from economic upheaval, all contribute to creating a situation of stress in the life of every individual.

Coleman (1973) considers frustration, conflict, and pleasure to be integral parts of psychological stress. Psychological stress appears to be one of the better predictors of heart disease. A variety of studies have demonstrated that life and work dissatisfaction are predictable of myocardial infraction (heart attack) and also associated with disorders of the large arteries that supply blood to the heart. In addition, the accumulation of many life change within a short period of time has been implicated in heart disease. These findings, in concert with the research on type of behaviour patterns has stimulated considerable interest in the relationship between stress and heart problems.

Stress as a stimulus emphasizes stimulus overload, conflict, frustration, major life events, and daily hassles.

Bowers and Kelly (1979) cite four characteristics of stressful events.

- a) People feel a sense of loss of control of the events in their lives. They feel helpless to change what is going on and to successfully intervene in the process.
- b) There is an anticipation or occurrence of physical or psychological pain. For eg: The individual fears being injured or killed (as in a disaster or is threatened with a loss of self-esteem (as in a divorce).
- c) There is a loss of social or emotional support. In a disaster, friends and relatives may be missing or killed. Less dramatic events such as divorce, job loss, or marriage may separate individuals from family members and old friends.
- d) The event or some aspect of it is perceived as unpleasant or aversive, and the individual tries to actively avoid it.

Eaton (1978) examined the relationship between life, stress and psychiatric symptoms with social support defined in term of individuals who were either married or not, living alone versus those who were unmarried or living alone, the relationship between life stress and symptoms was significantly stronger among subjects displaying low social supports among individuals having high levels of social support. People with low levels of social support may be the ones most adversely affected by life changes.

Stress - a prolonged unpleasant emotional state such as fear or anger - can cause endocrine changes which upset body homeostasis. This then, is reflected in eating and sleeping difficulties, in nervous mannerisms such as excessive thumbsucking, and in excessive crying. There are many causes of stress - poor health, parental neglect, and poor environmental conditions that interfere with proper sleeping and eating but constant and close association with a nervous, these mother is a particularly important factor. The term stress has many definitions (Lazarus and Folkman, 1984). Stress as an internal state which can be caused by physical demands on the body (disease conditions, exercise, extremes of temperature, and the like) or by environmental and social situations which are evaluated as potentially harmful, uncontrollable, or exceeding our resources for coping. The physical, environmental and social causes of the stress state are termed stressors.

Once induced by stressors, the internal stress state can then lead to various responses. On the one hand, it can result in a number of physical, bodily responses. On the other hand psychological responses such as anxiety, hopelessness, depression, irritability, and a general feeling of not being able to cope with the world can result from the stress state.

Stress is a big problem in our society (Allen, 1983). Some 75 per cent of bodily disease is said to be stress - related. For example, stress is often a factor in heart disease and Cancer, two of the leading causes of death. Stress - a prolonged unpleasant emotional state, such as fear or anger - can cause endocrine changes which upset body homeostasis. This then, is reflected in eating and sleeping difficulties, in nervous mannerisms such as excessive Thumbsucking and in excessive crying. There are many causes of stress-poor health, parental neglect, and poor environmental conditions that interfere with proper sleeping and eating but constant and close° association with a nervous, tense mother is a particularly important factor.

5. Role of Yoga in Stress

Yoga has been shown to stabilize the responses of the nervous system to stress, removing the constant muscular tension produced by repeated alerts from the central nervous system and claming the involuntary symptoms of threat racing heart sweating,

anxiety roused by the sympathetic nervous system, (Ghoshal, 1987).

Kocher and Pratap (1971) state that Significant reduction in free association responses was formed after the Yogic training indicating there by increased velies from emotional conflicts and it reduces the neurotic tendencies, anxiety and general hostility and individual could achieve more emotional balance. (Kocher and Pratap, 1972). It also lesses mental tensions (Jaggi, 1986).

Bhave (1988) advices that yoga can be practiced by people who have anxiety disorders, stress-induced disorders, psycho-physiological disorders, addictions etc., Yoga plays a very important in not only coping with stress, but avoiding stress (Vaishnav, 1988).

Ajgaonkar (1988) states that yoga helps us to discipline internally and externally. It modifies our behaviour helps us to cope with stressful situations.

Yesudevan (1979) explains that with the Yoga breathing exercise the voice becomes crystal, clear and pleasant to listen, to firm and self confident. States of anxiety disappears and there is conscious manifestation of the human spirit. Hewitt (1987) suggests that Yoga to be practiced daily for health, relaxation,

emotional stability and psychological poise. He emphatically says that yoga is necessary for relaxation, one of the most valuable skills that modern man can acquire skills that modern man can acquire if he is to with stand stress.

Methodology

III EXPERIMENTAL PROCEDURE

The study on 'Role of Yoga in Stress' was conducted among the girls of 12 - 15 years. The methodology of the study are discussed under the below mentioned headings:

1. Selection of the school
2. Selection of the sample
3. Tools used to collect the data and
4. Analysis of the data

1. Selection of the school

Avinashilingam Higher Secondary School situated in Coimbatore, a sister concerned institution to Avinashilingam Deemed University, Coimbatore was selected to carry out this study. Since the headmistress of the school extended the full cooperation to carry out the study, the investigator selected this area to collect the data.

2. Selection of the sample

This study is based on the responses of 100 girls of 12 - 15 years studying 6th and 7th standard. This particular age group was selected because this is the ideal age for studying the academic stress for three reasons.

- i) Leaving the primary and entering high school may create certain amount of stress for the students.
- ii) These students are given more home work when compared to the students of other standards.
- iii) Girls had games class which was convenient to the investigator, so that the regular stream of education of the investigator and the subjects would not be affected during the course of the study.

3. Tools used to collect the data

Yoga has been shown to stabilise the responses of the nervous system to stress. Hence it was decided to trace out the level of stress of the girls before and after the training in yoga.

In order to seek the co-operation of the head of the Institution, the investigator established a rapport with her, explained the purpose of the study and got the permission to conduct the study. The purpose of the study, procedure and the role of the students in the study were explained in detail to the selected students.

The data was gathered regarding,

- i) the general information of the selected girls
- ii) the level of stress, and
- iii) the attitude towards yoga

The attitude of the girls towards yoga and their stress level were assessed at the onset and end of the study.

Since the questionnaire method is quick to collect the data from the subjects (Gupta, 1987), a questionnaire was prepared to elicit the general information of the selected girls (Appendix I).

Student Academic Stress Scale

Frustration, conflict and pressure are the integral parts of the psychological stress. It is something that each of us has experienced at one time or another (Coleman, 1973). The stress is simply our reactions or over reactions to a demanding situation (Borgaonkar, 1988). Sequeria (1990) voiced that a certain degree of stress is a part of our daily living. Yoga teaches various techniques to release stress.

