THE EFFECT OF BREATHING EXERCISE AND RELAXATION TRAINING ON STRESS AND MINDFULNESS AMONG HIGH-SCHOOL STUDENTS

By

NIDHI, R

(16PCP005)

A Thesis Submitted to

Avinashilingam Institute for Home Science and Higher Education for Women (Deemed to be University), Coimbatore-641 043

In partial fulfillment of the requirement for the degree of

Master of Science

in

Counselling Psychology

2016-2018 Batch

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ABSTRACT

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From a Matriculation School, Coimbatore, 100 students from class 8th were screened for their level of Stress and Mindfulness using Case Study Schedule, Stress Inventory and Mindful Attention Awareness Scale. Out of them 60 students with Moderate to Very high Stress and Very low to Average Mindfulness were selected. They were in the age range of 12-14 years. Breathing Exercise and Relaxation Training was the interventions. Six sessions of intervention was given in two weeks. Interventions were given twice in a week. After the sixth session, the students were reassessed for Stress and Mindful Attention Awareness. The results showed that the sample was normally distributed. It was found that there were different levels of Stress and Mindfulness among the sample and that there is no relationship between Stress and Mindfulness of the sample. And it was found that both Breathing Exercise and Relaxation Training has significant effect on Stress of the samples, but Relaxation alone was having significant effect on Mindfulness and Breathing Exercise was not having any significant effect on Mindfulness of the sample. Stress was reduced by both Breathing Exercise and Relaxation Training and Mindfulness was increased by Relaxation Training. It was found that both Breathing Exercise and Relaxation Training have similar effect on Stress and Mindfulness.

Keywords. Stress, Mindfulness

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INTRODUCTION

Stress

According to Ivancevich and Matteson (2002), stress is "an adaptive response, mediated by individual differences and/or psychological processes, that is a consequence of any external (environmental) action, situation, or event that places excessive psychological and/or physical demands on a person".

A previous definition of Stress was given by Hans Selye (1936). He defined Stress as the "response of the body to any demand, whether it is caused by, or result in, pleasant or unpleasant conditions".

Statistical data

Stress has become an inevitable word in this fast spinning technical world. Stress is been experienced by almost everyone around irrespective of the age they are in. The word stress which was threatening in earlier ages has now been accepted as normal part of life. Adolescence is a period when individuals become independent from their parents. The period of adolescence itself was well recognized as a period of 'stress and storm'. Apart from the home environment adolescents spend most of their time in their school or college environment. School environment, curriculum design, examinations and social support definitely would influence the level of stress experienced by the adolescents. The lifetime prevalence of depression, anxiety, and stress among adolescents and young adults around the world is currently estimated to range from 5% to 70%, with an Indian study reporting no depression among college going adolescents.

A study was conducted to find out the level of stress experienced by the school going adolescents and to find the associated variables that contribute towards their stress level. From the study it was found that, more than half of the respondents (60%) feel that their home environment was sometimes causing stress to them, a majority (78%) of the respondents are sharing all kinds of problems to their parents, more than half of the respondents (56%) feel that their parents are interfering in their privacy, majority of the respondents (60%) feel that their

parents are restricting them too much, majority (80%)of the respondents are worried when they get low marks, majority of the respondents (74%) blame themselves for their failure in examinations, a considerable percentage (46%) of respondents are fearing to talk to their teachers, majority (88%) of the respondents are not taking 3 meals per day, majority (60%) of the respondents feel that they do not have adequate relaxation and half of the respondents (50%) have moderate level of stress.

This study has established that adolescent school students especially in their higher secondary education face stress which was overlooked many a times by calling it a mere 'age factor'. Parent's expectation of their child to be a 'winning horse' further makes the situation worse. It is shocking to know that many students fear to talk to their teachers which show that sharing of problems with them is also low. It is also observed in Indian setting that very few schools appoint professional social workers. Professional workers not only take care of the psychological needs of the students but can prevent the adolescents from becoming deviant. Thus, this study emphasis that stressed feelings among adolescents should not be neglected, but has to be properly intervened, so as to avoid a larger destruction. (Rebellow& Asir, 2011)

Another study was conducted to analyze stress among the students and to understand the coping strategies adopted by the students. For the purpose of gathering information from respondents on personal data, coping strategies, stress and academic anxiety, the questionnaire were administered to a total of 90 (90%) students. The results showed that: the percentage of distressed secondary students was 26.1%. The stressors mostly present were stressors related to academic matters. The students were afraid of not getting placed in tertiary education, examinations, too much content to be learnt, difficulty in understanding subject that have been learnt, too much of homework, and school timetable was too packed. Rest of the top ten stressors were causing moderate to high stress. The findings of the study indicated that 11th and 12thgrade students coped with their stress effectively, yet they tended to withdraw from the problems they faced in life. (shahmohammadi, 2011)

Types of stress

1. Acute stress

Acute stress is the most common form of stress. It is the anxiety and behavioral disturbances that develop within a month of exposure to extreme trauma. The symptoms of an acute stress disorder usually begin during or shortly following some extreme traumatic events like rape or other severe physical assault, near-death experiences in accidents, witnessing a murder, and combat. Acute stress is thrilling and exciting in small doses, but when it becomes too much it is exhausting. If it's s too much, it will lead to psychological distress, tension headaches, upset stomach and other symptoms. Because it is short term, acute stress will not be able to cause extensive damage associated with long-term stress.

Common symptoms of acute stress

- Emotional distress - combination of anger or irritability, anxiety and depression, the three stress emotions.
- Muscular problems that include tension headache, back pain and the muscular tensions that lead to pulled muscles and tendon and ligament problems.
- Stomach, gut and bowel problems will occur such as heartburn, acid stomach, flatulence, diarrhea, constipation and irritable bowel syndrome.
- Transient over arousal leads to symptoms like elevation in blood pressure, rapid heartbeat, sweaty palms, heart palpitations, dizziness, migraine headaches, cold hands or feet, shortness of breath and chest pain.

Acute stress can crop up in anyone's life, and it can be treated and managed

2. Episodic stress

Episodic acute stress is the stress which affects those who suffer from acute stress more frequently. People that tend suffer from this always seem to be in a rush, they take too much on and tend not to be able to organize themselves to deal with demands and pressures. "Worry warts" are people who see disaster around every corner and pessimistically forecast catastrophe

in every situation. They view the world as a dangerous, unrewarding, punitive place where something awful will happen. These "awfulizers" also tend to be over aroused and tensed, but are more anxious and depressed than angry and hostile.

Common symptoms of episodic acute stress

- persistent tension headaches
- migraines
- hypertension
- chest pain
- heart disease

Treating episodic acute stress requires professional help and the treatment will take many months. Often, lifestyle and personality issues will be so ingrained and habitual with these individuals that they will not be able to understand that there is something wrong with the way they conduct their lives. They blame others external events for everything that goes wrong for them. They will not find any abnormality in the way they used to see their lifestyle, their patterns of interacting with others, and their ways of perceiving the world as part and parcel of whom and what they are. Sufferers will be resistant to change. Only the thought that they will get a relief from pain and discomfort of their symptoms can keep them in treatment and on track in their recovery program.

3. Chronic stress

Acute stress can be thrilling and exciting, but chronic stress is not. This stress is the grinding stress that can wear a sufferer down making them feel “burned-out”. This is experienced by someone when they can’t see a way out of the demands and/ or pressures that are making them feel depressed, miserable and disheartened on a continual basis. Chronic stress destroys not only bodies, but also minds and lives. It wreaks havoc through long-term attrition. It is a stress that is mostly associated with poverty, dysfunctional families, and of being trapped in an unhappy marriage or in a despised job or career.

Chronic stress comes for a person who never sees a way out from a miserable life situation. It's the stress of unrelenting demands and pressures for seemingly interminable periods of time. The individual most often will give up searching for solutions. Some chronic stresses stem from some traumatic experiences related to the early childhood of the person that will be internalized and remain forever painful for the person. Some experiences affects personality. A view of the world, or a belief system, is created that causes unending stress for the individual when personality or deep-seated convictions and beliefs must be reformulated, recovery requires active self-examination, which often becomes possible with the help of a professional. The worst aspect of chronic stress is that people will get used to it. They forget the fact that it's there. People are immediately aware of acute stress because it is new; they ignore chronic stress because it is old, familiar, and sometimes, comfortable for them. Chronic stress can even kill a person through various ways. Those with chronic stress are having high chances of suicide, violence, heart attack, stroke and, perhaps, even cancer. People wear down to a final, fatal breakdown. When the physical and mental resources gets depleted through long-term attrition, the symptoms of chronic stress will become difficult to treat and may require extended medical as well as behavioral treatment and stress management. (Miller& Smith, 2011)

Important ill effects of stress

1. **Physical symptoms**

1. Frequent headaches, jaw clenching or pain

2. Gritting, grinding teeth

3. Stuttering or stammering

4. Tremors, trembling of lips, hands

5. Light headedness, faintness, dizziness

6. Dry mouth, problems swallowing

7. Frequent colds, infections, herpes sores

8. Heartburn, stomach pain, nausea

9. Constipation, diarrhea, loss of control

10. Difficulty breathing, frequent sighing

11. Chest pain, palpitations, rapid pulse

II. **Psychological symptoms**

1. Sudden attacks of life threatening panic

2. Excess anxiety, worry, guilt, nervousness

3. Increased anger, frustration, hostility

4. Depression, frequent or wild mood swings

5. Insomnia, nightmares, disturbing dreams

6. Forgetfulness, disorganization, confusion

7. Difficulty in making decisions

8. Frequent crying spells or suicidal thoughts

9. Feelings of loneliness or worthlessness

10. Obsessive or compulsive behavior

11. Social withdrawal and isolation

12. Increased smoking, alcohol or drug use

(American Institute of Stress, 2017)

Theories of stress

Theories are grouped in two mainly based on the specific relationship between external demands (stressors) and bodily processes (stress). They are approaches to `systemic stress' based in physiology and psychobiology and approaches to `psychological stress' developed within the field of cognitive psychology.

1. Systemic Stress (Selye's Theory)

Endocrinologist Hans Selye has a very important role in popularity of the stress concept in science and mass media. From a series of animal studies he observed that a variety of stimulus events applied intensely and long enough are capable of producing common effects, meaning not specific to either stimulus event. According to Selye, these changes which are caused nonspecifically constitute the stereotypical, response pattern of systemic stress. The definition given by Selye (1976) about stress is that it is `a state manifested by a syndrome which consists of all the nonspecifically induced changes in a biologic system.' This response pattern which is stereotypical is commonly called as the `General Adaptation Syndrome'.

This proceeds mainly in three stages. In the first stage the alarm reaction consists of an initial shock phase and a subsequent counter shock phase. The shock phase causes many problems like autonomic excitability, an increased adrenaline discharge, and gastro-intestinal ulcerations. In the counter shock phase, there will be marked initial operation of defensive processes and increased adrenocortical activity. In the second stage, if the noxious stimulation continues, the organism enters the stage of resistance in which, the symptoms of the alarm reaction disappear, which indicates that the organism is adapted to the stressor. When resistance to the noxious stimulation increases, resistance to other kinds of stressors decreases progressively. And in the third stage, if the aversive stimulation persists, resistance will give its way to the stage of exhaustion in which the organism's capability of adapting to the stressor will get exhausted, the symptoms of the first stage reappear, but resistance is no longer possible. As a result, Irreversible tissue damages appear, and, if the stimulation persists it will lead to the death of the organism. Although Selye's work influenced a whole generation of stress researchers, there were drawbacks associated with his works.

2. Psychological Stress (Lazarus Theory)

Two concepts are important to any psychological stress theory. One is appraisal, which is the individuals' evaluation of the significance of what is happening for their well-being, and the other one is coping which is individuals' efforts in thought and action to manage specific demands. Because it was the comprehensive theory (Lazarus 1966) first presented, the Lazarus stress theory has undergone some essential modifications. And according to the latest version, stress is having a relational concept.

In this version, stress is not defined as a specific kind of external stimulus and not as a specific pattern of behavioral, subjective or physiological reactions. But, it is considered as a relationship between individuals and their environment. `Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her well being and in which the demands tax or exceed available coping resources' (Lazarus and Folkman 1986, p. 63).

This definition mainly consists of two processes which are considered very important within the individual–environment transaction. One is cognitive appraisal and the other one is coping. The concept of appraisal, was contributed into emotion research by Arnold (1960) and the further elaborations was done by Lazarus with respect to stress processes. This concept is very essential for understanding stress-relevant transactions generally. This concept is based on the idea that emotional processes are always depended upon actual expectancies that persons manifest with regard to the significance and outcome of a specific encounter. There is an assumption that the resulting state is generated, maintained, and eventually altered by specific pattern of appraisals. These appraisals are depended upon a number of factors which are personal and situational.

In the monograph on emotion and adaptation, including the stress theory Lazarus (1991) developed a comprehensive emotion theory. In this theory two basic forms of appraisal, namely, primary and secondary appraisal are there. These forms rely mainly upon different sources of information. Primary appraisal is mainly concerned with whether something relevant to the individual's well being occurs and secondary appraisal is mainly concerned with the coping options.

Lazarus said that coping potential is a person's evaluation of the prospects for generating certain behavioral or cognitive operations that positively influences a personally relevant encounter. Future expectations are the reflection of the further course of an encounter by a person with respect to the goal congruence or incongruence. There are Different patterns of primary and secondary appraisal and they can cause different kinds of stress.

