

INTRODUCTION

Stress is psycho physiological (mind-body) arousal that can fatigue body systems to the point of malfunction and disease (Girdano *et.al*, 1993). Stress is a meditational process in which stressors (or demands) trigger an attempt of adaptation or resolution that results in individual distress, if the organism is unsuccessful in satisfying the demand. Stress response occurs at physiological, behavioural, and cognitive levels. Stress is more than just acute, subjective or physiological activation and has its potentially most deleterious health effects when it becomes chronic (Wolfgang, 2005).

Stress is defined as the adverse reaction of the people to excessive pressure or other types of demand placed on them (Parry, 2005). It is a condition or feeling experienced when a person perceives that 'demands exceed the personal and social resources the individual is able to mobilize' (Sofronoff, 2005). In other words, when environmental demands strain an organism's adaptive capacity it results in both psychological as well as biological changes that could place a person at risk for illness (Cohen, Kessler and Gordon, 1995). Stress occurs when pressure exceeds his or her perceived ability to cope (Centre for Stress Management, 2003).

The term stress is to describe a process by which environmental demands (e.g., time pressure, novel or threatening events) evoke an appraisal process in which perceived demand exceeds resources and that results in undesirable physiological, psychological, behavioural, or social outcomes (Driskell and Salas, 1996). Evidence indicates that stress is a costly health-related issue, in terms of individual performance and well - being as well as productivity (Ilgen, 1990). Stress is any situation that evokes negative thoughts and feelings in a person. The same situation is not evocative or stressful for all people, and all people do not experience the same negative thoughts and feelings when stressed (Whitman and Neal, 1985).

Seaward (1997), as cited in Deris and Aaron (2006), has defined stress as, 'the inability to cope with a perceived or real or imagined threat to one's mental, physical, emotional and spiritual well - being which results in a series of physiological responses and adaptations'. In addition to responding physiologically, people may respond cognitively and emotionally to stress. Studies indicate that 70 to 80 per cent of all disease and illness is stress related. Stress is an unavoidable characteristic of life and work (Adeyemo and Ogunyemi, 2005). It is an integral part of growth and development that only becomes a predominantly negative factor in a person's life eroding the abilities to function when it takes on a destructive meaning.

The adolescent years are among the most stressful times in a person's life. The formula 'no longer a child-not yet an adult' vividly expresses the transitional character of adolescent life. It is a state in which the person has already broken with the happy age of childhood, but has not yet found himself in adult life. That is why adolescent's mind is confused. The age of adolescence is marked by psychological manifestations that have caused it to be described as 'an age of crisis and transition'. This verdict is very true with the early adolescents. Early adolescence is considered as a tumultuous developmental period due to the rapid psychological, social and physical changes that the adolescents experience as they go through puberty and increase independent living skills (Steinberg and Morris, 2001; ASRI, 2002).

When the term stress is related to adolescents, call it pressure, or call it great expectations - whatever its name, the result is the same - school stress / academic stress. It starts as soon as kindergarten. It turns play into competitive sport. It turns the joy of learning into a struggle to excel. It turns friends into social connection and charitable acts into a line on a resume. Today students are put in a position of feeling they just must not stop. They are put in an environment where they are not accepted for themselves but only for what they are going to achieve. All this builds stress.

Adults commonly tell young people that the teenage years are the "best years of their life". The rosy remembrance highlights happy groups of high school

students energetically involved at a dance or sporting event, and a bright - eyed couple holding hands or sipping sodas at a local restaurant. This is only part of the picture. Life for many young people is a painful tug of war filled with mixed messages and conflicting demands from parents, teachers, coaches, employers, friends and oneself. Growing up - negotiating a path between independence and reliance on others - is a tough business. It creates stress, and it can create serious depression for young people ill - equipped to cope, communicate and solve problems (Walker, 2005).

There are two types of stress; good and bad. The perception of an action or behaviour can precipitate whether the stress is good or bad for them. For instance, if a student is presenting a speech in front of the class, the stress can be either good or bad. The apprehension and feelings of not being successful can create a flight syndrome that feels bad. However, if the student delivers the speech and realizes that everyone in the class is applauding and saying "good job," the bad stress can suddenly turn into good stress where the student feels pumped and invincible (Brobeck, 2007).

Stress manifests from the change in an individual's thinking and their way of life style. Today individuals have changed in their perceptions and the way they interpret their life. Students in their teens are the ones who are going through the transitional phase, which is an intermediate of childhood and adulthood. During the teen years, a lot of biological, physical, mental and emotional changes are happening, as well as the changes in responsibility and role. In order to stabilize these changes the students are always confronted with problems and conflicts. For some students who are not capable of dealing with it, the changes would create stress and tension in them. If it is not dealt within the early stages, they may experience mental problems later (Newman, 2005).