As the investigator planned to find out the impact of yoga training on the level of stress among the selected girls of 12 - 15 years, she administered the student academic stress scale before and after the training in yoga.

Student Academic Stress Scale was formulated by the department of psychology, University of Madras. The scale consists of 67 items describing the sources of student's academic stress. The factor analysis of 67 items revealed four factors which were labelled as:

- i) Personal inadequacy
- ii) Fear of failure
- iii) Inter personal difficulties and
- iv) Inadequate study facilities

Out of 67 items, 30 items are categorised under personal inadequacy, 20 items as the indicator of the fear of failure, 12 items to denote the interpersonal difficulties and five items to depict the inadequate study facilities.

It is a five point scale, varying from 'no stress' to 'extreme stress'.

No stress	-	0
Slight stress	-	1
Moderate stress	-	2
High stress	-	3
Extreme stress	-	4

All items carry the above scoring.

PGI Adaptation of Yoga Attitude Scale

Through an attitude scale we can measure the attitude of an individual towards a matter, thing, object or system (Ghosh, 1985) and is the most suitable form for registering differences in degree (Wilkinson and Bhandarkar, 1982). PGI Adaptation of

yoga attitude scale is a standardised tool developed by department of psychiatry, post graduate institute of medical education and research, Chandigarh (Appendix). Out of sixteen statements, 12 depict the positive attitude and 4 of them reveal negative attitude. Each was rated on a 5 point scale which was assigned weightage as follows:

positive attitude	Strongly agree	- 4
	Agree	- 3
	Uncertain	- 2
	Disagree	- 1
	Strongly disagree	- 0
Negative attitude	Strongly agree	- 0
	Agree	- 1
	Uncertain	- 2
	Disagree	- 3
	Strongly disagree	- 4

The subjects were asked to express their attitude freely and frankly by marking the item given. To find out the changes in attitude based on the above ranking, each statement was assigned the suitable scores and was totalled up. The maximum score is 64.

All the three tools were translated to Tamil and refined after the pilot study with representative sample.

4. Analysis of the Data

To compare the level of stress among the selected subjects in the specific areas before and after the yoga training, the scores were consolidated and tabulated for each area separately. The data were analysed with the use of critical analysis, (Mean + - Standard deviation) to find out whether the stress level of the girls differed significantly in relation to the training in Yoga. (Appendix^o).

Results and Discussion

IV RESULTS AND DISCUSSION

The results of the study on "Role of Yoga in stress" are tabulated and discussed in the following areas:

- A. General Information of the selected subjects.
- B. Impact of yoga on student's academic stress.
- C. Attitudinal changes towards yoga.

A. General information of the selected subjects

The general information of the selected students are discussed in terms of the size of the family, educational level of the subjects, occupation and income of the parent.

1. Size of the family

The size of the family from which the subjects were drawn for the study is given below:

TABLE I
SIZE OF THE FAMILY

N = 100

S.No.	Size of the family	Percentage
1.	Small	78
2.	Large	22

78 per cent of the selected individuals belonged to small family consists of 3-5 members which is the common patterns of the family living in this modern days (Luthra, 1988). The remaining 22 per cent of the subjects hailed from large type of families, where the members are above five.

2. Educational level of the Parents' subjects

Table II Figures out the educational level of the Individuals selected for this study.

TABLE II
EDUCATIONAL LEVELS OF THE SUBJECTS

No. 100

S.No.	Educational Level	Mother	Father
1.	Illeterates	40	28
2.	Higher Secondary Education	15	19
3.	Under graduation	35	32
4.	Post graduation	10	21

The above table reveals that 40 and 28 per cent of the mothers and fathers are illeterates respectively. The other parents had higher secondary education, undergraduation and post graduation as shown in the above table.

3. Occupation of the parents

Table III depicts the occupational status of the parents of the selected subjects.

TABLE III
OCCUPATION OF THE PARENTS

S.No.	Type of Occupation	Father Number	Mother Number
1.	Business	43	20
2.	Professional	3	1
3.	Skilled	24	27
4.	Semi skilled	23	22
5.	Un employed	7	30

From the table III, it is understood that 43 and 20 per cent of fathers and mothers are involved in business and 3 and 1 per cent of them have professional job. An another 24 and 27 per cent of the fathers and mothers are placed in skilled work. Where as semi skilled work is carried out by 23 per cent of the fathers and 22 per cent of the mothers. Few of them are unemployed (7 and 30 per cent of the father and mother respectively).

4. Income level of the parents

Categorisation of the selected subjects according to the income level is given here.

TABLE IV

INCOME OF THE PARENTS

No = 100

S.No.	Income Level	Percentage Number
1.	Low (up to Rs.1500/-)	38
2.	Middle (up to Rs.2500/-)	42
3.	High (Above Rs.2500/-)	20

According to Hudco's (1985) classification of income level, in the present study thirty eight per cent of the subjects belonged to low income groups (upto Rs.1500/-), 42 per cent of the girls hailed from the middle income families (upto Rs.2500/-) and the remaining 20 per cent of the subjects come under high income group (Above Rs.2500/-) per month.

B. Impact of yoga on student's academic stress

Young (1987) states that the years of personality training could not bring one fourth of the emotional power over others, which one could acquire suddenly through the practice of yoga. The yogis have shown this for centuries.

A certain degree of mental tension and stress is a part of our daily living - living in a joint family, problems with superiors, home work, examination and so on. Our bodies are well equipped to deal with momentary tension and worries. When the cause is intensified, stress increases. Yoga provides various techniques to keep one's thoughts and emotions under control and to provide relaxation to both the body and mind (Sequeira, 1990).

In order to see the role of yoga in student's academic stress, a study was taken up with 100 girls of 13 to 15 years. The student academic stress scale was administered at the onset and end of the training in Yoga. The results are discussed in terms of,

- i) Personal inadequacy
- ii) Fear of failure
- iii) Interpersonal difficulties
- iv) Inadequate study facilities and
- v) Mean and standard deviation of four factors of Students' Academic stress.

i) Personal inadequacy

Due to intensive personal inadequacy, the tension mounts up and leads to stress. The responses of the selected subjects towards this area is discussed below.