Three types of stress are there. They are namely harm, threat, and challenge. Harm usually occurs due to the (psychological) damage or loss that has already happened. Threat occurs due to the anticipation of harm that may happen in the future. Challenge results from demands that a person feels confident about mastering. Coping is related to the concept of cognitive appraisal, to the stress relevant person-environment transactions. Most approaches in coping research take Folkman and Lazarus's definition into consideration, who defined coping as `the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them'.

3. Resource Theories of Stress

Resource theories of stress are concerned with resources that preserve well being in the face of stressful encounters. Several social and personal factors have been proposed in this theory; they are social support, sense of coherence, hardiness, self-efficacy, or optimism. Self-efficacy and optimism are single protective factors, whereas hardiness and sense of coherence represent tripartite approaches.

Hardiness is a combination of three components mainly: internal control, commitment, and a sense of challenge as opposed to threat. Similarly, in sense of coherence, it is belief that the world is meaningful, predictable, and basically compassionate. Within the social support field, several types are investigated, such as instrumental, informational, appraisal, and emotional support. The recently offered conservation of resources theory assumes that stress mostly occurs in situations like when loss of resources are experienced, when resources are endangered, or when people invest their resources without succeeding gain. Four categories of resources are proposed: object resources, condition resources, personal resources, and energy resources. (Gutenberg, 2002)

Mindfulness

Kabat-Zinn is of the view that (2000), “Mindfulness means paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally.”

Mindfulness refers to the practice of being aware and conscious of one’s self and surroundings. It is the manner in which we gain control and restore ourselves. Take for example: a magician’s miraculous power of reassembling every part of his body with a cry, after cutting his body into many parts and placing each part in a different region-hands in the south, arms in the east, legs in the north. Mindfulness is tantamount to that-it is the phenomenon which gathers in a flash our scattered mind and reinstates it to wholeness.

The term "mindfulness" has been used to refer to a psychological state of awareness, the activities that promote this awareness, a mode of processing information and a character trait. Mindfulness indicates a complete awareness of one's experience without judgment. In this sense, mindfulness is a state of mind and not a trait. While it might be promoted by certain practices or activities, like meditation, it is not exactly equivalent to or synonymous with them. Several techniques can enhance mindfulness, such as yoga, tai chi and qigong, but a major part of the literature concentrates on mindfulness that is developed through mindfulness meditation — those self-controlling practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby bring about a general mental well-being and development and/or specific capabilities such as calmness, clarity of mind and concentration (Walsh& Shapiro, 2006). Researchers theorize that mindfulness meditation promotes metacognitive awareness, lessens rumination via disengagement from perseverative cognitive activities and accentuates attentional capacities through gains in working memory. These cognitive gains, in turn, facilitate effective emotion-regulation strategies.

Benefits of Mindfulness

1) Reduced rumination. Several studies prove that mindfulness reduces rumination. Chambers et al. (2008) in the process of one study urged 20 novice meditators to join in a 10-day intensive mindfulness meditation retreat. After the retreat, the meditation group claimed that they had higher self-reported mindfulness and a decreased negative affect compared with a control group.

They also experienced fewer depressive symptoms and less thoughtfulness. In addition, the meditators had significantly better working memory capacity and were better able to sustain attention during a performance task compared with the control group.

2) Stress reduction. Several studies confirm that concentrating on mindfulness helps to decrease stress. In 2010, Hoffman et al. conducted a meta-analysis of 39 studies that explored the advantages of mindfulness-based stress reduction and mindfulness-based cognitive therapy. The researchers concluded that mindfulness-based therapy may help in improving affective and cognitive processes that underlie multiple clinical issues.

Those findings consistently prove that mindfulness meditation increases positive affect and decreases anxiety and negative effect. The researchers found that the participants who experienced mindfulness-based stress reduction had significantly less anxiety, depression and somatic distress compared with the control group. The findings suggest that mindfulness meditation steps up people's ability to use emotion regulation strategies in a way that facilitates selectiveness in the experience of emotion and that the emotions they experience may be processed differently in the brain (Farb et al., 2010; Williams, 2010).

3) Boosts to working memory. Researches find that one other benefit of mindfulness is the greater efficiency of the working memory. A 2010 study by Jha et al., for instance, placed on record the benefits of mindfulness meditation among a military group who participated in an eight-week mindfulness training, and the lack of it on a nonmeditating military group and a group of nonmeditating civilians. The findings proved that the nonmeditating military group had decreased working memory capacity over time, whereas working memory capacity among non-meditating civilians was stable across time. Within the meditating military group, however, working memory capacity increased in proportion with meditation practice. In addition, meditation practice was directly related to self-reported positive affect and inversely related to self-reported negative effect.

4) Focus. Another study examined how mindfulness meditation benefited participants' ability to focus attention and enfeebled distracting information. The researchers compared a group of experienced mindfulness meditators with a control group that had no meditation experience.

They found that the meditation group had significantly better performance on all facets of attention and had higher self-reported mindfulness. Mindfulness meditation practice and self-reported mindfulness were correlated directly with cognitive flexibility and attentional functioning (Moore and Malinowski, 2009).

5) Less emotional reactivity. Research has come up with the findings that mindfulness meditation weakens emotional reactivity. In a study of people who had anywhere from one month to 29 years of mindfulness meditation practice, researchers found that mindfulness meditation practice helped people disengage from emotionally upsetting pictures and enabled them to focus better on a cognitive task as compared with people who did not participate in the meditation (Ortner et al., 2007).

6) More cognitive flexibility. Another line of research throws light on further prospects of mindfulness meditation. In addition to helping people become less reactive, mindfulness meditation may facilitate greater flexibility in cognition. One study found that people who practice mindfulness meditation appear to have a greater skill of self-observation, which neurologically nullifies the automatic pathways that are the influence of prior learning and enables fresh input to be assimilated in a new way. Meditation also stimulates the brain region equipped with greater adaptive responses to stressful or negative situations. Stimulation of this section of the brain corresponds with a quick bouncing back to baseline after being provoked negatively (Davidson, 2000; Davidson, Jackson, & Kalin, 2000).

7) Relationship satisfaction. Further studies find that a person's ability to be mindful can help anticipate relationship satisfaction — the ability to respond positively to relationship stress and the skill in expressing one's emotions to a partner. Studies suggest that mindfulness serves as a defense against the emotional stress caused by conflict in relationships. Mindfulness is positively associated with the ability to express oneself effectively in various social situations and enjoy relationship satisfaction.

8) Other benefits. Mindfulness strengthens insight, intuition, integrity and regulation of fear, which are all functions of the brain's middle prefrontal lobe region. Evidence also suggests that mindfulness meditation has numerous health benefits, including a greater immune system,

increased well-being and reduction in psychological distress. In addition, mindfulness meditation practice appears to strengthen information processing speed, as well as decrease task effort and keeps at bay distracting thoughts that lead away from the task at hand.

Ways in which mindfulness helps to deal with stress

1. **One becomes more aware of his thoughts**. One can then step back from him and not take him so literally. That way, one's stress response is not initiated in the first place.

2. **One doesn't immediately react to a situation**. Instant reaction stands aside and one's "wise mind" is employed to come up with the best solution. This is achieved through mindfulness which is intensified by mindful exercises.

3. **Mindfulness switches on one's** "being" mode of mind, which is an offshoot of relaxation. One's "doing" mode of mind which is associated with action and the stress response is pacified.

4. **One becomes focused and alert to the needs of his body**. One is aware of pains instantly and can then take appropriate action.

5. **One becomes more aware of the emotions of others**. As one's emotional intelligence rises, he is less likely to get into conflict.

6. **One's level of care and compassion for oneself and others rises**. This compassionate mind soothes you and thwarts your stress response.

7. **Mindfulness practice reduces activity in the part of our brain called the amygdala**. The amygdala is resourceful in switching on one's stress response, so effectively, one's background level of stress is reduced.

8. **One becomes better able to focus**. One accomplish his work more efficiently which results in a sense of well- being, and this reduces the stress response. One becomes more likely to get into "the zone" or "flow," as it's termed in psychology by Mihaly Csikszentmihalyi.

9. **One can switch one's attitude to the stress**. Rather than being mastered by the negative consequences of feeling stressed, mindfulness offers one the strength to underestimate the stress itself. The increased pressure helps energize and this awareness has a positive effect on one's body and mind. (Alidina, 2016).

How to improve Mindfulness

1) Mindful Breathing (First Mindfulness Exercise)

The first exercise to be done is very simple, but the power of this exercise can be very great. The exercise involves simply identifying the in-breath as in-breath and the out-breath as out-breath. When one breathes in, one has to know that that is his in-breath. When one breathes out, one has to be mindful that that is one's out-breath. In order to recognize one's in-breath as in-breath, we have to bring one's mind home to oneself. What recognize one's in-breath will be one's mind, and the object of one's mind—the object of one's mindfulness—is the in-breath. Mindfulness is always mindful of something. When one drinks tea mindfully, it's called mindfulness of drinking. When one studies mindfully, it's called mindfulness of studying. And in the same manner when one breathes mindfully, it is called mindfulness of breathing.

So the object of one's mindfulness will be one's breathe, and one just focuses one's attention on it completely. When breathe in, one think that, that is one's in-breath and when breathe out, one thinks that, that is one's out-breath. When one does that, the mental conversation will stop. One's thinking will stop. One doesn't have to make an effort to stop one's thinking if one practice this exercise and he bring his attention to his in-breath and the mental discourse just stops. That is the miracle of this practice. One will stop thinking of the past. One will not think of the future.

2) Concentration (Second Mindfulness Exercise)

In the second exercise what one has to do is when he breathes in; he has to follow his in-breath from the beginning to the end. If one's in-breath lasts three or four seconds, then his mindfulness also lasts three or four seconds. One have to think when he breathe in that he

follows his in-breath all the way through and when he breathe out, he has to think that, he follows his out-breath all the way through. From the beginning of one's out-breath to the end of his out-breath, his mind is always with it. Therefore, mindfulness becomes uninterrupted, and as a result the quality of one's concentration gets improved. So the second exercise is to follow one's in-breath and his out-breath all the way through. It doesn't matter whether they are short or long. What matters is that one follows his in-breath from the beginning to the end. One's awareness is sustained. There will be no interruption.

3) Awareness of Your Body (Third Mindfulness Exercise)

In the third exercise what the person has to do is to become aware of his body when breathing. When breathing in he has to be aware of his whole body. This takes it one step further. In the first exercise, one is becoming aware of his in-breath and his out-breath. The person now generated the energy of mindfulness through mindful breathing; he can use that energy to recognize his body. Mind and body become one reality after doing this exercise. Even though this exercise is simple, but the effect of the oneness of body and mind is very great. In one's daily life, one is seldom in that situation. One's body will be at a place but his mind will be elsewhere. One's mind may be caught in the past or in the future, in regrets, sorrow, fear, or uncertainty, and so our mind will not be there.

4) Releasing Tension (Fourth Mindfulness Exercise)

The third exercise is usually done to release the tension in the body. When a person is truly aware of his body, he can easily notice that there is some tension, pain or stress in his body. The tension and pain will gets accumulated in a person's body and his body suffers because of it too. But one's mind is not able to understand that and to help his body to release it. There lies the importance of learning how to release the tension in the body. We can release the tension in a sitting, lying, or standing position. We can practice total relaxation, deep relaxation, in a sitting or lying position.

5) Walking Meditation

When one practice mindful breathing one allows his in breath to take place, become aware of it and enjoy it. Effortlessness will be associated with it. In the same way, the mindful walking is also enjoyable. Every step is enjoyable. Every step helps one touch the wonders of life. That is possible. One will not be making any effort during walking meditation, because it is enjoyable and effortless. One will be there, with his body and mind together. He will be fully alive, fully present in the present. With every step, he touches the wonders of life that are in him and around him. When he walks like that, every step brings healing, peace and joy, because every step is a miracle. The real miracle is not to fly or walk on fire but to walk on the Earth, and one can perform that miracle at any time by just bringing one's mind to his body, become alive, and execute the miracle of walking on Earth. (Hanh , 2010)

Relationship between Stress and Mindfulness

A study was conducted to test the degree to which mindfulness in parents was directly and indirectly related to stress levels in children and the results revealed that both parent mindfulness and child mindfulness were significantly and negatively related to child stress levels. However, mindfulness in children did not mediate the relationship between mindfulness in parents and stress in children. This study is a great contribution to the emerging literature on the effects of mindful parenting on the wellbeing of the child and provides practical suggestions for improving the mindfulness of parents and children. (Waters, 2016)

So it can be understood from the study that there is of course a relationship between Stress and Mindfulness and that when Stress increases, Mindfulness decreases. Therefore, we need to cope effectively with Stress to improve our Mindfulness, which is a very essential aspect. There is always a great role for the parents in improving their child's Mindfulness and make them better cope with Stress.

Positive Therapy

In a study conducted by Nangia and Sareen (2011), it was found that the relaxation techniques are effective in reducing the academic as well as social stress of adolescents and results in the greatest effects on behavioural and self-reported measures of relaxation (Scheufele,

2000). Relaxation training and Breathing Exercise are part of Relaxation therapy in Positive Behavior Therapy. Positive Therapy is a package, combining the Eastern techniques based on Yoga and Western techniques based on the Cognitive Behavior Therapies. Positive Therapy aims at modifying negative thoughts, beliefs, emotions and behavior by using a number of techniques. It is assumed that when negative thoughts are replaced by positive thoughts, the individual becomes more realistic and reasonable in his perception. Positive Therapy has for major strategies; Relaxation Therapy is one among them. Under Relaxation Therapy come Relaxation Training and Breathing Exercise. Relaxation Therapy helps people to have a relaxed state, which promotes a positive attitude towards life.