As of today in a competitive society, the stress levels among students have been going up dangerously due to the pressure of their academic or cultural activities. Not all children can cope with such high levels of expectation and parents do not seem to realize or accept that their children are under severe

pressure says Elizabeth Vadakkekara, Child Psychologist and the Director of Thrani (The Hindu, 2003).

Stressed children show signs of emotional disabilities, aggressive behaviour, shyness, social phobia and often lack interest in otherwise enjoyable activities. Dawood (1995) found that students stress affects their academic performance.

In the present day scenario, the school students when stepping into their tenth grade really face many challenges starting the day at 5'o clock in the morning shunting to tuition centres, school and home back late evening. Added to these difficulties the unrealistic expectations of the parents, the unimaginable home work and the tuition work in facing the competitive exams mounts up stress which at a particular stage takes the form of depression and thereby affecting the well - being of the students.

One consequence of the rapid technological advances and growing competitions of the past several decades is that the school settings have expanded greatly in complexity and place high demands on the students, their parents as well as the teachers. The impact of stress on performance has become a primary concern at all school levels. Accordingly, the development of effective intervention to overcome the detrimental effects of stress is a task that has taken on increased importance in the community today.

The high school level is of particular concern to the present study as well as to the educators and public policy makers because many state, national and international tests indicate low performance and decreases in academic achievement during these school years (National Research Council, 2001). Research has found that high school academic achievement scores make a consistent, independent contribution to whether students' graduate from or drop out of school (Kaplan, Peck and Kaplan, 1997; Battin - Pearson *et. al*; 2000). Young minds, the Children's Mental Health Charity says nearly one million children between the ages of 10 and 15 have mental health problems like depression and anxiety and the number keep on rising. Although

stress is not the same as depression, prolonged stress can lead to depression, if they are not dealt effectively.

The present research had been collating information from various media outlets and research papers on the extreme result of stress among students (i.e.) student suicide in India, and found that the numbers are very disturbing and demand concrete solutions in terms of the way the society perceive and practice learning and education in India. Even though no concrete and/or current data available on this issue, the following statistics gives an alarming call for the researches related to student stress.

- In 2006, 5,857 students - or 16 a day - committed suicide across India due to exam stress.
- The study (conducted 10 years back) had found that 16 per cent of Mumbai students were depressed - that is two per cent more than the students in Boston. It also found that eight percent of these were suicidal today (ten years later) that the researchers say things could be worse.
- Statistics show that India has the highest suicide rate in the world, marginally behind China, but ahead of the west. Ninety-five to hundred people commit suicide in India every day. And of these a whopping 40 percent are in the adolescent age group.
- Crime records bureau figures show India's suicide rate has risen eight percent a year for 10 years. According to 2007 estimate, 45 percent of suicides involve people between 15 and 29. And WHO lists suicide among the top three causes of death in the age group of 15 - 35 years (CNN - IBN Report, January 13, 2010).
- The motive when students kill themselves is invariably academic pressure - this account for 99 percent suicide in the age group 12 - 18. But psychiatrists sought to assess why the trend has risen of late and put it down to one major reason - Exam results (Express India, January 10, 2010).

The well being of adolescents is largely the product of interactions among the multiple contexts in which adolescents are being embedded (Rensick *et. al.*,1997). The statistics above clearly indicates that in India there is heavy academic stress that results in negative emotional states and more internalizing problem (Verma, *et. al.*, 2002). In many studies of deliberate harm, academic stress was found to be associated with suicidal ideas and occurrence of deliberate self - harm (Krishnakumar *et. al.*, 2005; Verma *et, al.*, 2002; and Lai and Wong, 1992).

Perceived stress can be viewed as an outcome variable measuring the experienced level of stress as a function of objective stressful events, symptoms experienced and personality factors. The theoretical framework usually proposed for stress research involves a biopsychological model which includes environmental factors and individual processes of perception and coping with stress. There is evidence that perceived stress among adults is cumulative bio - response of chronic stress (McEwen, 1998).

Early intervention of stress and its effects are reversible in many aspects. However, relatively little is known on perceived stress. Studies have suggested the possibility of an early accumulation of all static loads among students (Shaffer, 2009 and Evans, 2007). In India stress appraisal *per se* is not a well explored area especially among adolescents and therefore, the available literature is meagre. Stress studies done in India are mostly based on the objective measurement of stress.