TABLE V
PERSONAL INADEQUACY

N = 100

S.No.	Item No.	Item contents	Mean Scores	
			Initial	Final
1.	43	Too much of T.V. Video and Radio hinder the home work.	2.19	1.36
2.	47	Brothers/Sisters do not help when children need help	0.89	0.47
3.	10	Mug up the lesson during exam	2.91	2.33
4.	56	Studies are dull and uninteresting	0.58	0.15

5.	49	Difficulty in keeping up with class work	0.26	0.23
6.	40	School has very little space for play	1.11	0.73
7.	24	Teachers give more punishment in the class	0.76	0.37
8.	57	Lack of concentration in the class (Restlessness, modiness, bored, tiredness etc)	0.19	0.26
9.	45	Scared to answer the question in the class	0.62	0.47
10.	55	Unable to accomplish personal goals	0.83	0.25
11.	59	Lunch interval time in short	0.35	0.28
12.	38	Unable to meet the financial demands made by the school	1.21	0.58
13.	27	Difficulty in understanding the subjects	0.41	0.36
14.	64	Teachers are not efficient in their subjects	0.18	0.31

15.	42	Feel upset when getting low marks	2.04	1.23
16.	26	Not knowing how to prepare for examination	1.14	0.40
17.	29	Teachers made too many	0.46	0.37
18.	18	Too much of extra demands on students home work	1.23	0.74
19.	28	Poor method of study	0.63	0.51
20.	36	Exam papers are tough and not corrected well	0.38	0.25
21.	48	Weak in written expression	0.82	0.41
22.	65	Difficulty in making one's own notes from books	0.36	0.30
23.	41	Unable to finish exami- nation within the allotted time	0.54	0.44
24.	3	Examination syllabi too heavy in some subjects	2.07	1.29
25.	16	Difficulty in remembering all that is studied	1.08	0.46

26.	67	Family members do not encourage the development of the personality	1.78	0.38
27.	54	Teachers are too strict	1.30	0.56
28.	37	Class mates do not help others	0.76	0.37
29.	58	Teachers dictatethe lesson too fast	0.18	0.15
30.	15	No canteen facilities	1.13	0.83

The overall view of the differential scores of the initial and final data reveals the expression of the selected girls that they could withstand the sources of personal inadequacy due to yoga training, which caused irritation in them before the yoga training.

After the training in yoga the girls did not feel inadequate for certain aspects like too much of TV and Video, dull subjects, limited space for play, teacher's punishment, inability to meet the financial demands, heavy syllabus, lack of encouragement of the family members, teacher's strictness, helpness of the classmates, and lack of canteen facilities. And also they were able to accomplish personal

goals, didn't feel upset for getting low marks, had clarification to prepare for examination and did not expect help from the siblings, after the training in yoga. The mean score of these aspects of personal inadequacy has come down to 50 per cent due to yoga training.

The statistical analysis of the data proves that there is a significant relationship between yoga training and the reduction of stress level regarding the personal inadequacy of children.

The findings of this investigation coincides well with the opinion of Yogendraji (1990), that despite the many physical barriers, yoga offers a student an opinion to move forward with a balanced mind toward with a balanced mind towards good health; and Subramaniam(1989) that yoga-sutra helps in creating an intellectual conviction. It directs thinking, concentration and unravel the larger reality as it unfolds in the consciousness.

vi Fear of failure:

As per the Students Academic Stress Scale, there are 20 items which create fear of failure among the students.

The mean score of the selected girls for the stress scale for these items are presented in Table VI.

TABLE VI
FEAR OF FAILURE

S.No	Item	Item Contents	Mean scores	
			Initial	Final
1.	21	Fear of failure in class test or exams	0.98	0.88
2.	62	Wish to get good marks in the class	3.44	2.07
3.	23	Worried about results after taking exams.	1.77	0.62
4.	50	Lack of assertiveness in the class	0.41	0.31
5.	44	Importance of the subjects being studied	2.94	2.05
6.	46	Poor facilities (Library, benches, bathrooms, etc.)	0.7	0.60
7.	19	Lack of understanding by parents about study requirement	0.7	0.57

8.	22	Worrying about examination	1.27	0.85
9.	60	Parents expect to learn plenty in additional to school subject(music, drama, painting etc.)	2.55	0.95
10.	34	Parents are over - anxious about class work	1.32	0.46
11.	11	Teachers in the class favour a few students	0.91	0.18
12.	33	School does not provide good opportunities for sports, games and dramatics, etc.	0.88	0.64
13.	2	Punishment for coming late to school	0.8	0.54
14.	12	Parent's lack of time to teach the lesson	1.63	0.86
15.	31	Feeling of inferiority	1.48	0.40
16.	61	Lack of fluency while speaking the language other than the mother tongue	0.9	0.77
17.	52	Problems like headache, tiredness etc.	1.27	0.62

18.	8	Poor interest in some subjects	1.25	0.65
19.	66	Unable to complete the assignment in time	0.48	0.16
20.	20	Too many subjects in daily time table	0.93	0.47

The above table depicts that the selected girls of this study showed greater concern to exam result, parental concern to learn extra curricular activities, parental anxiousness about class work; lack of parental assistance to learn the lesson, general tiredness and poor interest in some subjects which leads to fear of failure. We could see remarkable decrease in the mean score of these areas finally when compare to the initial score.

The selected subjects were not much conscious about the other causes that evoke fear of failure, after the training in yoga. Hence, this study clearly reveals, the fearful nature of the students are eliminated if not reduced by yoga training.

The statistical analysis done through critical

ratio shows that there is a significant change in minds of the selected girls towards the causes of fear of failure. They could overcome the fear after the training in yoga. Here, it is apt to point out Hewitt's (1987) opinion, that there is no more efficacious way of combating tension than to have yoga practice daily, which calms the mind and relaxes the body.

VII. Interpersonal difficulties

Twelve items of the Student Academic stress scale leads a person to experience inter personal difficulties. Let us see the respondents' view in this table.

TABLE VII
INTERPERSONAL DIFFICULTIES

S.No	Item	Item contents	Mean scores	
			Pretest	post test
1.	4	Progress report to parents	1.05	1.7
2.	13	Teachers criticize students performance (written/verbal)	2.49	1.17

3.	53	Difficulty in Public speaking	1.09	0.72
4.	14	Parents Punish Severely when getting low marks	2.15	1.56
5.	39	Teachers postpone their teaching	0.14	0.30
6.	17	Teachers do not understand student's problems	0.82	0.49
7.	51	Unable to discuss personal matters with parents.	1.01	0.36
8.	7	Lack of self confidence	1.8	0.79
9.	9	Hesitation to ask the teachers for explanation on the subject	0.46	0.43
10.	30	Difficulties in boy/girl relationship	0.5	0.39
11.	63	Some teachers have negative opinion towards same study	0.39	0.35
12.	35	Lack of communication between teachers and students	0.87	0.31

Most of the problems in this factor are related with the teachers and parents. It clearly shows that older generation's expectations on younger generation is very high, which looks as a global problem for the younger ones. The final score is lower after the training in yoga. It was rightly found out even in the previous investigation by Baradha and sharmila (1989) that yoga moulds the person to face wear and tear in dealing with people and ruel emotional situations, without fatigue. It helps to be bold, sociable and spontaneous.

The significant results of this study is statistically proved.

VIII Inadequate study facilities:

The mean score of the girls for the sources of inadequate study facilities are depicted below.