Breathing Exercise

In Breathing Exercise, the individual is asked to sit erect, with head straight, palms on the lap and feet placed on the floor, one foot apart. Then the person is instructed to breathe in slowly for 4 counts (4 seconds) and breathe out gradually for 6 counts (6 seconds). This is repeated 5 times with the individual's eyes open and 5 times with eyes closed. Breathing in and breathing out should be gradual without any jerks and there should not be any tension on the chest and shoulders.

Breathing Exercise is very beneficial in various ways. In Breathing Exercise, breathing in slowly ensures the intake of oxygen to the optimal level. Similarly, breathing out slowly helps release carbon dioxide to the maximum level. As the focus is on the breathing, unwanted thoughts are eliminated, helping the person to relax. It also helps in improving attention, concentration, thinking, reasoning, memory and problem solving abilities. (Natesan, 2010)

A study was conducted to find whether Breathing Exercise and positive imagery effectively reduced low coherence levels and increased high coherence levels and they found out from their study that Deep Breathing Exercise and positive imagery effectively reduced low coherence levels and increased high coherence levels, indicating a reduction in stress. (Sheerah & Tice 2007). So, Breathing Exercise can be used effectively to reduce Stress and to better cope with Stress.

Breathing Exercise will also help in improving the Mindfulness in various ways. When a person does Breathing Exercise, the person have to concentrate fully in his breathing, so when the person regularly do the breathing exercise, his concentration, attention, thinking, reasoning, memory and problem solving will improve. And when his attention and concentration increase, then automatically his Mindfulness also increases. Therefore, Breathing Exercise can be used effectively for improving the Mindfulness of a person.

Relaxation Training

In Relaxation Training, the individual is asked to lie down flat on a mat or a cot (without a pillow) with the head straight, lips slightly apart, hands comfortably placed on the sides, palms facing upwards and legs stretched, with feet, one foot apart. Then the person is asked to close the eyes and have a folded handkerchief placed on the eyes to ensure complete darkness. Breathing practice is done at first, and then whole body is allowed to relax step by step by giving instructions.

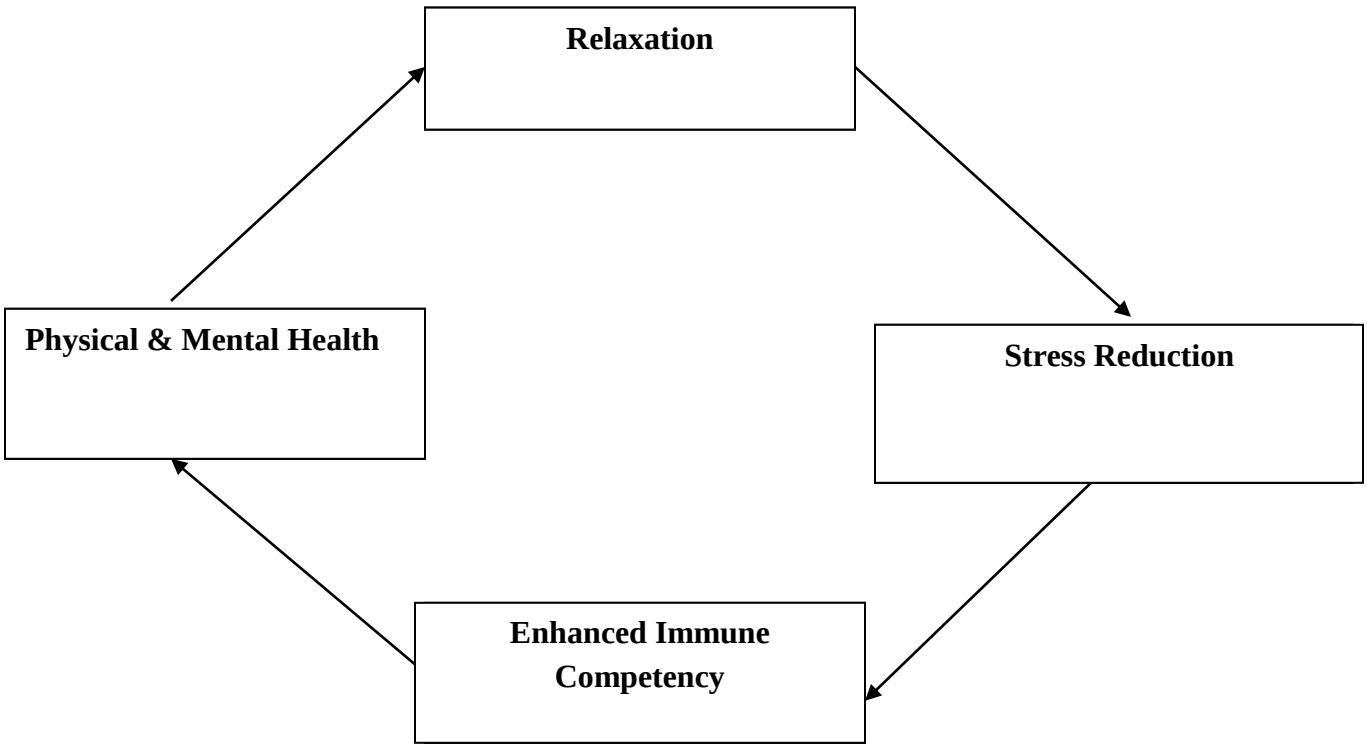
Relaxation Training also has some benefits. It ensures complete relaxation of the whole body from head to foot, which facilitates physical and mental relaxation. It helps the individual to get rid of stress, anxiety and tension, it mutes the effects of stress on the immune system, increases the level of stress tolerance. It also increases the efficacy of cardio- respiratory system, facilitates sound sleep. This helps to remove negative emotions such as fear, anger and worry. It helps to face problems boldly and solve them successfully. On the whole, Relaxation Therapy ensures a positive state of mind all through the day. It improves physical and mental health and gives happiness, It facilitates personality development and ensures healthy interpersonal relationship and adjustment. (Natesan, 2010)

In a study it was found that, Students experienced significant reductions in aggression, helplessness in school, static balance ability, reduced physical complaints and improved stress-coping abilities when they were given Training of Relaxation with Elements of Yoga. (Stueck & Gloeckner,2005). So, it can be understood from this study that Relaxation Training can be used to effectively deal with stress.

Another study was done to look at the effect of teaching relaxation skills to six upper elementary school students with autism and they found out lower stress levels and increased

alertness after sessions and more self-monitoring. So from this study it can be understood that when Relaxation Training was done, the alertness increased, hence the Mindfulness. (Goldberg et al. 2004). So, from this study it can be understood that when Relaxation Training was done, the alertness increased, hence the Mindfulness. Therefore we can use Relaxation Training to improve our Mindfulness.

Effects of Relaxation



The Need for the study

Stress and coping with stress are phenomena closely intertwined with human life. Even in our day to day life, stress is nowadays an essential part. People are facing stress when balancing home and work life, when hard pressed for time, they are stressed of living in a mechanical society, dealing with a crying child, getting through traffic jam, etc. People try to cope up with this stress by going to yoga therapies, faraway beaches and meditation sessions or with use of alcohol, drugs, etc. (shahmohammadi, 2011)

Students are the future of the nation. They are facing lots of problems nowadays, including Stress. They are facing Stress mainly due to academic pressure, peer pressure, bullying and family situations. It is necessary to help them to get rid of their unnecessary stress, because we need mentally healthy future adults.

Mindfulness is also a very important aspect. Mindfulness is the moment-to-moment, non-judgmental awareness, cultivated by paying attention in a specific way, that is, in the present moment and as non-reactively, as non-judgmentally and as open heartedly as possible. Good amount of Mindfulness is always very necessary for a student. But for many of the students, there is only low level of Mindfulness, which needs to be improved.

The present study aims at improving the Stress-coping abilities and Mindful Attention Awareness of the students with the help of Breathing Exercise and Relaxation Training.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATRE

Stress

Kumar and Akoijam (2017) conducted a study on Depression, Anxiety and Stress Among Higher Secondary School Students of Imphal and Manipur among 750 students using Depression Anxiety Stress Scale and socio demographic characteristics. The results showed that, the prevalence of depression, anxiety, and stress was high with anxiety and stress significantly higher among females, whereas prevalence of depression and stress were significantly higher among 12^{th} standard students.

Prabu (2015) conducted a study on "Academic Stress among Higher Secondary Students" among 250 XI standard students studying in higher secondary schools situated in Namakkal District of Tamil Nadu, India. The sample was selected by using simple random sampling technique. The academic stress scale constructed and standardized by R.Balaji Rao was used for data collection. The findings of the study reveals that the higher secondary students are having moderate level of academic stress and irrespective of sub samples of the higher secondary students who are having moderate level of academic stress.

Deb, Strodl and Sun (2015) conducted a research study on "Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School Students". The survey was among a total of 190 students from grades 11 and 12 from three government-aided and three private schools in Kolkata India. A specially designed structured questionnaire as well as the General Health Questionnaire was used for the data collection. Nearly two-thirds of the students reported stress due to academic pressure – with no significant differences across gender, age, grade, and several other personal factors. About two-thirds of the students reported feeling pressure from their parents for better academic performance. The degree of parental pressure experienced differed significantly across the educational levels of the parents, mother's

occupation, number of private tutors, and academic performance. The study concluded that the academic stress was positively correlated with parental pressure and psychiatric problems, because most of the parents put a lot of pressure on students during their exam time and also examination-related anxiety was positively related to psychiatric problems. They also find out that academic stress is a serious issue which affects nearly two thirds of senior high school students in Kolkata.

Nayerehshahmohammadi(2011) conducted a study on "Students' coping with Stress at high school level particularly at 11^{th}& 12^{th} grade" among a sample of 100, 11^{th} and 12^{th} class students from government secondary schools located in Tehran was selected. For the purpose of gathering information from respondents on personal data, coping strategies, stress and academic anxiety, the Stress and coping strategy questionnaire which was consists of a series of questions about stress and coping strategies was administered to a total of 90students. The findings of the study indicated that 11^{th} and 12^{th} grade students coped with difficult situations in a mature manner, yet they tended to withdraw from the problems they faced in life.

Hussain, Kumar and Husain (2008) conducted a study on "Academic Stress and Adjustment among High School Students" to examine the level of academic stress and overall adjustment among Public and Government high school students and also to see relationship between the two variables (academic stress and adjustment). 100 students of class IX were selected randomly from two different schools. From that 50 were taken from Public and the remaining 50 were taken from Government school. Sinha and Sinha scale for measuring academic stress was used to see the magnitude of stress and Sinha and Singh Adjustment Inventory for school students was used to examine level of adjustment among the students. Thus the study concluded that magnitude of academic stress was significantly higher among the Public school students where as Government school students were significantly better in terms of their level of adjustment. Significant relationships between academic stress and adjustment were found for both the group of students and for each type of school.

Suldo, Shaunessy and Hardesty (2008) conducted a research study on the topic "Relationships among stress, coping, and mental health in high-achieving high school students". The main objectives of the study is to find out the relationships among stress, coping, and mental

health in 139 students participating in an International Baccalaureate (IB) high school diploma program. Mental health was assessed using both positive indicators (life satisfaction, academic achievement, academic self-efficacy and negative indicators (psychopathology) of adolescent social-emotional and school functioning. The study finally concluded that students in an IB program perceive significantly more stress than a sample of 168 of their general education peers, and also the specific coping styles are differentially related to mental health outcomes in this subgroup of high-achieving high school students. And also other findings in the research reveal that coping styles, anger and positive appraisal in specific moderate the influence of stress on global life satisfaction and internalizing symptoms of psychopathology.

Bayram and Bilgel(2008) done a study on "The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students**".** Depression Anxiety and Stress Scale (DASS-42) were used as tools for data collection. 1,617 students were taken as sample and the results of the study showed that the high prevalence of depression, anxiety and stress symptoms among university students is alarming. Thus it indicates the need for primary and secondary prevention measures, with the development of adequate and appropriate support services for this group.

deAnda ,SergioBaron , LoriBoskin, et.al,(2000) conducted a study on "Stress, stressors and coping among high school students" among a sample of 333 tenth and eleventh grade students in the Los Angeles area to determine the degree of stress experienced, the stressors encountered most frequently, and the frequency with which specific coping strategies were employed along with their perceived effectiveness. The respondents scored above the norms for their age on the State Trait Anxiety Inventory, and up to one third of the sample reported high levels of daily stress.

Robinson, Garber, Judy, et.al, (1995) done a research on the topic "Cognitions and stress: Direct and moderating effects on depressive versus externalizing symptoms during the junior high school transition". The main objective of the study was to examine direct and stress-moderating effects of attributional style and global self-worth on depressive and externalizing symptoms in adolescents. 371 students in the spring of 6th grade were assessed with attributional

style, perceived self-worth, depressive symptoms, and externalizing behaviors. After the transition to 7th grade, they again completed measures of depression and externalizing symptoms as well as measures of negative life events and school hassles. These were the major findings of the study, stressors around the transition predicted both depressive and externalizing behaviors. Attributional style directly and in interaction with stressors predicted depressive symptoms and did not predict externalizing behavior. Perceived self-worth predicted depressive symptoms, but not externalizing behaviors. As there was a three way interaction between the stress, attributional style, and self-worth, the study suggested that level of perceived self-worth may moderate the effects of attributional style in times of stress.