Rather than how much stress individuals experience, the critical issue seems to be how they perceive stress and respond to it. Seaward (1997), as cited in Deris and Aaron (2006), points out that coping with stress is an ongoing process. **Therefore it is critical that children and adolescents are given opportunities to develop skills that will help them effectively cope with daily stressors, major life events and change. This is the point where the study has gained its significance.**

As stress has been implicated in the onset and maintenance of so many acute and chronic diseases in the future of young adults as well as deteriorated interest, delinquent behaviours and poor performance in the present, scientific priorities have shifted to focus on primary and secondary prevention strategies by way of stress reduction and stress management techniques in order to reduce the dire consequences (Antoni, Saab and Ironson, 2001; Kromhout *et. al.*, 2002).

Early intervention assumes importance in addressing chronic stress symptoms and the studies need to be targeted at a group where corrective measures can bring about an impact. **Therefore the present study examined the levels of stress of adolescents in their 9th grade and carried out a corrective measure of incorporating coping skills in a way that the intervention addresses both the current and future stressors.**

Hariharan (2008) has rightly stated that, stress level among Indian school children is high especially before getting into high school (i.e.) before their public exams. These students are under constant pressure from their parents and teachers to score good marks.

High school years should be a great experience, but many demands and rapid changes can make them one of the most stressful times of life. Students today face increasing amounts of schoolwork, a rapidly changing curriculum, assignment deadlines and exams; they worry about selecting careers and post secondary programs, and they must balance schoolwork with sports, hobbies and social life. They have conflicts with parents, friends, and siblings; have to cope with unpredictable moods, concerns about appearance, fitting in with a peer group. Money is always a worry, as is dealing with issues of alcohol and drugs - and now there's a new fear of violence in and around schools. As if that wasn't enough, they have to deal with all this while undergoing rapid physical and emotional changes - and without the benefit of life experience.

A detailed literature pertaining to stress management and training programmes were reviewed and examined to identify one intervention that could suit the adolescents in their early stage, who are not really exposed to stress as of

now. But at the same time they perceive stress as something dangerous and will be exposed to stress very soon as they get close to the public exam system.

By looking at various angles the investigator found that Stress Inoculation Training (SIT) is a different approach of having ‘Inoculation’ aspect within it. It is this intervention that could focus on tasks that must be performed in conditions quite unlike those encountered in the training classroom. Its primary goal is to prepare any individual to maintain effective performance in high stress environment along with ensuring acquisition of required knowledge, skill practice and retention. Whereas, with other stress interventions, only the acquisition of knowledge and skill practice will be the goal. Hence SIT is found to be an intervention to enhance familiarity with the criterion environment and teach the skills necessary to maintain effective task performance under stress conditions.

According to Meichenbaum (2007), ‘Like beauty, stress is in large part, ‘in the eye of beholder’ – the Stress Inoculation Training (SIT) aims to manage stress using a cognitive-behavioural method of providing clients with the strategies and skills to deal with the particular stressors in their lives. SIT is based on Lazarus and Folkman’s (1984) model, which views stress as occurring when the perceived demands of a situation exceed the person’s perceived coping resources.

As stressors can take many forms (time-limited / persistent, controllable / uncontrollable, predictable / unpredictable, current / in the past / future), this approach is tailored to the individual needs of the individuals. **The idea of inoculation comes from vaccination, where a weak dose to deal with mild forms of a disease is thought to provide the body with the ability to fight a future strong dose; SIT provides individuals with the opportunity to deal with mild forms of a stressor in order to increase their perceived ability to cope with chronic stressors.**

Stress Inoculation Training (SIT) has been employed both on a treatment basis to help individuals cope with the aftermath of exposure to stressful events

and on a preventative basis to inoculate individuals to future and ongoing stressors (Meichenbaum, 1996). **Hence the current study takes up the second arena i.e., the preventative basis to ‘inoculate’ the school children to future and ongoing stressors.** Meichenbaum (1997) reports that SIT can be successful in bringing about appropriate behaviour change, particularly related to the anxiety associated with the exams. **Stress Inoculation Training (SIT) consists of three interlocking and overlapping phases as listed below:**

- 1. A conceptual educational phase**
- 2. A skill acquisition and skills consolidation phase**
- 3. An application and follow-through phase**

(Meichenbaum, 1985, 1993, 2001 and 2007).

First, participants are educated about the sources of their stress, including, for example its relationship to irrational thinking and possible ways to reduce it both at the physiological and the psychological level. Next, coping skills directed towards specific stressors are fostered. These include, for example, relaxation techniques and cognitive restructuring (here the present study tailored the coping skills to the common stressors identified among the school students (i.e., school work, their own feelings and thoughts, exams, parents, teachers, money and friends). The final application phase involves exposure to real or simulated situations for practice in using the coping skills.