TABLE VIII

INADEQUATE STUDY FACILITIES

S.No	ItemNo.	Item contents	Mean scores	
			Initial	Final
1.	5	Teachers demand class tuitions	0.54	0.45
2.	6	Time taken to travel to school	0.7	0.54
3.	32	parents have inadequate knowledge about school subjects	1	0.49
4.	25	Inadequate space or room for study in home	1	0.48
5.	1	Lack of concentration at home during study	2.01	1.05

As per the selected girls view lack of concentration at home during study, inadequate space for study at home and inadequate knowledge of the parents in school subjects were the prominent sources that cause inadequacy for study. (Mean score ranged from 1 to 2.01). This is considerably

reduced after the training in yoga which is statistically significant. Hence the result indicates that yoga training has the positive effect on girls to adjust the inadequate situations at home and school regarding study. It is appropriate to quote Verma's (1988) opinion that a busy daily schedule and a hurried life style does prove to be strenuous and accounts for many tension. Physical exercise helps to relax muscles and serves and release mental tension.

Ix Mean and Standard Deviation of Four Factors of students Academic Stress Scale:

The mean and standard deviation of initial and final scores of four factors such as personal inadequacy, fear of failure, inter personal difficulties and inadequate study facilities which cause stress among the students are given in Table IX.


TABLE IX
MEAN AND STANDARD DEVIATION OF FOUR FACTORS OF
STUDENTS ACADEMIC STRESS


S.No	Factors	Total mean score		Average mean score		Standard deviation	
		Ini- tial	Final	Ini- tial	Final	Ini- tial	Final
1.	Personal Inadequacy	38.39	16.84	0.95	0.56	0.666	0.4508*
2.	Fear of failure	26.61	14.76	1.33 1.35	0.74	0.79	0.49
3.	Inter personal difficulties	12.77	8.57	1.06	0.71	0.696	0.476*
4.	Inadequate study facilities	5.25	3.01	1.05	0.60	0.51	0.205*

* Significant at 1 percent level.

It is clear from the above table that of all the four factors that lead to state of stress among the students, personal inadequacy is in the lead (Total mean score 28.39). Fear of failure is the next factor that bothers the students much. The initial mean score of four factors of academic

MEAN SCORES ON STRESS BEFORE AND AFTER THE TRAINING IN YOGA.

 INITIAL.

 FINAL.

SCALE: 1cm : 1SCORE.

I. PERSONAL INADEQUACY.

II. FEAR OF FAILURE.

III. INTER PERSONAL DIFFICULTIES.

IV. INADEQUATE STUDY FACILITIES.

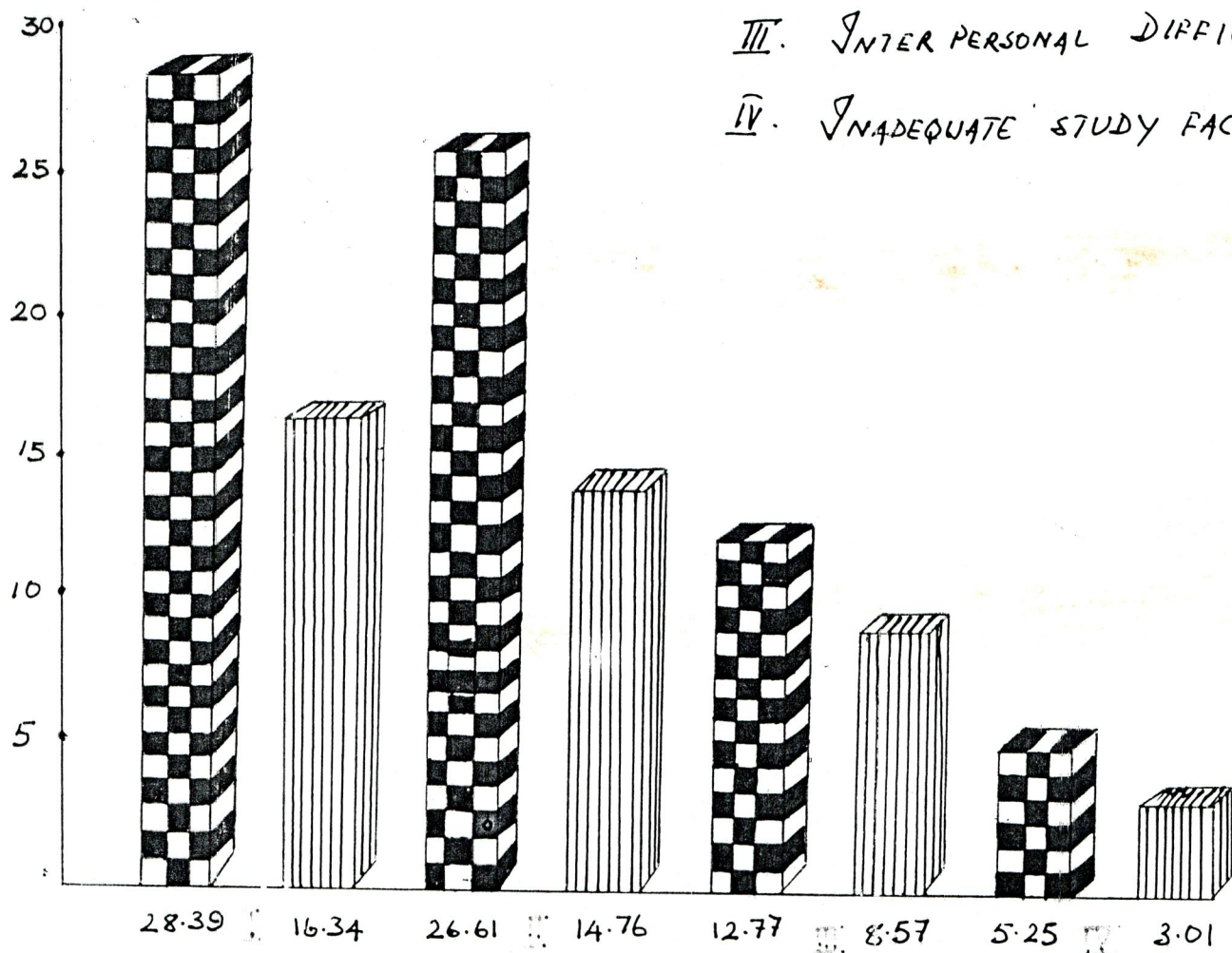


Fig. I

stress such as personal inadequacy, fear of failure, inter personal difficulties and inadequate study facilities is reduced considerably after the yoga training.

It would be apt to quote the words of Visram (1990) "After undergoing the yoga training myself, I have managed to see many things in a new and different light which include physical, mental and emotional aspects. I came to understand how to lead better, fuller life in a balanced way and flow with the tide. It is highly recommended to people in all walks of life especially in our materialistic world, and unless we have peace of mind one comes under stress, leading to further complications and disease".