Rotheram-Borus, Hunter and Rosario (1994) conducted a study on "Suicidal Behavior and Gay-Related Stress among Gay and Bisexual Male Adolescents". In contrast to rates among adolescents in community-based studies, attempted suicide was reported by 39% of a consecutive series of 138 self-identified gay and bisexual males, ages 14 through 19 years, presenting at a social service agency for lesbian and gay adolescents in New York City. More than one-half of attempters had tried to kill themselves more than once, and suicide attempters were more likely to have dropped out of school, to be ejected from their homes, and to have friends or relatives who attempted suicide. Gay-related stressors were significantly more common among suicide attempters as compared to nonattempters, but general life stress was not higher .These findings imply that gay youths are at increased risk for attempting suicide. An enhanced awareness of the possibilities of suicide attempts among gay and bisexual male youths, increasing screening for risk and actively seeking to reduce gay-related stress should be provided by the clinicians and staff in community-based agencies.

A study was undertook by Jones (1993) to establish the existence of gender based differences in the perceived antecedents of academic stress by using academic pressure scale for adolescents, which was administrated to 122 girls and 160 boys attending high school. Girls reported greater stress than boys. The study finds out very supportive evidence that girls and boys of high school age experience different antecedents of academic stress.

Grour, Thomas and Shoffner(1992) conducted a study on "Adolescent stress and coping: A longitudinal study" . The purpose of this longitudinal panel study was to investigate

developmental and gender influences on stress and coping in adolescents attending a suburban high school in Tennessee. Data were collected from the same 167 subjects during the freshman year and again during the senior year. Life events stress was measured through the Adolescent Life Change Event Scale (ALCES) and ways of coping were categorized from data gathered from an open-ended questionnaire. Girls reported more life events stress at both testing than boys.

A study was conducted by Rajendren and Kaliappan (1990) to find the efficacy of the behavior programme in managing academic stress and improving academic performance among 285 students by administering student academic stress scale (67items) which primarily measures the four sources of stressors namely - personal inadequacy, fear of failure, interpersonal difficulties with teachers and parents and inadequate study facilities. The subjects under high stress on each factor received the behavioural package programme. The findings revealed that the behavioural package programme increased personal adequacy level and reduced fear of failure including interpersonal difficulties with teachers and parents. On the whole, the changes in stress levels led to improvement in the academic performance

Sheridan and Smith (1987) conducted a study on stress and academic achievement in high school students by administering a battery of tests that assess the level of stressors, stress resistance resources and stress related symptoms; all these three stress measures predicted grade point average (GPA) with the strongest correlation between the stressor and the GPAs. In the second phase of the study, 60 students participated in a stress intervention programme that involved procedures including relaxed breathing guided daydreams, tense relax training and autogenic training. Students were assigned to control groups, a 6-week training group and a 12-week training group. Analysis of covariance indicated that treatment produced three significant measures of stress.

Rebellow and Asir conducted a study on “Stress among School Going Adolescents”. The objective of the study was to find the level of stress experienced by the school going adolescents and to find the associated variables that contribute towards their stress level. This study is descriptive in nature. The data was collected from 50 adolescent school students using random

sampling technique in a private school located at Tiruchirappalli district, TamilNadu. Students Stress Rating Scale developed by Dr. M. Balamurugan and Dr. D. Kumaran, was utilized to elicit the level of stress among the respondents. The study reveals that most of the students are experiencing stress and the study also suggests some of the suitable measures to reduce the level of stress among the school going adolescents.

Mindfulness

Bluth, Tory and Eisenlohr-Moul (2017) done a research study on a topic "Response to a mindful self-compassion intervention in teens: A within-person association of mindfulness, self-compassion, and emotional well-being outcomes". The sample for the study was forty-seven adolescents in the southeast U.S. included in an 8-week mindful self-compassion course in five cohorts. The main effects of time on perceived stress, resilience, curiosity/exploration and gratitude were revealed by analyzing the multilevel growth. All variables were assessed at pre-intervention, post-intervention, and 6-week follow-up. Additionally, both mindfulness and self-compassion co-varied with perceived stress and depressive symptoms; mindfulness also co-varied with anxiety and self-compassion co-varied with resilience and curiosity/exploration. The major implications of these findings are that this program has potential in decreasing stress and increasing resilience and positive risk-taking.

Gouda, Long, Schmidt, et, al,(2016) conducted a study on the topic "Students and Teachers Benefit from Mindfulness-Based Stress Reduction in a School-Embedded Pilot Study" among a total of 29 students and 29 teachers who completed questionnaires before and after the MBSR course using tools such as Freiburg Mindfulness Inventory and Perceived Stress Questionnaire. The study finally indicated that the teachers compared to the control group, with medium effect sizes on anxiety and emotion regulation, the intervention group showed significantly higher self-reported mindfulness levels and reduced interpersonal problems.

A study was conducted by Galla(2016) on the topic "Within-person changes in mindfulness and self-compassion predict enhanced emotional well-being in healthy, but stressed adolescents". The main aim of the study was to find out the longitudinal relationships between changes in

mindfulness and self-compassion and changes in emotional well-being among healthy, but stressed adolescents who participated in five-day, intensive meditation retreats. 132 adolescents who participated in the study completed questionnaires measuring mindfulness, self-compassion, and emotional well-being, immediately before and after the retreats, and then three months later. Repeated measures showed that there was improvement in mindfulness, self-compassion, and all indices of emotional well-being immediately following the retreat, and many of these improvements were maintained three months later also. Increases in self-compassion predicted reductions in perceived stress, rumination, depressive symptoms, and negative affect, and conversely, increases in positive affect and life satisfaction. The results of Multilevel growth curve analyses with time-varying covariates indicated within-person changes in self-compassion and predicted enhanced emotional well-being more consistently than within-person changes in mindfulness.

JeanetteJohnstone, ChelseaRoake, IfrahSheikh, et.al, (2016) conducted a study on the topic "School-based mindfulness intervention for stress reduction in adolescents: Design and methodology of an open-label, parallel group, randomized controlled trial". All students enrolled in a sophomore (10th grade) health class at a private suburban high school was invited to participate (n = 300). For pre-test assessment youth report, parent ratings, and on-site behavioral testing were done. The assessments mainly evaluated baseline stress, mood, emotional coping, controlled attention, and working memory. Participants, divided into 13 classrooms, were randomized into one of three conditions, by classroom. They are mindfulness intervention, an active control (wellness education), and a passive control (waitlist). Mood and stress was measured by student-reports on the Depression Anxiety and Stress Scale-21 (DASS-21), and the Perceived Stress Scale (PSS); attention, by self- and parent-reports. In conclusion, this paper describes the rationale, study design and methodology of a parallel-group, randomized controlled trial aimed at comparing two active conditions, taught over eight weeks as part of a two semester health class, to help students reduce and cope with stress.

Bluth, Roberson and Gaylord (2015) conducted a research study on **"**A Pilot Study of a Mindfulness Intervention for Adolescents and the Potential Role of Self-Compassion in Reducing Stress". The sample were 28 adolescents in the age group between 10–18 years from two different cohorts participated in this study. The samples were taught to BREATHE, a

mindfulness curriculum designed specifically for adolescents and taught in six one and a half hour sessions, was implemented. The outcome measures, life satisfaction and perceived stress, were included in an online survey before and after the mindfulness intervention. These findings of the study suggest that mindfulness may be an effective intervention for improving indicators of emotional well-being among an adolescent population. Additionally, self-compassion may be a pathway through which youth can lower stress. Future research should examine self-compassion as a potential factor in promoting emotional well-being.

A study was done by Edwards, Adams, Waldo, et, al, (2014) on the topic "Effects of a Mindfulness Group on Latino Adolescent Students: Examining Levels of Perceived Stress, Mindfulness, Self-Compassion, and Psychological Symptoms". The study was done to find out the impact of mindfulness groups on 20 Latino middle school students who participated in 8-session structured groups using the Mindfulness-Based Stress Reduction for Teens curriculum. The participants' scores on the Mindful Attention Awareness Scale, the Self-Compassion Scale, the Perceived Stress Scale, and the Depression, Anxiety, and Hostility subscales of the Symptom Check List–90–R were examined at 3 points in time. During the baseline period no significant changes were there. According to the results, the adolescents' mindfulness and self-compassion scores significantly increased, and there was significant decrease in their perceived stress and depression.

A study was conducted by Bluth and Blanton (2013) on the topic "Mindfulness and Self-Compassion: Exploring Pathways to Adolescent Emotional Well-Being". Measures assessing mindfulness, self-compassion, and aspects of emotional well-being comprised an online survey that was administered to 67 adolescents in an urban high school. Other variable such as self-compassion as the predictor and mindfulness as the mediator was also investigated. Results suggested that both mindfulness and self-compassion functioned as mediators in the pathway to emotional well-being.

Ciesla, Reilly, Dickson, et,al, (2012) conducted a study on "Dispositional Mindfulness Moderates the Effects of Stress Among Adolescents: Rumination as a Mediator" which examined the effects of three facets of mindfulness among adolescents. Seventy-eight adolescents (61% female, 94% Caucasian, *M* age = 16) completed a measure of dispositional mindfulness at baseline. Then the participants completed measures of daily stress, dysphoric

affect, and state rumination over a period of 7-days. Multilevel modeling analysis results revealed that facets of mindfulness namely non reactivity and non judgment were associated with lower levels of dysphoric mood. It was found that Mindfulness interacted with daily stress to predict later dysphoria which means that those who were particularly vulnerable to the negative effects of stress were the individuals with less mindfulness. Finally, from the analyses it was understood that the effect of the Mindfulness, Stress Moderation was significantly mediated by increased daily rumination. These findings indicate how much of importance should be given to mindfulness among adolescents and help to explain the mechanisms through which mindfulness influences psychological health

Parto and Besharat (2011) conducted a study, investigating the relationship of mindfulness with psychological distress. The study assessed the role of self-regulation and autonomy as mediating variables and mechanisms of mindfulness. A total of 717 students were the sample for the study. The tools used were Self-regulation Inventory, Mental Health Inventory and Autonomy Scale. The mechanisms through which autonomy and self-regulation mediate the relationship of mindfulness with psychological well- being and psychological distress can be understood from the study.

A study was conducted by Brown, West, Loverich, et, al, (2011) on the topic "Assessing adolescent mindfulness: Validation of an Adapted Mindful Attention Awareness Scale in adolescent normative and psychiatric populations" which was designed for validating a measure of mindfulness which can be called the Mindful Attention Awareness Scale for Adolescent, which was previously validated for adults (e.g., Brown & Ryan, 2003). For the purpose of validation, in this study two large samples of healthy adolescents in the age group of 14- to 18-year-old (N = 595) was selected. The findings of the study support the reliability and validity of the MAAS–A in normative and mixed psychiatric adolescent populations and suggest that the MAAS–A has utility in mindfulness intervention research.

JosephCiarrochi, Kashdan, PeterLeeson, et, al, (2010) conducted a study on "On being aware and accepting: A one-year longitudinal study into adolescent well-being" among 776 students (50% female) in Grade 10. They completed measures of mindfulness, emotional

awareness, and experiential acceptance, as well as measures of major personality traits. To study the prospective changes, assessments of emotional well-being were completed in 1-year interval. The analyses revealed that "Acting with Awareness", emotional awareness, and experiential acceptance where all linked to prosocial tendencies and distinctively predicted the increases in well-being across the year. From the Correlations obtained it was able to understand that there was correlation for observing experience i.e., noticing, observing, and attending to a variety of stimuli with positive and negative aspects of personality and the study did not predict changes in well-being.

A study was conducted by Biegel, Gina, Brown, et, al, (2009) on "Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial". The trial was designed to assess the effectiveness of the mindfulness-based stress reduction program for adolescents in the age group of 14 to 18 years. Heterogeneous diagnoses was done in an outpatient psychiatric facility (intent-to-treat N = 102). Relative to treatment-as-usual control participants, for those receiving Mindfulness-based stress reductions there was reduced symptoms of anxiety, depression, and somatic distress, and increased self-esteem and sleep quality. From the findings of the study the effectiveness of MBSR to outpatient mental health treatment for adolescents was understood.

Beddo and Murphy (2004) conducted a study on "Does Mindfulness Decrease Stress and Foster Empathy Among Nursing Students". This pilot study of baccalaureate nursing students explored the effects of an 8-week mindfulness-based stress reduction (MBSR) course on stress and empathy. Convenient sampling was done with 16 students who participated in the course. Guided meditation was adapted with the use of audiotapes at home, and completed journal assignments. Paired sample *t* tests were used to measure Stress and empathy. Participation in the intervention significantly reduced students' anxiety. Findings of the study suggested that being mindful may also decrease tendencies to take on others' negative emotions. Coping with stress and fostering the affective domain are important facets of nursing education that may be facilitated by mindfulness training.

Breathing exercise

Tice (2007) conducted a study on the topic “The Effects of Deep Breathing and Positive Imagery on Stress and Coherence Levels among College-Age Women” which investigated two techniques done together, deep breathing and positive imagery, for their effectiveness in reducing stress and increasing coherence. The sample included thirty female college students at Liberty University in the age group of 18-26 year who volunteered for the study and they were randomly placed into either an experimental group or a control group. Results showed that the techniques were effective in reducing low coherence levels and increasing high coherence levels, indicating a reduction in stress.

