

# CHAPTER - 1

## INTRODUCTION

உடையார் முன் இல்லார்போல் ஏக்கற்றுங் கற்றார்  
கடையரே கல்லா தவர்.

*திருக்குறள் 395*

**Like a poor man standing in front of a rich, one should remain modest in front of an educated to learn, others who have not humbled to learn are considered low.**

*Thirukkural 395*

Realizing the importance of education, the famous Greek Philosopher Plato stated that education is the birth right of every human being. It is important to society that students learn and acquire the necessary knowledge and skills that will in turn make them contribute positively to the development of the general economy of any nation. India's improved education system is often cited as one of the main contributors to its economic development. Much of the progress, especially in higher education and scientific research has been credited to various public institutions. Qualitatively India is inching closer to universal education. The literacy rate (according to 2011 statistics) at the primary level is 93 per cent while at the secondary level it is 69 per cent. The final two years of secondary education is known as Higher Secondary (HS), it includes both XI or eleventh standard or eleventh grade and senior secondary or XII or twelfth standard or twelfth grade or simply the "+2" stage in India. Tamil Nadu is one of the states with a high literacy rate. The number of students enrolled in schools in classes XI and XII in Tamil Nadu is 11,84,232. The Gross Enrolment Ratio (GER) is the total enrolment in a specific level of education regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in each school-year. The GER for class XI and XII is 49.9 per cent [Statistics of School education, 2011-12, Ministry of Human Resource Development (MHRD)].

Students are a positive asset and a precious national resource. They need to be cherished, nurtured and developed with tenderness and care coupled with

dynamism. Each student's growth presents a different set of challenges and requirement at every stage of academic life. Living in a highly competitive environment the pressure of studies and assignments and the situations and surroundings they are exposed to at home and in school especially during adolescence often leave them stressed and prone to anxiety and depression.

Santrock (2007) has remarked that the period of adolescence is a critical juncture in achievement. New social and academic pressures force adolescents to assume different roles. Academic achievement becomes a more serious goal in adolescence. They begin to perceive current successes and failures as predictors of future outcomes in the adult world. As demands on adolescents intensify, different areas of their lives may come into conflict. Their social interests may cut into the time they need to pursue academic requirements or ambitions. This may undermine the attainment of goals. Agarwal (2005) feels that each student in a school is unique. Nunley (2006) also affirmed that every single brain in a class is unique and special and deserves to be treated that way. How effectively adolescent students adapt to new academic and social pressures is determined, in part, by psychological, motivational and contextual factors.

Most schools in India follow one of two main systems of education, under the state government (State Board:SB) or the central government (Central Board: CB). These systems differ in curricula; syllabi offered and tested subjects, and approaches to learning and examinations. The State Board schools gear students towards college admission in Tamil Nadu, while the Central Board schools gear students towards college admission throughout India (Rao, 2008).

Generally, at the end of the 10th grade, students take exams which will determine the academic track that they pursue further. Based on their performance in these exams, they will be guided into one of three streams, Science, Commerce or Humanities. Students with the highest marks are encouraged to pursue science as it focuses on physical sciences and mathematics, in addition to biology or computer science. Throughout the 12<sup>th</sup> grade, students take frequent and regular tests and exams to prepare them for the board exams. Class time is used to

practice potential examination questions and memorize material, because it is believed that these exercises prepare the student for the entrance examinations (Lee and Larson, 2000; Woronov, 2007).

Higher secondary students prepare for the board and entrance exams almost as if they are getting ready for a military battle that has to be won by planning, strategizing, and practicing. Most of their class time is spent practicing for the board exams. Students take regular and frequent tests in each subject following the completion of a chapter throughout their last two years of school. High schools strongly emphasize performance in the board and entrance exams at the expense of all other activities, because higher educational institutions typically depend solely on board exam and entrance exam scores as criteria for admission (Rao, 2008). The current evaluative process adopted for admission is totally dependent on performance in the examinations. This has led to elevated levels of competition in order to score 'highest marks' or competitive scores required for admission into professional or other desired courses. To further facilitate high probability of a good performance in the board exams, entrance exams and NEET exams many students attend coaching or tuition classes. Entrance exams are administered by a consortium of institutions such as the AIEEE (All India Engineering Entrance Examination), or by individual institutions. These are typically administered only once a year (following the board exams, usually in May or June), on an appointed date and time. The main objective of most coaching classes is preparing students to score well in the board exams in specific subjects such as Maths or Physics, in order to ensure good results in their board exams, or preparing students for competitive entrance exams for professional courses like engineering, medicine, or law as these streams are considered prudent in terms of professional and financial stability. Professional schools weigh the board exam and entrance exam performances equally in evaluating applications for admission. Depending on their future goals, most students opt for one or the other, although some attend both coaching and tuition classes that begin before school hours or continue afterwards, and many are taught over the weekends.