Yogendra (1990) expounds that the yoga training helps to lessen immediate guilt feelings, fears and anxieties. A greater acceptance of whatever life brings is being realised.

C. Attitudinal Changes Towards Yoga:

In order to trace out the impact of yoga in terms of attitudinal changes of the selected subjects towards yoga was taken at the commencement and end of the training in yoga is discussed below.

i. Attitude of the selected subjects towards yoga:

The students' attitude towards positive, uncertain and negative statements of the PGI, Adaptation of Attitude Scale towards Yoga is tabulated in percentage.

TABLE X
ATTITUDE OF THE SUBJECTS' TOWARDS YOGA

		No. : 100					
		Positive		Uncertain		Negative	
S.No	Statements	Ini- tial	Final	Ini- tial	Final	Ini- tial	Final
		Percentage		Percentage		Percentage	
1.	Yoga benefits every one	70	98	18	2	12	-
2.	Yoga makes a man emotionally stable	40	91	42	19	18	-
3.	Yoga can cure all diseases	54	81	36	18	12	1
4.	*Yoga Principles are very difficult to follow in real life	35	42	46	24	19	34

ATTITUDINAL CHANGES TOWARDS YOGA.

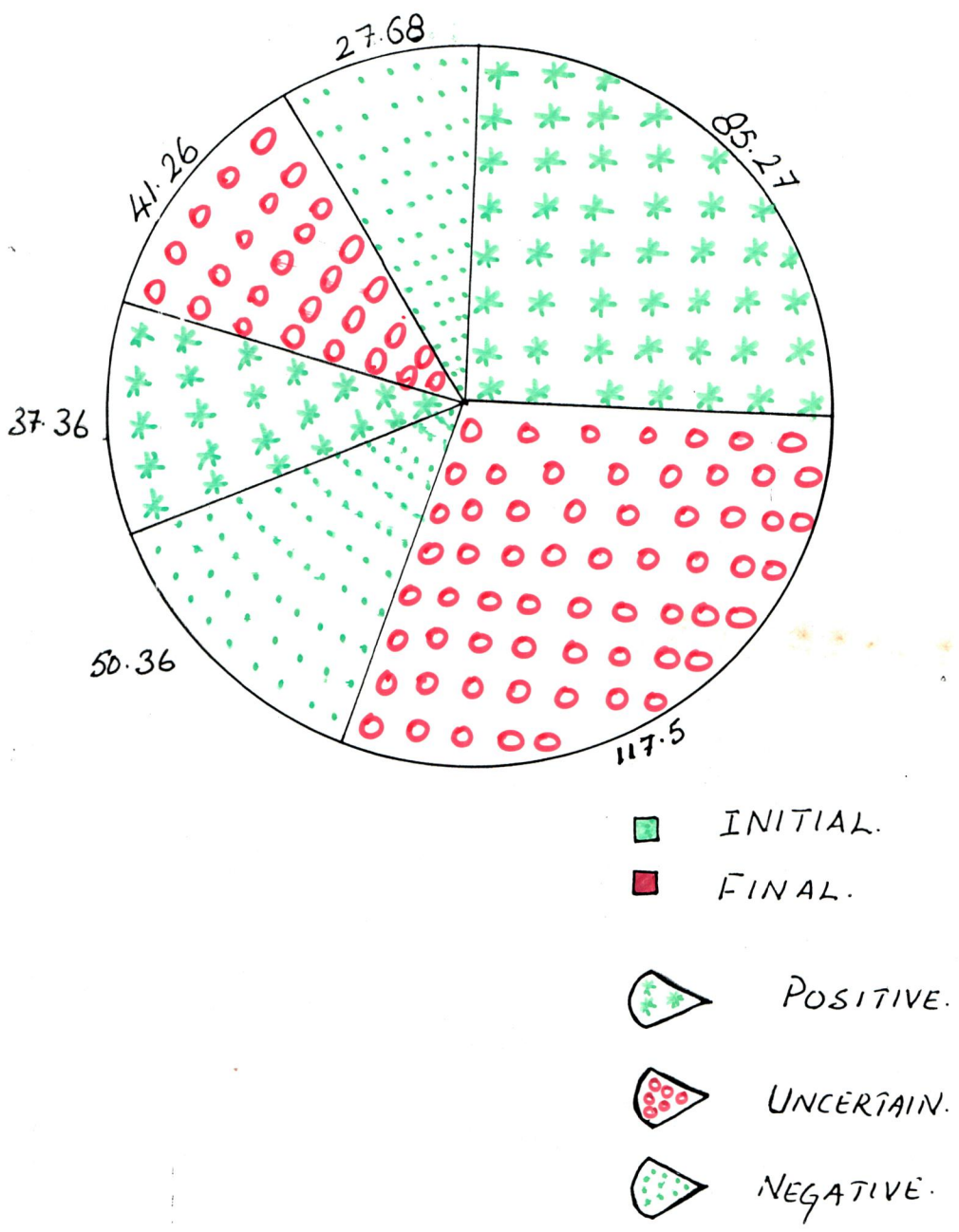


Fig. II

5.	*Yoga meant only for sadhu, saint or sanyasis who live alone in the jungle	29	16	24	31	47	53
6.	*Yoga is for those incompetent people who cannot face difficulties in life	55	28	18	13	27	59
7.	Yoga is essential for spiritual life	64	83	16	11	20	6
8.	Yoga is essential for good health	44	94	12	4	16	2
9.	Yoga gives peace, Strength and unity to the whole life	62	84	22	14	16	2
10.	Yoga brings success of life	59	82	28	14	13	4
11.	Yoga can overcome mental conflicts or problem	39	33	31	47	30	20
12.	Yoga can make a person more intelligent	43	56	34	30	23	14

13.	*There are many other ways besides yoga by which person can obtain peace and happiness	40	58	27	33	33	9
14.	Yoga give many ways by which a person can strengthen and build character	48	71	28	23	24	6
15.	Even bad habits like stealing , gambling etc. can be checked by yoga	40	30	39	38	21	32
16.	Yoga brings discipline into life	44	90	22	7	34	3

* Negative statement

** Critical ratio : 6.03

The attitude of the girls towards yoga was found out with the help of PGI Adaptation of attitude scale both before and after the training. The increase of the score at the post training stage was found for the positive statements (12 out of 16 items).

The percentage of the subjects was increased after the training in yoga for the negative statements such as 'yoga principles are very difficult to follow in real life, it is meant only for sadhus, saints or sanyasis and it is only for those who cannot face difficulties in life. But for the statement that there are many other ways besides yoga by which a person can obtain peace and happiness, the percentage of the respondents is lesser (from 33 to 9) even after the training. This findings is contradictory to the result of Baradha and Sharmela's (1989) investigation that the percentage of the respondents for this particular statement was increased from 8 to 81 to experiential training in yoga.