A study was conducted by Arch and Craske (2006) on “Mechanisms of mindfulness: Emotion regulation following a focused breathing induction”. The current study investigated whether a 15 min recorded focused breathing induction in a normal, primarily undergraduate population would decrease the intensity and negativity of emotional responses to affectively valenced picture slides and increase willingness to remain in contact with aversive picture slides. In the study, the effects of the focused breathing induction were compared with the effects of 15 min recorded inductions of unfocused attention and worrying. And it was found that the focused breathing group maintained consistent and moderately positive responses to the neutral slides before and after the induction, but the unfocused attention and worry groups responded more negatively to the neutral slides after the induction than before it. The focusing breathing group also reported lower negative affect and overall emotional volatility in response to the post-induction slides than the worry group, and greater willingness to view highly negative slides than the unfocused attention group. The lower-reported negative and overall affect in response to the final slide blocks, and greater willingness to view optional negative slides by the focused breathing group may be viewed as more adaptive responding to negative stimuli.

Relaxation training

A study was conducted by Jain, Shapiro, Swanick, et, al, (2007) on the topic "A randomized controlled trial of mindfulness meditation versus relaxation training: Effects on distress, positive states of mind, rumination, and distraction". This randomized controlled trial was conducted to find the effects of a 1-month mindfulness meditation versus somatic relaxation training as compared to a control group in 83 students of mean age 25 in which 16 were men and 67 were women who reported distress. Psychological distress, positive states of mind, distractive and ruminative thoughts and behaviors, and spiritual experience of these participants were measured, while controlling was done for social desirability. From the study it can be understood by comparing the no-treatment control with brief training in mindfulness meditation or somatic relaxation that the mindfulness meditation or somatic relaxation reduces distress and improves positive mood states. However, mindfulness meditation may be specific in its ability to reduce distractive and ruminative thoughts and behaviors; this ability is providing a unique mechanism to reduce distress.

A study was conducted by Stueck and Gloeckner (2005) on the topic "Yoga for children in the mirror of the science: working spectrum and practice fields of the training of relaxation with elements of yoga for children". This programme has been examined by means of a test/control/group design with 48 students of the fifth grade. During a pre/post comparison with three measuring times it should be proved that the training will increase emotional balance in the long term and reduce fears. It was found that the feelings of helplessness, aggression and stress were clearly reduced. Beyond this, the participants transferred the learned breathing techniques and self-instructions to situations beyond school, in order to relax after the lessons, to improve well-being and to control negative feelings.

METHODOLOGY

CHAPTER III

METHOD

The procedure pertaining to "Effect of Breathing Exercise and Relaxation Training on Stress and Mindfulness among the High School students" was carried out involving the following steps:

- Objectives
- Hypothesis
- Area
- Sample
- Tools
- Procedure
- Analysis of Data

Objectives

- To assess the level of Stress and Mindfulness among sample
- To find out the relationship between Stress and Mindfulness among the sample
- To find out the effect of Breathing Exercise on Stress and Mindfulness among the sample
- To find out the effect of Relaxation Training on Stress and Mindfulness among the sample
- To reduce Stress and enhance Mindfulness among the sample

Null Hypothesis

- There is no difference in the level of Stress of the sample
- There is no difference in the level of Mindfulness of the sample
- There is no relationship between Stress and Mindfulness of the sample
- Breathing Exercise has no effect on Stress of the sample
- Breathing Exercise has no effect on Mindfulness of the sample
- Relaxation Training has no effect on Stress of the sample
- Relaxation Training has no effect on Mindfulness of the sample

- Breathing Exercise is not better than Relaxation Training in effectively reducing Stress and increasing Mindfulness of the sample

Area of the study

The study was done in a Kovai Kalaimagal Matriculation Higher Secondary School in Coimbatore. The reasons for selecting this area are as follows:

- Willingness of the school authorities to grant permission and provide the necessary facilities to conduct the action research
- Openness of the students to participate in the study

Sample

The total sample for the study consists of hundred students of standard eight, of the age group 12-14 years, which include English medium. The sample for the present study was selected by using 'Purposive Sampling'.

Phase I

In the first phase, which is the pre-Assessment phase, initially, the total sample consisted of 100 students, from class VII. Then the screening of the samples was carried out by using Stress Inventory and Mindful Attention Awareness Scale. And 60 students who scored Moderate to High Stress and very low to average Mindfulness were selected for the intervention. They were divided into two groups consists of 30 students. Those who scored Low to moderate Stress and Average to Very high Mindfulness were screened out.

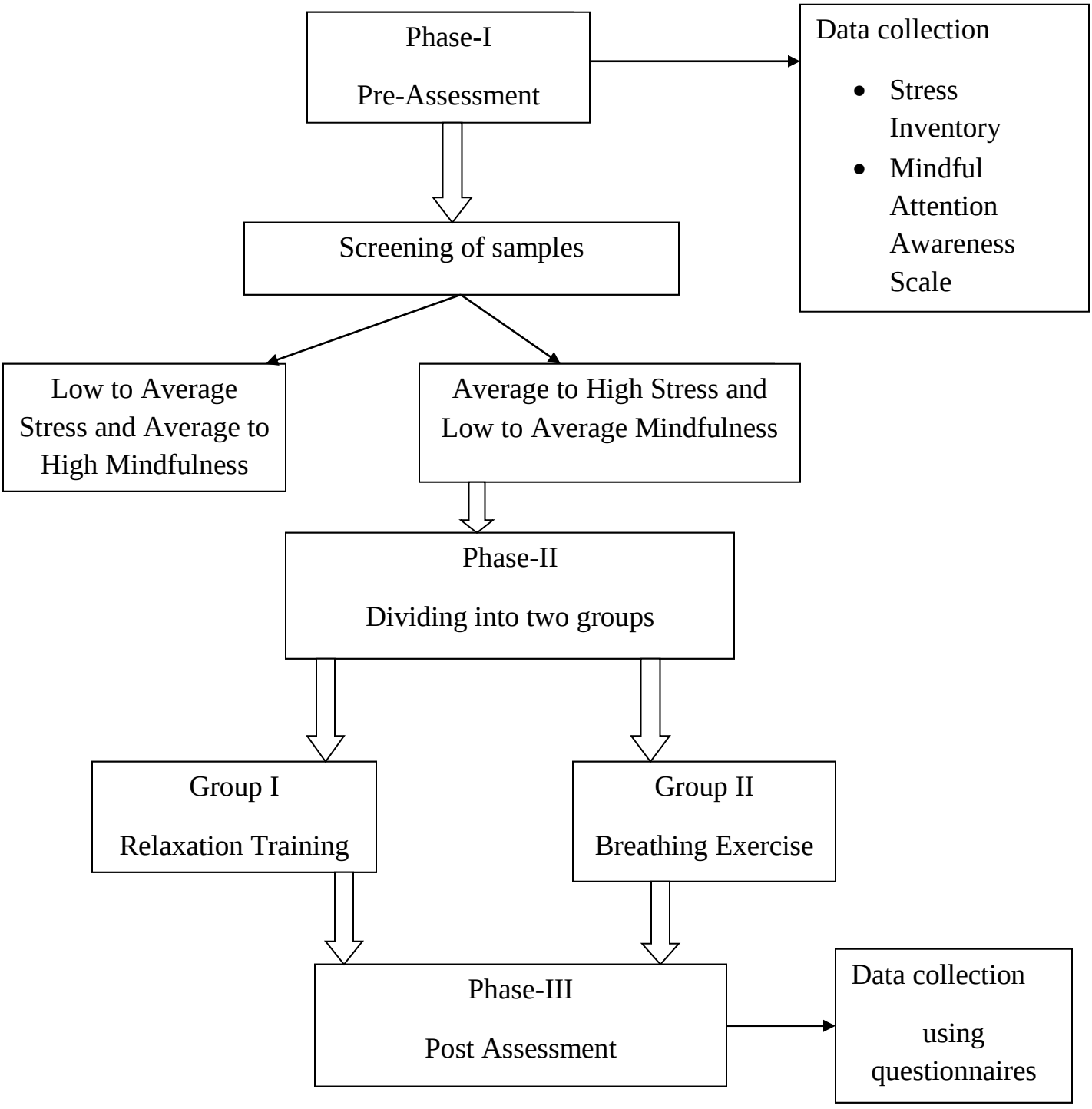
Phase II

Phase II consists of the intervention. Breathing Exercise and Relaxation Therapy was used. For first thirty students Breathing Exercise was given and for the next thirty students Relaxation Training was given for three weeks. Interventions were given weekly twice and six sessions of intervention were given to each group of students.

Phase III

Phase III consists of Post assessment of the sample with the same tools used for the initial assessments and the effect of Breathing Exercise and Relaxation Training was assessed.

EXPERIMENTAL DESIGN



Tools

The tools used in the study were:

- Case Study Schedule (Annexure I) was designed to collect the demographic factors of the participants such as name, age, gender and family background.
- Stress Inventory (Annexure II) by Dr. Hemalatha Natesan and Dr. Nandhini Menon (2005) consists of a 30-item inventory designed to assess the Stress level of the sample. For each statement, the respondent has to respond as yes or no. From the responses of the respondent, the person comes under the different levels of stress, such as 'Very high', 'High', 'Moderate' and 'Low'. The reliability and validity of the inventory is 0.95 and 0.80 respectively.
- Mindful Attention Awareness Scale (Annexure III) by Kirk Warren Brown & Richard M. Ryan (2003) consists of a 15-item scale designed to assess a core characteristic of dispositional mindfulness, namely, open or receptive awareness of and attention to what is taking place in the present. Each question had six options of 'Almost Always', 'Very Frequently', 'Somewhat Frequently, 'Somewhat Infrequently', 'Very Infrequently' and 'Almost Never'. From the responses of the person, the person comes under different levels of Mindfulness, such as 'Very high', 'High', 'Above average', 'Average', 'Below average', 'Low' and 'Very low'. This scale is having good reliability and validity.
- Consent Form(Annexure IV)

Procedure

From a Matriculation Higher Secondary School in Coimbatore, 100 students from class eight were screened for their level of Stress and Mindfulness using Stress Inventory and Mindful Attention Awareness Scale. Among them, 60 students with moderate to high Stress and very low to average Mindfulness were conveniently selected. They were given the parent consent form, as the samples for the study are below 18 years of age. Since all the parents of the 60 students expressed their willingness, the case study schedule was given to all the participants and they were divided into two groups each consisting of 30 students. One group received Breathing Exercise and the other group received Relaxation Training. Both the groups received 6 sessions of intervention.

Experimental Design

The experimental design used in this research was 'before-and-after without control design'. The dependent variables, Stress and Mindful Attention Awareness were assessed before and after the interventions, Breathing Exercise and Relaxation Training, which are the independent variables.

Pre-assessment	Intervention	Post-assessment
Level of phenomenon before Breathing Exercise (A) Relaxation Training (C)	 Breathing Exercise Relaxation Training	Level of phenomenon after Breathing Exercise(B) Relaxation Training (D)

1. Treatment effect= B-A (Reducing Stress in Breathing Exercise group)
2. Treatment effect= D-C (Increasing Mindfulness in Relaxation Training group)

Here,

Phenomenon- Stress and Mindfulness

Analysis of data

The tabulated results were statistically analyzed by Test for Normality, Correlation analysis, Paired sample t-test and independent sample t-test using SPSS Software.

RESULTS AND DISCUSSION

CHAPTER IV

RESULTS AND DISCUSSION

TABLES

TABLE I

1. Test for normality

Variable	z value	Significance
Stress	0.097	0.200^{ns}
Mindfulness	0.066	0.200^{ns}

ns =Not significant

Table I shows the results of test for normality. A normality test is used to determine whether sample data has been drawn from a normally distributed population (within some tolerance). At first the pre-test was done for the sixty samples selected for the intervention, test for normality was done to find out whether the sample is representative. From the results it was understood that the sample is representative.

TABLE II

2. Level of Stress and Mindfulness of the sample (Percentage)

Sl.no	Variable	Levels	Percentage
1	Stress	Low	40
		Moderate	6
		High	36
		Very high	18
2	Mindfulness	Very low	2
		Low	17
		Below average	22
		Average	19
		Above average	20
		High	15
		Very high	5

Table II shows the levels of Stress and Mindfulness of the total sample, from which it can be understood that there were 18 students with very high level of Stress, 36 students with high level of Stress, 6 students with moderate level of Stress and 40 students with low level of Stress in the sample. Hence, the hypothesis that, “There is no difference in the level of Stress of the sample” is rejected.

From the table it can also be understood that there were 2 students with very low level of Mindfulness, 17 students with low level of Mindfulness, 22 students with below average level of Mindfulness, 19 students with average level of Mindfulness, 20 students with above average level of Mindfulness, 15 students with high level of Mindfulness and 5 students with very high Mindfulness in the sample. So, the hypothesis that, “There is no difference in the level of Mindfulness of the sample” is rejected.

TABLE III

3. Relationship between Stress and Mindfulness

	Stress	Mindfulness
Stress	1	-.106
	60	.419
		60
Mindfulness	-.106	1
	.419	60
	60	

ns = Not significant

Table III shows the correlation analysis of the variables Stress and Mindfulness**.** The goal of a correlation analysis is used to see whether two measurement variables co vary, and to quantify the strength of the relationship between the variables

There is no significant relationship between Stress and Mindfulness. This may be because of the reason that, the students were having stress mainly related to their academics. So they are stressed mostly in their school environment and when they are out of their school environment and in an environment like family environment, they are not stressed. So this stress related to the academics is not affecting their Mindfulness.