Stress Inoculation Training, which includes instruction in both cognitive and behavioural coping techniques, is particularly effective in preventing and alleviating stress-related symptoms (Cragan and Deffenbacher, 1984; Deffenbacher, 1988; Meichenbaum and Deffenbacher, 1988; Linden and Chambers, 1994; Meichenbaum, 2005). Supposedly exposure to SIT conveys protection from feeling overwhelmed when confronting stressors because one has an arsenal effective coping techniques upon which to rely. In other words individuals who participate in such interventions are thought to inoculate themselves against future episodes of stress (Meichenbaum and Cameron, 1983; Meichenbaum, 2007).

Another important aspect that differentiates SIT with other training programme is that the significant others of the trainees would not be a part of the programme in SIT. The reason is that as the crux of the proposed training is to inoculate the students with current and future stressors. Hence the stress through the significant others, namely the parents and teachers could be tackled in an appropriate manner by the student after undergoing SIT is the underlying assumption.

With this broad objective, this research teams up to design a need based locally cultured SIT with the intention of equipping the 9th standard students with stress coping skills and thereby enhancing their overall well being in terms of stress resilience, coping repertoires and academic performance.

SCOPE OF THE STUDY

The proposed study doles out with the rationale of employing Stress Inoculation Training on a preventative basis to inoculate school students against their current / future stressors and investigate its direct effect in reducing their stress level. Also the students were to be adjudged of their enhanced physical and mental health with a desired behavioural change with improved resilience and stress coping repertoires. Moreover the overall effect of SIT on the academic performance also would be investigated.

OPERATIONAL DEFINITIONS

Stress Inoculation Training:

SIT is a training programme especially intended for school students and prepares the students to respond more favourably to negative stress events by training effective coping skills before stress exposure. SIT is typically organized into three distinct phases:

1. Conceptualization - to identify and express the level of stress, triggers, indicators and its effects.
2. Skills acquisition and rehearsal - to teach stress coping repertoires and practice primarily and then gradually rehearse.

3. Application and follow – through - to provide opportunity for the students to apply the variety of coping skills and generate the learnt skills towards various situations to resist stress.

Overall well - being:

Overall well – being is operationally defined as what the individual is speculatively able to do and to be. It was used as a measure to find out the retention effect of SIT in term of

- a) Resilience
- b) Stress coping repertoires
- c) Academic performance

a. Resilience: The term resilience is operationally defined as the ability or strength of a student to endure or recover from a stressful event, as generally resilience helps students to properly adapt to stress.

b. Stress Coping Repertoires: SIT recognizes that stress is transitional in nature and that there is a need to work with students to bolster and nurture flexible coping repertoires. Hence stress coping repertoires is operationally defined as the complete range of coping skills and the aptitude in coping it.

c. Academic Performance: As academic performance facilitates students to achieve their educational goals, this term is operationally taken as a measure to find out the effect of SIT. The academic performance was evaluated with their report cards.

OBJECTIVES OF THE STUDY

General objective

- Design and implement SIT specific to the current and future stressors of the 9th grade students, which in turn would facilitate enhanced resistance to stress in terms of reduced stress level, enhanced physical and mental health and deserved behavioural change, improved resilience, repertoires of coping skills and academic performance.

Specific objectives

- Appraise the stress level, causative factors and stress indicators of the 9th grade students and analyse the institution and gender specific difference
- Design and implement an intensive training session on SIT for the selected students
- Assess the effectiveness of SIT in reducing the stress level and minimizing its causative factor and thereby alleviating the stress indicators to a minimum.
- Identify the retention potential of SIT on the over well - being of the selected students in terms of their resilience, stress coping repertoires, and academic performance.

HYPOTHESIS

Prior SIT (H_a)

H_a1. Institution and Gender – specific differences does not have any effect on the stress level of the high school students.

H_a2. There would be no definite correlation between the seven identified causative factors with the stress score and the order of the stress would not be influenced by the type of school and gender.

H_a3. Institution and gender – specific differences does not have any effect on the stress indicators of the selected high school students.

Post SIT (H_b)

H_b1. The SIT does not have an impact on the stress level of the selected beneficiaries.

H_b2. The SIT does not reduce the number of signs and symptoms experienced and behaviour manifested (in terms of stress indicators) among the selected beneficiaries.

H_b3. The retention potential of SIT in terms of resilience was not observed among the selected beneficiaries.

H_b4. Retention potential of SIT in terms of possessing gamut of stress coping repertoires was not observed among the selected beneficiaries.

H_b5. The retention potential of SIT in terms of improved academic performance was not observed among the selected beneficiaries.