The Hindu, November 19, 2016, in an article “NEET (National Eligibility cum Entrance Test) nightmare haunts students from Tamil Nadu” revealed that every year the state produces over 5,000 MBBS graduates. In Tamil Nadu, the number of students who take the State Board examinations is 60 times more than those studying in the CBSE stream. The NEET which is a common test for all aspirants to the medical course is based on the CBSE syllabus. Experts are concerned about how students from the State board will fare in the test. The larger concern is that students from other States could get a bigger proportion of seats in government medical colleges in Tamil Nadu. NEET could stand in the way of a student’s dream or goal of becoming a doctor and make his or her academic life much more stressful.

Carter et al. (2003) is of the opinion that a goal can be concrete or abstract. He further said that when goals are set and worked to achieve resources like intelligence, abilities, time and energy are engaged and help the student to move ahead. Anything that has a capacity to help us reach our target can be termed as resource. Gross, Crandal and Knoll (1973), Swanson (1981), Varghese et al. (2015) and Seetharaman et al. (2015) defined resources as those materials and human attributes that satisfy our wants. These resources may vary from each other and can be tangible or intangible. They may also vary amongst individuals, communities, states and nations.

Deacon and Firebaugh (1988) highlighted the importance of resources to solve every management problem. Everyone has many resources. Sometimes, one is not aware of all the resources at our command and we are not able to use some of them at all. Even when we are aware of the resources, we may not be using them to fullest extent. Mullick (2007) perceived that to achieve one’s goals one needs to plan and identify all available resources and use them efficiently. They are the supply reservoirs to be used by individuals to achieve their goals.

Sharma and Vijay (1999) remarked that the value of time and the obligation to spend every hour for some useful end are what few minds properly realize. Raines (1966) pointed out that, intangible resources, such as time and energy

must be efficiently used to realize the best from the tangibles. A good education depends also on how students plan their use of time outside of school. Goodyear (1954) mentioned that frequently, the student finds that the time required to accomplish all his goals exceeds the 24 hours he has each day. He may find that his courses demand more time both in class and study than his high school courses required. Mullick (2007) elucidated that planning the wise use of time not only enables one to achieve more but also reduces tension and stress. Plans must be properly implemented to be effective. A time plan should enable one to use time available for achieving maximum benefit. When planning, the individual must have foresight so that the plan drawn up, allows for speed and efficiency in doing a work. To accomplish and finish jobs undertaken, sufficient time must be allocated. Insufficient time allowed creates poor results. Any plan or schedule drawn up should be one that can be easily modified to meet illness and social obligations. However good a time plan, it should be reviewed and evaluated from time to time because time like money needs to be budgeted for its best use.

People often do not realize how much time they spend on activities such as watching television, texting, surfing the internet and talking to friends on the phone. So it is essential to emphasize to students the importance of making a study schedule to avoid time-drains ([www.fredonia.edu/couselling](http://www.fredonia.edu/couselling)).

Mullick (2007) described that energy is an important resource while referring to the ability to do work, whether it is standing, sitting or studying all of which require energy. It is of prime importance that one is not only aware of all energy resources available, but also learns to use them wisely to achieve one's goals. Human energy refers to an individual's ability to do work. The amount of human energy available for work varies from person to person as it is dependent upon the physical and mental state of a person. It is also related to heredity and the family background of the individual undertaking the work. It is necessary that one is aware of the energy consumption for every task as this helps to plan work schedule more rationally and thereby alternate light, moderate and heavy work.