Hence the hypothesis that “There is no relationship between Stress and Mindfulness” is accepted.

TABLE IV

4. Mean , SD & t-test on Stress (Breathing Exercise)

Variable	Pre-test		Post-test		(PS)	
	Mean	SD	Mean	SD	t-test	Sig
Stress	15.43	4.614	10.93	5.48	4.117	0.000**

**=Significant at 0.01 level

This table shows the effect of Breathing Exercise on Stress among the sample. Paired sample t-test is used for this. The paired sample *t*-test, sometimes called the dependent sample *t*-test, is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. In a paired sample *t*-test, each subject or entity is measured twice, resulting in *pairs* of observations. The results showed that Breathing Exercise has significant effect on Stress. Stress was reduced when Breathing Exercise was given to the group.

Sheerah and Tice (2007) have found out from their study that Deep Breathing Exercise and positive imagery effectively reduced low coherence levels and increased high coherence levels, indicating a reduction in stress. Hence the hypothesis that "Breathing Exercise has no effect on Stress of the sample" is rejected.

FIGRE I

The effect of Breathing Exercise on Stress

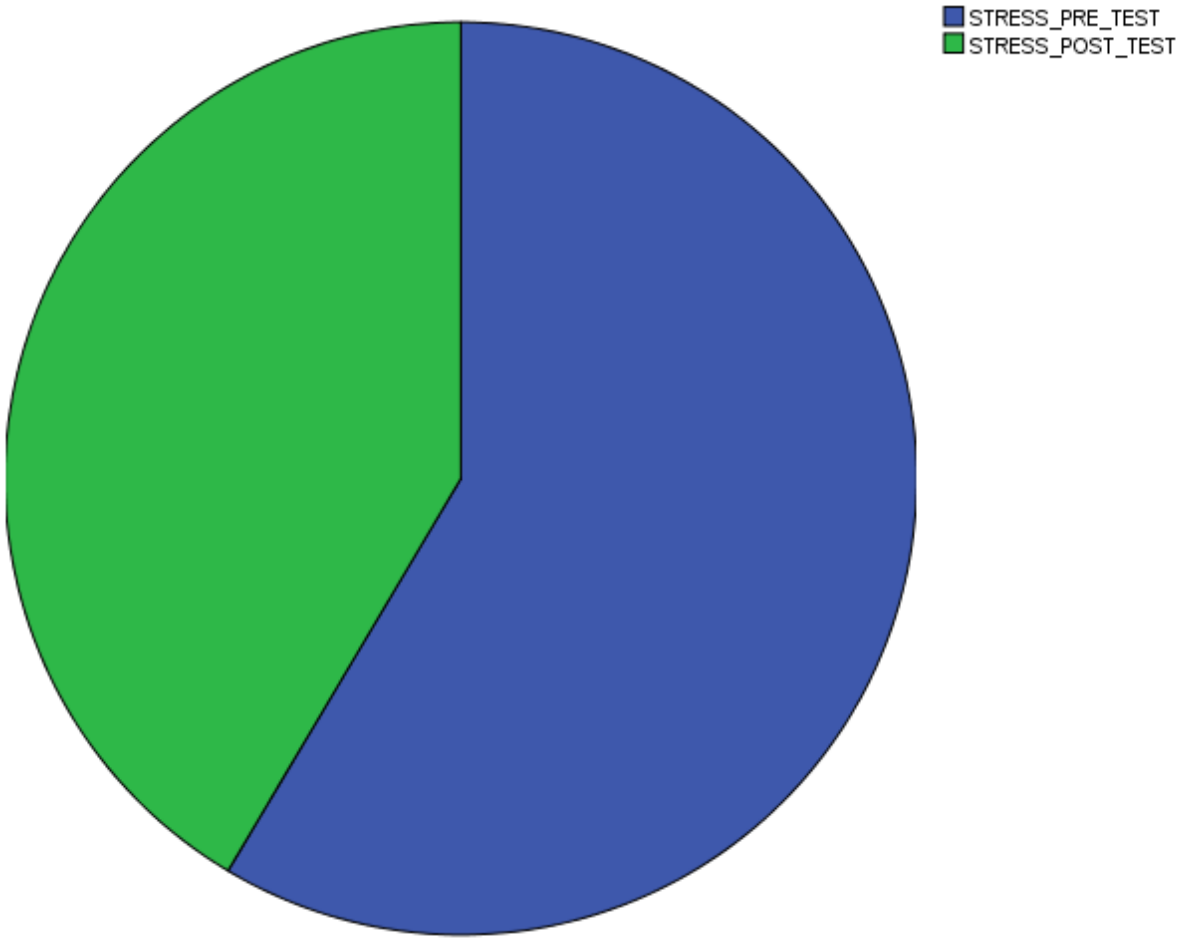


TABLE V

5. Mean, SD & t-test on Mindfulness (Breathing Exercise)

Variable	Pre-test		Post-test		(PS)	
	Mean	SD	Mean	SD	t-test	Sig
Mindfulness	44.57	9.035	50.86	16.57	-162	0.115^{ns}

ns = Not significant

This table shows the effect of Breathing Exercise on Mindfulness. From the table it can be understood that the Breathing Exercise has no significant effect on Mindfulness. Hence the hypothesis that "Breathing Exercise has no effect on Mindfulness of the sample" is accepted.

This may be because of the reason that the since Mindfulness involve many aspects like Attention and Awareness, Breathing Exercise alone will not be enough for improving the Mindfulness of the sample. More techniques may be required for improving the Mindfulness of the sample.

FIGURE II

The effect of Breathing Exercise on Mindfulness

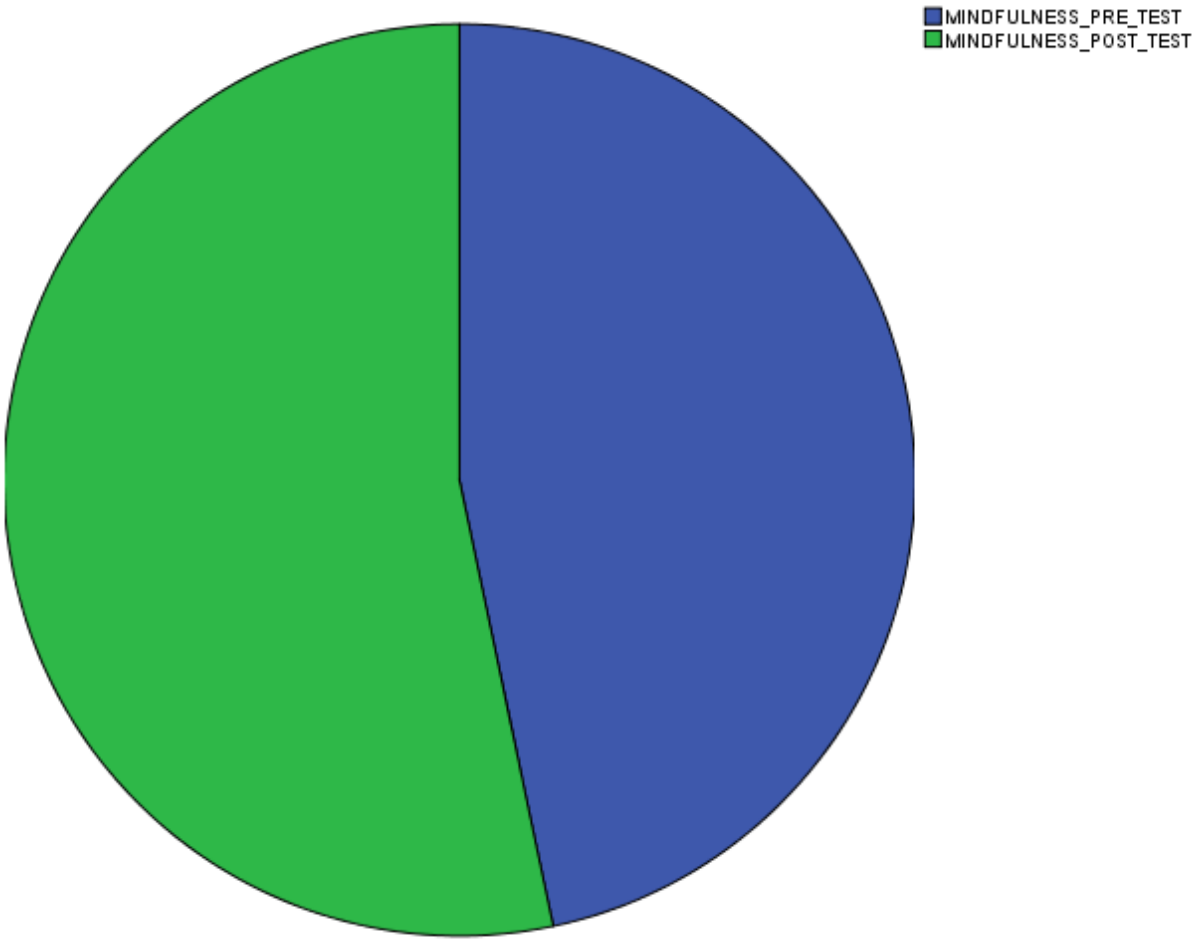


TABLE VI

6. Mean, SD & t-test on Stress (Relaxation Training)

Variable	Pre-test		Post-test		(PS)	
	Mean	SD	Mean	SD	t-test	Sig
Stress	16.57	5.022	10.166	5.48	5.350	0.000**

**=Significant at 0.01 level

This table shows the effect of Relaxation Training on Stress. From the table, it can be understood that Relaxation has significant effect on Stress of the sample. When Relaxation Training was given to the sample, their Stress level was reduced.

Stueck and Gloeckner(2005) looked at the results of a Training of Relaxation with Elements of Yoga for Children , and found out that Students experienced significant reductions in aggression, helplessness in school, static balance ability, reduced physical complaints and improved stress-coping abilities.

Hence the hypothesis that "Relaxation Training has no effect on Stress of the sample" is rejected.

FIGRE III

The effect of Relaxation Training on Stress

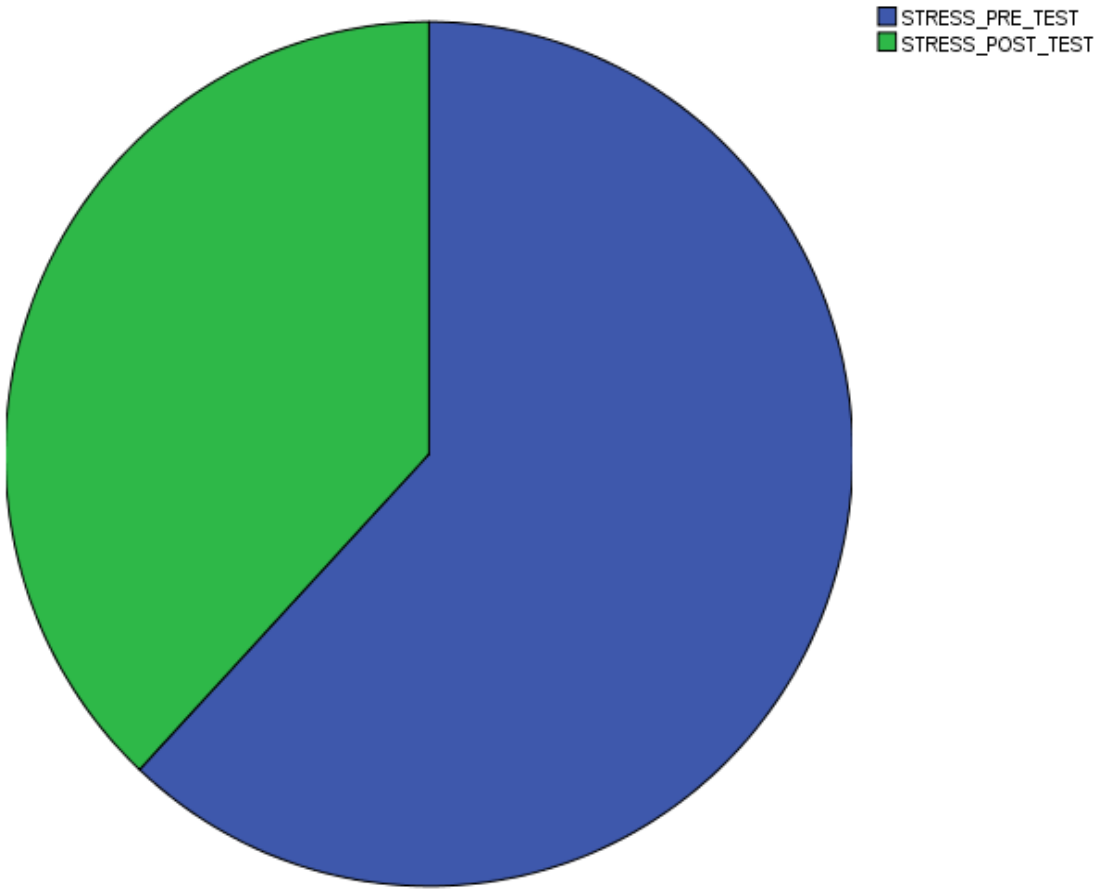


TABLE VII

7. Mean, SD & t-test of Mindfulness (Relaxation Training)

Variable	Pre-test		Post-test		(PS)	
	Mean	SD	Mean	SD	t-test	Sig
Mindfulness	44.30	9.08	53.36	19.028	-2.49	0.019**

**=Significant at 0.05 level

This table shows the effect of Relaxation Training on Mindfulness among the sample. The table shows that Relaxation Training has significant effect on Mindfulness of the sample.