In line with the findings of this study, Khanna (1988) also found in his studies that the teacher delegates acknowledged that yoga asanas make one active, joyous, peaceful and less angry.

The value of statistical analysis (Critical ratio) applied is 6.03, which is greater than the table value. Hence the finding is statistically significant.

Summary & Conclusion

V SUMMARY AND CONCLUSION

The human body is made up of a physical body, a mind and a spirit, and the three parts are so dependent, that any disturbance in one part affects the whole system (Agrawala, 1990). Adolescents face many problems though relatively small in comparison to the complex problems of life. They may have difficulties in concentrating their studies, in results, in the parental attitudes towards them and their studies, with friends and teachers. This will lead to total destruction of life. This attitude can be changed through the 'Light of Right Thoughts and Actions' (Valecha, 1990). A certain degree of stress is a part of our daily living.

Yogendraji (1989) puts forth that despite the many physical and emotional barriers, yoga offers a student an option to move forward with a balanced mind towards good health. Yoga teaches various techniques to release tension (Sequeira, 1990).

The study on the 'Role of Yoga in Stress' was taken up with 100 girls of 12-15 years in Coimbatore City.

The study aimed to trace out the level of stress among the selected girls before and after the training in yoga for 10 weeks. In addition, their attitude towards yoga was found out at the onset and end of the training in yoga to see the effect of yoga on their attitude.

Questionnaire, student academic stress scale and PGI Adaptation of Attitude scale on yoga were used to collect data regarding the general information level of stress and attitude towards yoga respectively.

The Results of the study are summarised here under the different headings.

- A. General Information of the Selected Girls.
- B. Level of stress before and after the training in Yoga.
- C. Attitude towards yoga at the onset and end of the training in yoga.

A. General Information of the Selected Girls

1. Seventy eight per cent of the selected individuals belonged to small family, consists of 3-5 members which is the common pattern of the family living in this modern days.
2. Parents are mostly educated - higher secondary education (15 - 19 per cent of the fathers and mothers) undergraduation (34 and 32 per cent of the fathers and mothers respectively), post graduation (10 and 21 per cent of the fathers and mothers respectively). The remaining are uneducated.

3. Parents are involved in business (43 per cent fathers and 20 per cent mothers), skilled work (24 and 27 per cent of the fathers and mothers respectively) and semi skilled work (by 23 per cent of fathers and 22 per cent of mothers). Three fathers and one mother is in business. Others are unemployed.
4. Thirty eight, forty two and twenty per cent of the girls belonged to low, middle and high income groups respectively.

B. Level of Stress Before and After the Training in Yoga

1. The statistical analysis of the data proves that there is a significant relationship between yoga training and the reduction of stress level regarding the personal inadequacy of children.

After the training in yoga the girls did not feel inadequate for certain aspects like too much of TV and Video, dull subjects, limited space for play, teacher's punishment and inability to meet the financial demands.

2. The selected subjects were not much conscious about the causes that evoke fear of failure, after the training in yoga. The statistical analysis done through critical ratio shows that there is a significant change

in the mind of selected girls towards the cause of the fear of failure. They could overcome the fear after the training in yoga.

3. Most of the interpersonal problems are related with the teachers and parents. It is clearly shown that older generation's expectations on younger generation is very high, which looks as global problem for the younger one. The result depicts that the girls did not bother much about this factor at the end of the study.

4. As per the selected girls' view, lack of concentration at home during study, inadequate space for study at home and inadequate knowledge of the parents in school subjects were the prominent sources that caused inadequacy for study. (Mean Score ranges from 1 to 2.01). This is considerably reduced after the training, which is statistically significant. The result evinces that yoga training has the positive effect on girls to adjust the inadequate situations at home and school regarding study.

c. Attitude towards yoga at the onset and end of the training in yoga.

1. More than ninety per cent of the girls opined after the training that yoga is beneficial to everyone, essential for good helath, and bring discipline into life. Seventy one per cent of the girls viewed that yoga can strengthen and build character.

2. The percentage of the students was more after the training in yoga for the negative statements such as yoga principle are very difficult to follow in real life, it is meant only for sadhus, saints or sanyasis and it is only for those who cannot face difficulties in life.

A striking result of this study is that the percentage has gone down from 33 to 9 (initial and final) for the opinion that there are many other ways besides yoga by which a person can obtain peace and happiness. The value of statistical analysis (Critical ratio), applied is 6.03, which is greater than the table value. Hence the finding is statistically significant.

It was found that the percentage of the selected girls is increased both for positive and negative statements after the training in yoga for ten weeks.

RECOMMENDATIONS

Based on the findings, the investigator recommends that

1. Yoga to be conducted as a part of curriculum in normal schools.
2. Children with stress problems to be identified early by the teachers and parents and the intervention with yoga to be adopted.
3. Parents should help children to learn yoga as part of daily activities to lead a balanced life.
4. Yoga can be taught to the children in their early years.
5. More of yoga institute to be started in every community.
6. Short course and camp on yoga to be organised for all ages by the government and voluntary organisation.

7. Wide publicity to be given on the values of yoga by the yoga centres situated throughout the country.

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Appendix

APPENDIX - II

PGI ADAPTATION OF YOGA ATTITUDE SCALE

Name:

Sex:

Date:

Age :

Education:

Instructions: Given below are a few sentences about Yoga.
 Of these to which ones do you agree and
 to what extent

S.No.	Statements.	Strongly Agree	Un- Agree	Dis- certain	Dis- agree	Strongly disagree
1.	Yoga benefits every one.					
2.	Yoga makes a person emotionally stable					
3.	Yoga can cure all diseases.					
4.	Yoga principles are very difficult to follow in real life.					
5.	Yoga is meant only for Sadhus, Sanyasis or Saints who live along in the jungle.					

1	2	3	4	5	6	7
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6. Yoga is only for those incompetent or weak people who cannot face difficulties in life.
7. Yoga is essential for spiritual life.
8. Yoga is essential for good health
9. Yoga gives peace, strength and unity to the whole life.
10. Yoga brings success to life.
11. Yoga can overcome mental conflicts or problems.
12. Yoga can make a person more intelligent.
13. There are many other ways besides yoga by which a person can obtain peace and happiness.

1	2	3	4	5	6	7
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14. Yoga give many ways by which a person can strengthen and build character.