Goldberg et al. (2004) looked at the effect of teaching relaxation skills to six upper elementary school students with autism and they found out lower stress levels and increased alertness after sessions and more self-monitoring. So from this study it can be understood that when Relaxation Training was done, the alertness increased, hence the Mindfulness.

Hence the hypothesis that "Relaxation Training has no effect on Mindfulness of the sample" is rejected.

FIGURE IV

The effect of Relaxation Training on Mindfulness

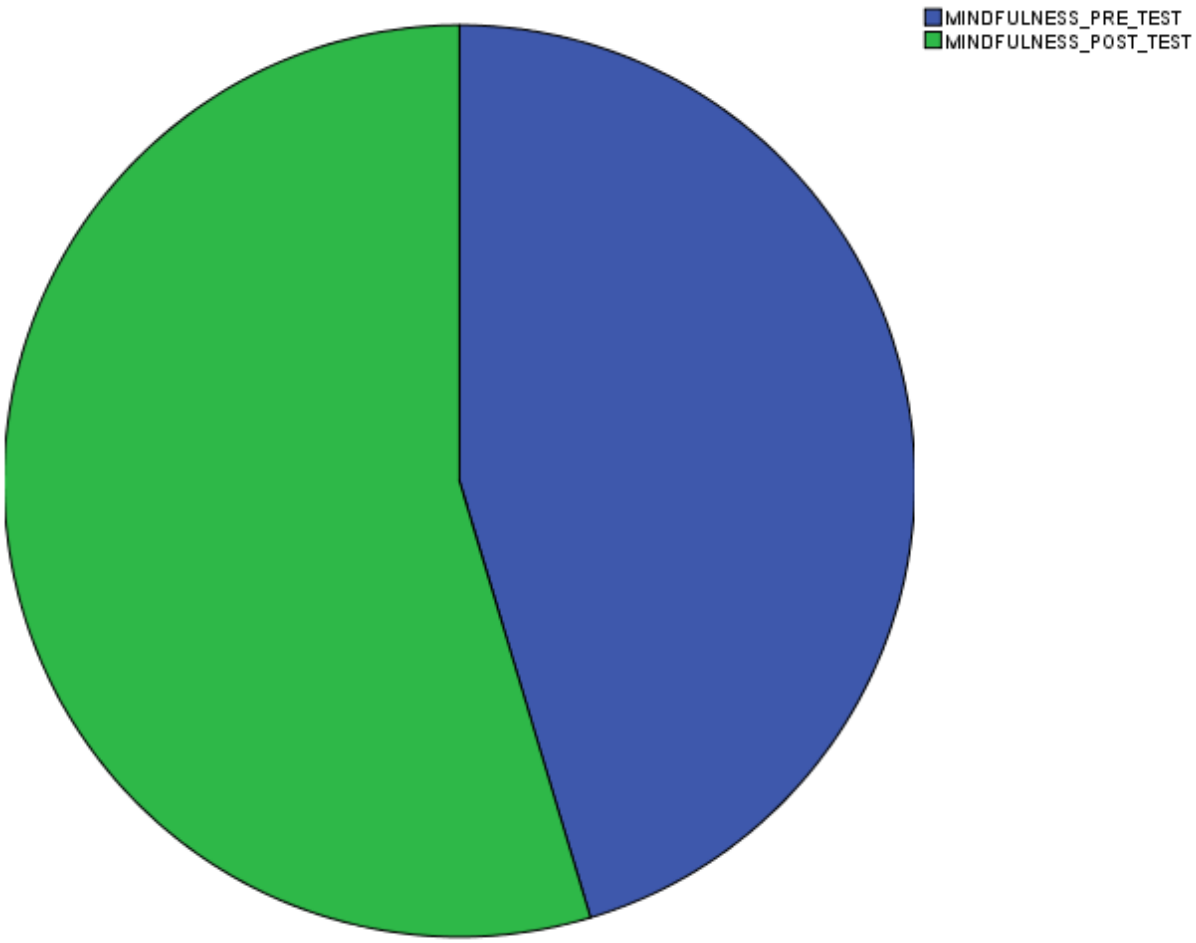


TABLE VIII

8. Comparison between Breathing Exercise & Relaxation Training on Stress

Variable	Breathing Exercise		Relaxation Training		(IS)	
	Mean	SD	Mean	SD	t-test	Sig
Stress	10.93	5.489	10.17	5.484	0.541	0.590^{ns}

ns = Not significant

This table gives a comparison between the effect of Breathing Exercise and Relaxation Training on Stress among the sample. Independent sample t-test is used for this purpose. The Independent Samples t-test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different.

From the table, it can be understood that, both Breathing Exercise and Relaxation Training has similar effects on Stress of the samples. Hence the hypothesis that "Breathing Exercise is not better than Relaxation Training in effectively reducing Stress and increasing Mindfulness of the sample" is rejected.

Chicayban and Malagris (2014) conducted a study to evaluate the effects of the relaxation and breathing training for hypertensive patients on the index, levels and symptoms of stress and blood pressure among hypertensive patients suffering from stress. It was observed that the relaxation and breathing training for hypertensive patients reduced the stress index and symptoms in the experimental group in isolation, except when compared to the control group.

TABLE IX

9. Comparison between Breathing Exercise & Relaxation Training on Mindfulness

Variable	Breathing Exercise		Relaxation Training		IS	
Mindfulness	Mean	SD	Mean	SD	t-test	Sig
Mindfulness	50.87	16.519	53.37	19.029	-0.543	0.589^{ns}

ns = Not significant

This table is the comparison between the effect of Breathing Exercise and Relaxation Training on Mindfulness of the samples. From the table, it can be understood that, there is no significant difference in the effect of Breathing Exercise and Relaxation Training on Mindfulness. So, both of the techniques are having similar effects on Mindfulness of the sample. Hence the hypothesis that "Breathing Exercise is not better than Relaxation Training in effectively reducing Stress and increasing Mindfulness of the sample" is rejected.

This may be because of the reason that both Breathing Exercise and Relaxation Training belong to the same therapy, i.e. Positive Therapy.

SUMMARY AND CONCLUSION

CHAPTER V

SUMMARY AND CONCLUSION

The study on "The Effect of Breathing Exercise and Relaxation Training on Stress and Mindfulness among the High-School Students" was done including the following objectives:

- To assess the level of Stress and Mindfulness among sample
- To find out the relationship between Stress and Mindfulness among the sample
- To find out the effect of Breathing Exercise on Stress and Mindfulness among the sample
- To find out the effect of Relaxation Training on Stress and Mindfulness among the sample
- To reduce Stress and enhance Mindfulness among the sample

From a Matriculation Higher Secondary School, Coimbatore, Tamil Nadu, 100 students from class 8^{th} standard were screened for their level of Stress and Mindfulness using Stress Inventory and Mindful Attention Awareness Scale. Out of them, 60 students with moderate to high Stress and very low to average Mindfulness were selected purposively. The parent's consent form was handled out to the parent to get their children to participate in the study. Since all the 60 students expressed their willingness, the Case Study Schedule was given to the participants. The students were divided into two groups and one group received 6 sessions of Breathing Exercise and the other group received 6 sessions Relaxation Training in three weeks. After three weeks, the participants were reassessed for Stress and Mindfulness.

The experimental design used in this research was 'before- and-after-without control design'.

Conclusion

- From the test of Normality, it was understood that the sample is a representative sample.
- From the analysis of percentage of students having different levels of Stress, it was understood that there is difference in the level of Stress of the sample, hence the hypothesis that "There is no difference in the level of Stress of the sample" is rejected.
- From the analysis of percentage of students having different levels of Mindfulness, it was understood that there is difference in level of Mindfulness of the sample; hence the hypothesis that "There is no difference in the level of Mindfulness of the sample" is rejected.
- From the correlational analysis results, it was found out that, there is no significant relationship between Stress and Mindfulness of the sample. So the hypothesis that "There is no relationship between Stress and Mindfulness of the sample" is accepted.
- When paired sample t-test was done to find the effect of Breathing Exercise on Stress of the sample, it was found that Breathing Exercise has significant effect on Stress. Stress was reduced when Breathing Exercise was given to the group. Hence the hypothesis that "Breathing Exercise has no effect on Stress of the sample" is rejected.
- When paired sample t-test was done to find the effect of Breathing Exercise on Mindfulness of the sample, it was found that Breathing Exercise has no significant effect on Mindfulness. Hence the hypothesis that "Breathing Exercise has no effect on Mindfulness of the sample" is accepted.
- When paired sample t-test was done to find the effect of Relaxation Training on Stress of the sample, it was found that Relaxation has significant effect on Stress of the sample. When Relaxation Training was given to the sample, their Stress level was reduced. Hence the hypothesis that "Relaxation Training has no effect on Stress of the sample" is rejected.
- When paired sample t-test was done to find the effect of Relaxation Training on Mindfulness of the sample, it was found that Relaxation Training has significant effect on Mindfulness of the sample. Hence the hypothesis that "Relaxation Training has no effect on Mindfulness of the sample" is rejected.

- When a comparison was done between the effect of Breathing Exercise and Relaxation Training on Stress by Independent sample t-test, it was found that Both Breathing Exercise and Relaxation Training have similar effects on Stress of the samples. So it cannot be said that one technique is better than the other. Hence the hypothesis that "Breathing Exercise is not better than Relaxation Training in effectively reducing Stress and increasing Mindfulness of the sample" is rejected.

- When a comparison was done between the effect of Breathing Exercise and Relaxation Training on Mindfulness by Independent sample t-test, it was found that there is no significant difference in the effect of Breathing Exercise and Relaxation Training on Mindfulness. So, both of the techniques are having similar effects on Mindfulness of the sample, hence the hypothesis that "Breathing Exercise is not better than Relaxation Training in effectively reducing Stress and increasing Mindfulness of the sample" is rejected.

Limitations

- The data collection was done only in a small region of Coimbatore and the results may vary in other parts of the country.
- Only 8^{th} standard students were the sample

Recommendations

- Relaxation Training and the other relaxation techniques like yoga can be made as part of the curricular activity, so that the Psychological well-being of the students can be improved.
- Workshops and classes on Stress and Mindful can be conducted in educational institutions for the teachers to gain more knowledge and develop the students accordingly.

Suggestions for Further Research

- Research can be conducted involving both public and private schools to enable comparison

- The research might be expanded to the diversified and cross-cultural samples from different districts in Tamil Nadu.
- Longitudinal research can be conducted on larger sample of students applying Relaxation Training and Breathing Exercise.

REFERENCES

REFERENCES

Alidina, S. (2016). 9 Ways Mindfulness Reduces Stress .Retrieved from:https://www.mindful.org/9-ways-mindfulness-reduces-stress/

American Institute of Stress.(2017) .Stress effects. *Retrieved from American Institute of Stress website:* https://www.stress.org/stress-effects/

American Psychological Association. (2011). Stress: The different kinds of stress. Retrieved from American Psychological Association website: http://www. apa. org/helpcenter/stress-kinds. Aspx

Arch, J. J., & Craske, M. G. (2006). Mechanisms of mindfulness: Emotion regulation following a focused breathing induction. *Behaviour research and therapy*, *44*(12), 1849-1858.

Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social psychiatry and psychiatric epidemiology*, *43*(8), 667-672.

Beddoe, A. E., & Murphy, S. O. (2004). Does mindfulness decrease stress and foster empathy among nursing students?. *Journal of Nursing Education*, *43*(7), 305-312.

Biegel, G. M., Brown, K. W., Shapiro, S. L., & Schubert, C. M. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of consulting and clinical psychology*, *77*(5), 855.

Bluth, K., & Blanton, P. W. (2014). Mindfulness and self-compassion: Exploring pathways to adolescent emotional well-being. *Journal of child and family studies*, *23*(7), 1298-1309.

Bluth, K., & Eisenlohr-Moul, T. A. (2017). Response to a mindful self-compassion intervention in teens: A within-person association of mindfulness, self-compassion, and emotional well-being outcomes. *Journal of adolescence*, *57*, 108-118.

Bluth, K., Roberson, P. N., & Gaylord, S. A. (2015). A pilot study of a mindfulness intervention for adolescents and the potential role of self-compassion in reducing stress. *Explore: The Journal of Science and Healing*, *11*(4), 292-295.

Brown, K. W., West, A. M., Loverich, T. M., & Biegel, G. M. (2011). Assessing adolescent mindfulness: Validation of an Adapted Mindful Attention Awareness Scale in adolescent normative and psychiatric populations. *Psychological assessment*, *23*(4), 1023.

Ciarrochi, J., Kashdan, T. B., Leeson, P., Heaven, P., & Jordan, C. (2011). On being aware and accepting: A one-year longitudinal study into adolescent well-being. *Journal of Adolescence*, *34*(4), 695-703.

Ciesla, J. A., Reilly, L. C., Dickson, K. S., Emanuel, A. S., & Updegraff, J. A. (2012). Dispositional mindfulness moderates the effects of stress among adolescents: Rumination as a mediator. *Journal of Clinical Child & Adolescent Psychology*, *41*(6), 760-770.