15. Even bad habits like stealing, gambling etc. can be checked by yoga.

16. Yoga brings discipline into life.

PGI ADAPTATION CALE

S.No.	Item contents	Meanscores	
		Pre	Post.
1.	Yoga benefit every one	2.92	3.63
2.	Yoga makes a man emotionally stable.	2.28	3.26
3.	Yoga can use all diseases	2.76	3.26
4.	*Yoga principles are very difficult to follow in real life.	2.24	2.15*
5.	*Yoga meant only for Sadhu, Saint or Sanyasis who live alone in the jungle.	1.61	1.35*
6.	*Yoga is for those incompetent people who cannot face difficulties in life	2.15	1.41
7.	Yoga is essential for spiritual life.	2.61	3.36
8.	Yoga is essential for good health	2.77	3.74
9.	Yoga gives peace, strength and unity to the whole life.	2.70	3.19
10.	Yoga brings success of life	2.75	3.22
11.	Yoga can overcome mental conflicts or problem.	2.09	2.13
12.	Yoga can make a person more intelligent	2.38	2.58
13.	*There are many other ways beside yoga by which person can obtain peace and happiness	2.06	2.58*
14.	Yoga give many ways by which a person can strengthen and build character	2.39	3.06

1	2	3	4
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15. Even bad habits like stealing gambling etc. can be checked by yoga		2.21	2.12
16. Yoga brings discipline into life		2.24	3.51

*Negative statements

*Critical Ratio : 6103

P.G.I. ADOPTATION SCALE

RESULTS & DISCUSSION:

$$\text{Critical Ratio} : \bar{X}_1 - \bar{X}_2$$

$$\begin{aligned} & \sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}} \\ &= 0.386 - 2.766 \\ & \sqrt{\frac{0.4887^2}{100} + \frac{0.4494^2}{100}} \\ &= 0.38 \\ & \sqrt{\frac{0.2388}{100} + \frac{0.2019}{100}} \\ &= 0.38 \\ & \sqrt{0.002 + 0.002} \\ &= \frac{0.38}{\sqrt{0.004}} \\ &= \frac{0.38}{0.063} \\ &= 6.03 \end{aligned}$$

Since the calculated value is greater than the table value at 5% and 1% level of significance, the hypothesis is rejected.

A P P E N D I X - I I I I

STUDENT ACADEMIC STRESS SCALE

S.No	Item Content	No Stress	Slight Stress	Moderate Stress	High Stress	Extreme Stress
1.	Lack of concentration at home during study.					
2.	Punishment for coming late to school.					
3.	Examination syllabi too heavy in same subjects.					
4.	Progress report to Parents					
5.	Teachers demand class tuitions.					
6.	Time taken to travel to school.					
7.	Lack of self-confidence					
8.	Poor interest in same subjects					
9.	Hesitation to ask the teachers for explanation on the subject					
10.	Mug up the lesson during exam					

1	2	3	4	5	6	7
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- 11. Teachers in the class favour of a few students.
- 12. Paren's lack of time to teach the lesson.
- 13. Teacher's criticise students performance (written/verbal)
- 14. Parents punish severely when getting low marks.
- 15. No canteen facilities
- 16. Difficulty in remembering all that is studied.
- 17. Teachers do not understand student's problems
- 18. Too much of Home Work
- 19. Lack of understanding by parents about study requirements
- 20. Too many subjects in daily time table.
- 21. Fear of failure in class test or exams

1	2	3	4	5	6	7
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22. Worrying about Examinations
23. Worried about results after taking exams
24. Teachers give more punishment in the class
25. Inadequate space or room for study in home
26. Not knowing how to prepare for examinations
27. Difficulty in understanding the subjects
28. Poor method of study
29. Teachers make too many extra demands on students
30. Difficulties in boy/girl relationship
31. Feeling of inferiority
32. Parents have inadequate knowledge about school subjects.

1	2	3	4	5	6	7
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33. School does not provide good opportunities for sports, games and dramatics, etc.
34. Parents are over-anxious about class work
35. Lack of communication between teachers and students
36. Exam: Papers are tough and not corrected well
37. Classmates do not help others
38. Unable to meet the financial demands made by the school
39. Teachers postpone their teaching
40. School has very little space for play.
41. Unable to finish examination within the allotted time.
42. Feel upset when getting low marks.

1	2	3	4	5	6	7
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43. Too much of T.V., Video and Radio hinder the home work
44. Importance of the subjects being studied
45. Scared to answer the questions in the class
46. Poor facilities (library, benches, bathrooms, etc)
47. Brothers/Sisters do not help when children need help
48. Weak in written expression
49. Difficulty in keeping up with class work
50. Lack of assertiveness in the class
51. Unable to discuss personal matters with parents.
52. Problems like Head-ache, Tiredness etc.
53. Difficulty in Public Speaking

1	2	3	4	5	6	7
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- 54. Teachers are too strict
- 55. Unable to accomplish personal goals
- 56. Studies are dull and uninteresting
- 57. Lack of concentration in the class (restlessness, moodiness, bored, tiredness etc)
- 58. Teachers dictate the lesson too fast.
- 59. Lunch interval time is short
- 60. Parents expect to learn plenty in addition to school subjects (music, drama, painting etc)
- 61. Lack of fluency while speaking the language other than the mother tongue.
- 62. Wish to get good marks in the class
- 63. Some teachers have negative opinion towards some students

APPENDIX IV

STATISTICAL ANALYSIS:

Critical Ratio (Z' test)

To compare the initial and final scores taken at the commencement and after the training in yoga in order to trace only the 'Role of yoga in stress', the (Critical Ratio) 'z' test was used.

Formula: 'z' Value (Calculated)

$$\frac{x_1 - x_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Steps followed:

- 1) The mean is calculated.
- 2) The calculated sum of squares and correction factors are calculated.
- 3) N is the total number of observations.

- 708
- 4) The standard Deviation for this S_1 S_2 is calculated.
 - 5) The corrected sum, of square i.e. the difference between calculated sum of squares and correction factor is calculated.
 - 6) The mean sum of square for above sum is calculated.

PERSONAL INADEQUACY

S.No.	Item No.	Item contents.	Mean scores	
			Initial	Final
1.	43	Too much of T.V., Video and radio hinder the homework.	2.19	1.36
2.	47	Brothers/Sisters do not help when children need help.	0.89	0.47
3.	10	Mug up the lesson during exam.	2.91	2.33
4.	56	Studies are dull and uninteresting	0.58	0.15
5.	49.	Difficuly in keeping up with class work.	0.26	0.23
6.	40	School has very little space for play.	1.11	0.73
7.	24	Teachers give more punishment in the class.	0.76	0.37
8.	57	Lack of concentration in the class (restlessness, moodiness, bored, tiredness etc.)	0.19	0.26
9.	45	Scared to answer the questions in the class	0.62	0.47
10.	55	Unable to accomplish personal goals	0.83	0.25
11.	59	Lunch interval time is short.	0.35	0.28

1	2	3	4	5
12.	38	Unable to meet the financial demands made by the school.	1.21	0.58
13.	27	Difficulty in understanding the subjects	0.41	0.36
14.	64	Teachers are not efficient in their subjects	0.18	0.31
15.	42	Feel upset when getting low marks	2.04	1.23
16.	26	Not knowing how to prepare for examination	1.14	0.40
17.	29	Teachers made too many extra demands on students.	0.46	0.37
18.	18	Too much of home work	1.23	0.94
19.	28	Poor method of study	0.63	0.51
20.	36	Exam papers are tough and not corrected well	0.38	0.25
21.	48	Weak in written expression	0.82	0.41
22.	65	Difficulty in making one's own notes from books.	0.36	0.30
23.	41	Unable to finish examination within the allotted time.	0.54	0.44

1	2	3	4	5
24.	3	Examination syllabi too heavy in some subjects	2.07	1.29
25.	16	Difficulty in remembering all that is studied	1.08	0.46
26.	67	Family members do not encourage the development of the personality	1.78	0.38
27.	54	Teachers are too strict	1.30	0.56
28.	37	Classmates do not help others	0.76	0.37
29.	58	Teachers dictate the lesson too fast	0.18	0.15
30.	15	No canteen facilities	1.13	0.83

PERSONAL INADEQUACY

Critical Ratio

$$: \bar{X}_1 - \bar{X}_2$$

$$\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}$$

$$= 0.9463 - 0.5613$$

$$\sqrt{\frac{0.666^2}{100} + \frac{0.450^2}{100}}$$

$$= 0.385$$

$$\sqrt{\frac{0.443}{100} + \frac{0.2025}{100}}$$

$$= 0.385$$

$$\sqrt{0.004 + 0.002}$$

$$= 0.385$$

$$\sqrt{0.006}$$

$$= 0.385$$

$$0.077$$

$$= 5$$

Since the calculated value is greater than the value at 5% & 1% level of significance, the hypothesis is rejected. Hence, there is significant relationship between the stress levels and personal inadequacy of students.

FEAR OF FAILURE

S.No.	Items contents ,	Mean scores	
		Initial	Final
1.	21 Fear of failure in class test or exams	0.98	0.88
2.	62 wish to get good marks in the class	3.44	2.07
3.	23 worried ⁸ about results after taking exams	1.77	0.62
4.	50 lack of assertiveness in the class	0.41	0.31
5.	44 Importance of the subjects being studied	2.94	2.05
6.	46 poor facilities (Library, benches, bathrooms, etc.,)	0.7	0.60
7.	19 lack of understanding by parents about study requirements	0.7	0.57
8.	22 worrying about examination	1.27	0.96
9.	60 parents expect to learn plenty in addition to school	2.55	0.95

10.	34 parent are over-anxious about class work	1.32	0.46
11.	11 Teachers in the class favour a few students	0.91	0.18
12.	33 school does not provide good opportunities for sports, games and dramatics, etc.,	0.8	0.54
13.	2 punishment for coming late to school	0.8	0.54
14.	12 parents' lack of time to teach the lesson	1.63	0.86
15.	31 feeling of inferiority	1.48	0.40
16.	61 lack of fluency while speaking the language other than the mother tongue	0.9	0.77
17.	52 problems like head ache, tiredness, etc.,	1.27	0.62
18.	8° poor interest in some subjects	1.25	0.65
19.	Unable to complete the assignment in time	0.48	0.16
20.	Too many subjects in daily time table	0.93	0.47

FEAR OF FAILURE

Critical Ratio

$$= \bar{X}_1 - \bar{X}_2$$

$$\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}$$

$$= 1.330 - 0.737$$

$$\sqrt{\frac{0.785^2}{100} + \frac{0.492^2}{100}}$$

$$= 0.592$$

$$\sqrt{\frac{0.616}{100} + \frac{0.242}{100}}$$

$$= 0.592$$

$$\sqrt{0.006 + 0.002}$$

$$= 0.592$$

$$0.078 + 0.049$$

$$= \frac{0.592}{0.127}$$

$$0.127$$

$$= \underline{4.66}$$

Since the calculated value is greater than the table value at 5% and 1% level of significance, the hypothesis is rejected. Hence, there is significant relationship between the stress levels and fear of failure.

INTERPERSONAL DIFFICULTIES MEAN SCORE

S.No.	Item No.	Item contents	Mean Score	
			Initial	Final
	4	Progress report to parents	1.05	1.7
2.	13	Teachers criticise students performance (written/verbal)	2.49	1.17
3.	53	Difficulty in public speaking	1.09	0.72
4.	14	Parents punish severely when getting low marks	2.15	1.56
5.	39	Teachers postpone their teaching	0.14	0.30
6.	17	Teachers do not understand students problems	0.82	0.49
7.	51	Unable to discuss personal matters with parents	1.01	0.36
8.	7	Lack of self confidence	1.8	0.79
9.	9	Hesitation to ask the teachers for explanation on the subject	0.46	0.43
10.	30	Difficulties in boy/girl relationship	0.5	0.39
11.	63	Some teachers have negative opinion towards some students	0.39	0.35
12.	35	Lack of communication between teachers and students	0.87	0.31

INTERPERSONAL DIFFICULTIES

$$\begin{aligned}
& \text{Critical Ratio } \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \\
& = \frac{1.064 - 0.714}{\sqrt{\frac{0.698^2}{100} + \frac{0.476^2}{100}}} \\
& = 0.35 \\
& \frac{0.487}{100} + \frac{0.226}{100} \\
& \sqrt{\quad} \\
& = 0.35 \\
& \frac{0.0004}{100} + \frac{0.002}{100} \\
& \sqrt{\quad} \\
& = 0.35 \\
& \frac{0.35}{0.0698 + 0.0476} \\
& = 2.98
\end{aligned}$$

Since the calculated value is greater than the table value at 5 % and 1 % level of significance, the hypothesis is rejected. Hence, there is significance relationship between the stress level and interpersonal difficulties.

INADEQUATE STUDY FACILITIES

S.No.	Item No.	Item contents	Mean Scores	
			Initial	Final
1.	5	Teachers demand class tuitions	0.54	0.45
2.	6	Time taken to travel to school	0.7	0.54
3.	32	Parents have inadequate knowledge about school subjects	1	0.49
4.	25	Inadequate space or room for study in home	1	0.48
5.	1	Lack of concentration at home during study	2.01	1.05

INADEQUATE STUDY FACILITIES

Critical Ratio

$$= \bar{X}_1 - \bar{X}_2$$

$$\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}$$
$$= 1.05 - 0.602$$

$$\sqrt{\frac{0.51^2}{100} + \frac{0.221^2}{100}}$$
$$= 0.448$$

$$\sqrt{\frac{0.2601}{100} + \frac{0.0506}{100}}$$
$$= 0.448$$

$$\sqrt{0.002 + 0.0005}$$
$$= 0.448$$

$$\frac{0.051 + 0.022}{0.073}$$

$$= 6.136$$

Since the calculated value is greater than the Table at 5% and 1% level of significance, the hypothesis is rejected. Hence, there is significant relationship between the stress levels & inadequate study facilities.