Damodaran, D. K., & Paul, V. K. (2015). Stress Management among Adolescents.

Davis, D. M., & Hayes, J. A. (2011). What are the benefits of mindfulness? A practice review of psychotherapy-related research. *Psychotherapy*, *48*(2), 198

de Anda, D., Baroni, S., Boskin, L., Buchwald, L., Morgan, J., Ow, J., ... & Weiss, R. (2000). Stress, stressors and coping among high school students. *Children and youth services review*, *22*(6), 441-463.

Deb, S., Strodl, E., & Sun, J. (2015). Academic stress, parental pressure, anxiety and mental health among Indian high school students. *International Journal of Psychology and Behavioral Sciences*, *5*(1), 26-34.

Edwards, M., Adams, E. M., Waldo, M., Hadfield, O. D., & Biegel, G. M. (2014). Effects of a mindfulness group on Latino adolescent students: Examining levels of perceived stress, mindfulness, self-compassion, and psychological symptoms. *The Journal for Specialists in Group Work*, *39*(2), 145-163.

Galla, B. M. (2016). Within-person changes in mindfulness and self-compassion predict enhanced emotional well-being in healthy, but stressed adolescents. *Journal of adolescence*, *49*, 204-217.

Goldberg, L. (2013). *Yoga therapy for children with autism and special needs*. WW Norton & Company.

Gouda, S., Luong, M. T., Schmidt, S., & Bauer, J. (2016). Students and teachers benefit from mindfulness-based stress reduction in a school-embedded pilot study. *Frontiers in psychology*, *7*, 590.

Grour, M. W., Thomas, S. P., & Shoffner, D. (1992). Adolescent stress and coping: A longitudinal study. *Research in nursing & health*, *15*(3), 209-217.

Hanh, T. N. (2010). Five Steps to Mindfulness. *Mindful. org. August*, *23*.

Hussain, A., Kumar, A., & Husain, A. (2008). Academic stress and adjustment among high school students. *Journal of the Indian Academy of Applied Psychology*, *34*(9), 70-73.

Jain, S., Shapiro, S. L., Swanick, S., Roesch, S. C., Mills, P. J., Bell, I., & Schwartz, G. E. (2007). A randomized controlled trial of mindfulness meditation versus relaxation training: effects on distress, positive states of mind, rumination, and distraction. *Annals of behavioral medicine*, *33*(1), 11-21.

Johnstone, J. M., Roake, C., Sheikh, I., Mole, A., Nigg, J. T., & Oken, B. (2016). School-based mindfulness intervention for stress reduction in adolescents: Design and methodology of an open-label, parallel group, randomized controlled trial. *Contemporary clinical trials communications*, *4*, 99-104.

Jones, R. W. (1993). Gender-specific differences in the perceived antecedents of academic stress. *Psychological Reports*, *72*(3), 739-743.

Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical psychology review*, *31*(6), 1041-1056.

Krohne, H. W. (2002). Stress and coping theories. *International Encyclopedia of the Social Behavioral Sceinces*, *22*, 15163-15170.

Kumar, K. S., & Akoijam, B. S. (2017). Depression, anxiety and stress among higher secondary school students of Imphal, Manipur. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, *42*(2), 94.

Parto, M., & Besharat, M. A. (2011). Mindfulness, psychological well-being and psychological distress in adolescents: Assessing the mediating variables and mechanisms of autonomy and self-regulation. *Procedia-Social and Behavioral Sciences*, *30*, 578-582.

Prabu, P. S. (2015). A study on academic stress among higher secondary students. *International Journal of Humanities and Social Science Invention*, *4*(10), 63-68.

Rajendran, R., & Kaliappan, K. V. (1990). Efficacy of behavioural programme in managing the academic stress and improving academic performance. *Journal of Personality and Clinical Studies*.

Rebellow, M. M. R. Stress among School Going Adolescents. *Journal Of Humanities And Social Science*, 77-79.

Robinson, N. S., Garber, J., & Hilsman, R. (1995). Cognitions and stress: direct and moderating effects on depressive versus externalizing symptoms during the junior high school transition. *Journal of Abnormal Psychology*, *104*(3), 453.

Rotheram-Borus, M. J., Hunter, J., & Rosario, M. (1994). Suicidal behavior and gay-related stress among gay and bisexual male adolescents. *Journal of adolescent research*, *9*(4), 498-508.

shahmohammadi, N. (2011). Students' coping with Stress at high school level particularly at 11th & 12th grade. *Procedia-Social and Behavioral Sciences*, *30*, 395-401.

Sheridan, C. L., & Smith, L. K. (1987). Stress and academic achievement in teenagers: Assessment and intervention. *International journal of Psychosomatics*.

Stueck, M., & Gloeckner, N. (2005). Yoga for children in the mirror of the science: Working spectrum and practice fields of the training of relaxation with elements of yoga for children. *Early child development and care*, *175*(4), 371-377.

Suldo, S. M., Shaunessy, E., & Hardesty, R. (2008). Relationships among stress, coping, and mental health in high-achieving high school students. *Psychology in the Schools*, *45*(4), 273-290.

Tice, S. R. (2007). The Effects of Deep Breathing and Positive Imagery on Stress and Coherence Levels among College-Age Women

Vonderheyde, E. M. (2017). The relationship between mindfulness and stress among college students.

Waters, L. (2016). The relationship between child stress, child mindfulness and parent mindfulness. *Psychology*, *7*(1), 40-51.

ANNEXURES

Annexure I

ADOLESCENT CONSENT FORM

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE OF PROJECT: "Effect of Breathing Exercise and Relaxation Training on Stress and Mindfulness among High- School Students".

Researcher: Ms. Nidhi. R, II. M.Sc Counselling Psychology, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641043

Research Guide: Nandhini. C , Assistant Professor , Dept. of Psychology ,Avinashilingam Institute for Home Science and Higher Education for Women , Coimbatore – 641043

I have been asked to participate in a research study conducted by Ms Nidhi. R (9495266800) and Nandhini.C (8144029629).

Introduction
In this consent form, I will learn about the proposed research and my rights, if I agree to participate in it. I will read this form carefully and if I agree to be interviewed and receive the intervention(Relaxation training and Breathing Exercise which is will not cause any harm to me and which will be beneficial to me), I will sign this form.

Purpose
I understand that Ms. Nidhi. R and Nandhini. C, propose to study the "Effect of Breathing Exercise and Relaxation Training on Stress and Mindfulness among High- School students".

Right to refuse and to withdraw
I understand that participation in this research is voluntary. I may agree for an interview and the intervention (Relaxation training and Breathing Exercise) or I may refuse/decline the interview and intervention. If I disagree for an interview and intervention, I may refuse to answer any question and I may end the interview and intervention at any time.

Offer to answer any question
If I have any questions about the study, I may call any of the listed researchers: Ms. Nidhi. R (9495266800). If I have any questions about my rights as a participant, I may call the research guide Nandhini. C(8144029629).

I agree to participate in this research

Name_____ Date_____

Researcher's statement: I have explained the nature the nature and purpose of this research. I agree to answer any question regarding the rights of the participant.

Name_____ Date_____

Annexure II

PARENT CONSENT FORM

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE OF PROJECT: "Effect of Breathing Exercise on Stress and Mindfulness among High-School Students".

Researchers: Ms. Nidhi.R, II.M.Sc Counselling Psychology, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641043

Research Guide: Nandhini. C, Assistant Professor , Dept. of Psychology ,Avinashilingam Institute for Home Science and Higher Education for Women , Coimbatore – 641043

My child is been asked to participate in a research study conducted by Ms Nidhi. R (9495266800) and Nandhini(8144029629)

Introduction
In this consent form, I as a parent learn about the proposed research and our rights, if my child agrees to participate in it. I will read this form carefully and if I agree to let my child be interviewed and given intervention (Relaxation training and Breathing Exercise which is not harmful to my child and beneficial to him/ her, I will sign this form.

Purpose
I and my child understand that Ms. Nidhi. R and Nandhini. C, propose to study the "Effect of Breathing Exercise on Stress and Mindfulness among High- School Students".

Right to refuse and to withdraw
I and my child understand that participation in this research is voluntary. My child may agree for an interview and intervention or may refuse/decline the interview and the intervention. If my child disagrees for an interview, he/she may refuse to answer any question and may end the interview and intervention at any time.

Offer to answer any question
If I and my child have any questions about the study, we may call any of the listed researchers: Ms. Nidhi.R (9495266800). If we have any questions about my rights as a participant, we may call the research guide Nandhini. C (8144029629).

I agree for my child to participate in this research

Name_____ Date_____

Researcher's statement: I have explained the nature and purpose of this research. I agree to answer any question regarding the rights of the participant.

Name_____ Date_____

Annexure III

CASE STUDY SCHEDLE

Name :

Age :

Gender : Male / Female

Class :

Area of residence : Rural / semirural / urban

Father's occupation :

Mother's occupation :

Economic status : Low/ Middle/High

Hobbies : Indoor/ Outdoor

Health issues : Heart diseases/ Respiratory problems/Hyper Tension /Other

Type of family : Nuclear/ Joint

Birth order :

Are you involved in sports: Yes/No

Are any of these things stressful for you: Academic pressure/peer pressure /bullying/family situations / others (Specify them)

Are you getting good sleep nowadays: Yes/No

Annexure IV

Stress Inventory (Revised 2005)

Instructions: "In this form, there are few statements followed by two alternatives, 'Yes' and 'No'. Read each statement carefully and put a tick mark in the column, which suits you most. Please be honest while answering. Please do not omit any item. Your answers will be kept confidential.

Part-1

Sl.no	Item	Yes	No
1	I sweat a lot		
2	I get tired easily		
3	I cannot stand loud noise		
4	I have very poor appetite		
5	I get giddiness/nausea		
6	I have difficulty in falling asleep/disturbed sleep		
7	I get pain/aches in my joints/neck/back/head		

Part-II

Sl.no	Item	Yes	No
1	I feel sad		
2	I am highly irritable		
3	I feel helpless		
4	I lose my temper easily		
5	I do not enjoy activities which I used to enjoy		
6	I am worried about my poor health		
7	I find others too demanding		
8	I feel upset when I have to take up some responsibility		
9	I worry about my past/present/future		

Part-III

Sl.no	Item	Yes	No
1	I take a long time to decide		
2	I get recurring negative thoughts		
3	I am overtaxing myself		
4	I keep forgetting things		
5	I cannot cope with sudden changes around me		
6	I am preoccupied		

Part-IV

Sl.no	Item	Yes	No
1	I have a strained posture		
2	I do not pay attention to what I eat		
3	I strive hard to achieve more and more		
4	I argue a lot		
5	I have no time for exercise/walking/relaxation		
6	I spend very little time with my family members		
7	I shot at others even for small matters		
8	I am worn out		

SI Scoring

To score the inventory, simply compute the mean of the 30 items. Higher scores reflect higher levels of stress.

Annexure V

Mindful Attention Awareness Scale

Instructions: Below is a collection of statements about your everyday experience.

Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

1) I could be experiencing some emotions and not be conscious of it until sometime later	1 2 3 4 5 6
2) I break or spill things because of carelessness, not paying emotions, or thinking of something else.	1 2 3 4 5 6
3) I find it difficult to stay focused on what's happening in the present	1 2 3 4 5 6
4) I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1 2 3 4 5 6
5) I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	1 2 3 4 5 6
6) I forget a person's name almost as soon as I've been told it for the first time.	1 2 3 4 5 6
7) It seems I am "running on automatic," without much awareness of what I'm doing	1 2 3 4 5 6

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

8) I rush through activities without being really attention to them.	1 2 3 4 5 6
9) I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	1 2 3 4 5 6
10) I do jobs or tasks automatically, without being aware of what I'm doing.	1 2 3 4 5 6
11) I find myself listening to someone with one ear, doing something else at the same time.	1 2 3 4 5 6
12) I drive places on 'automatic pilot and then wonder why I went there.	1 2 3 4 5 6
13) I find myself preoccupied with the future or the past.	1 2 3 4 5 6
14) I find myself doing things without paying attention	1 2 3 4 5 6
15) I snack without being aware that I'm eating.	1 2 3 4 5 6

MAAS Scoring

To score the scale, simply compute a mean of the 15 items. Higher scores reflect higher levels of compositional mindfulness.

Annexure VI

INSTITUTIONAL HUMAN ETHICS COMMITTEE

Avinashilingam
Institute for Home Science and Higher Education for Women
University
(Estd. u/s 3 of UGC Act 1956)

19th March 2018

To
Ms. R. Nidhi
Department of Psychology
Avinashilingam Institute for Home Science and
Higher Education for Women
Coimbatore – 641 043

Dear Nidhi,

Ref: Your proposal No. IHEC/17-18/PSY/04 entitled "The Effect of Breathing Exercise and Relaxation Training on Stress and Mindfulness among High-School Students" submitted for approval of the IHEC on 14th December.

The Institutional Human Ethics Committee of our University hereby grants approval to your research proposal No.IHEC/17-18/PSY/04 "The Effect of Breathing Exercise and Relaxation Training on Stress and Mindfulness among High-School Students" submitted by you. The Approval number for the same is AUW/ IHEC/ PSY -17-18/XPD/04.

We wish you all the best in your research endeavours.

Regards,

V. Uma Mageshwari
Dr.S.Uma Mageshwari
Member Secretary

Avinashilingam Institute For Home Science And Higher Education For Women
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