The selection and the use of resources involve a series of decisions and effective decisions help in the maximum utilization of resources. A change in attitude can easily represent an increase in resources available for reaching a desired goal. It is always less easy to increase the supply of energy to pursue other resources. Resource consciousness means to be aware and alert about resources. Being conscious about all the resources directs our activities consciously and unconsciously towards their conservation. Making choices or taking wise decisions regarding the use of the resources available can also help in conserving it (Seetharaman et al., 2015). Due to piling up of academic activities students find it difficult to plan their time and energy in an efficient manner which causes stress among students especially among those who appear for board exams.

Stress is an unavoidable phenomenon in every aspect of human life. It is due to emotional imbalance which may be caused through tests, papers and projects, competitive nature and financial worries. 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” (Lazarus et al., 2005). It is the manifestation of one's disturbed state of mind. So its cure lies in providing equilibrium or relaxation to the mind. However, a certain amount of stress is, in fact, essential to push ahead in life. Positive stress keeps one on his toes and enhances his performances. “Selye” one of the founding fathers of stress research viewed that stress is not necessarily something bad but it all depends on how people take it (Selye et al., 2002). Joshi (2007) noted that a little stress sharpens the memory. When the stress goes on for too long harmful things start to happen. Stress that is prolonged and managed poorly can result in negative physical, mental, and cognitive outcomes for children and youth (Steinberg, 2010).

In today's environment, more stress comes from competitions which pressurize students to become winners. Most of the times, students in senior classes increase their own stress level by setting higher goals and making unrealistic demands on themselves. Rao (2014) explains that there is fierce

competition among students since the number of places in these educational institutions is fewer when compared to the number of students seeking admission. Therefore, parents urge their children to perform well in the first Board Examination and, to this end they may appoint three to four private tutors or more for special guidance.

Many scholars in the field of behavioral science have carried out extensive research on stress and its outcome and concluded that the topic needed more attention (Agolla, 2009). Results from a study by Steiner et al. (2002) revealed that a large majority of students had reported that they experienced stress in their final year at school.

In India, the main documented cause of anxiety among school children and adolescents is high expectations of parents and pressure for academic achievement (Deb, 2001). Articles from the New York Times on academic stress among high-achieving high school students by Hu (2008); Boodman (2008); and Chen (2009), made headlines and it presented a dismal picture of the growing pressure to excel, leading to an epidemic of student stress among top students, with adverse consequences such as poor sleep, depression, anxiety and harmful coping mechanisms.

Ohman (2000) viewed that the present day education system puts lot of pressure on students to perform well. "Competitive world" is the phrase we hear all day and from almost everyone. So, in this tough scenario performing well is also a huge task for students. Keeping in mind the family pressure and pressure from society along with the individual's desire to perform well can be difficult. All these factors sum up to create an environment full of tension, anxiety, fear and stress around the students. Anxiety is the result of threats that are perceived to be uncontrollable or unavoidable.

Goodman (1993) identified that the stress factors affecting students can be categorized as academic, financial, time or health related, and self- imposed. Stress is a mechanism of any internal or external demand made upon the body (Dusselier et al., 2005). Stress is considered as a state of mind of individuals that

results from their interaction with the environment that is perceived as too demanding and a threat to their well-being. The stress factors are not only physical, but may also involve emotions.

Time constraints cause anxiety in the student's mind. Anxiety affects the recalling of what one learns, how one performs, and how one will score in the exam. Anxiety is a normal reaction to a threatening situation and results from an increase in the amount of adrenaline from the sympathetic nervous system which speeds the heart and respiration rate, raises blood pressure and diverts blood flow to the muscles. When these physical reactions cause anxiety in many situations throughout the day they may be detrimental to normal lifestyle. Other factors such as lack of sleep, poor nutrition and inability to comprehend study material also cause anxiety which is a psychological disorder that is associated with significant suffering and impairment in functioning. It is a blend of thoughts and feelings characterized by a sense of uncontrollability and unpredictability over potentially adverse life events (Wilson et al., 1996).

Test-Anxiety is one of the most common problems faced by students. It is a form of anxiety that affects students preparing for a test. It involves disturbances in mood, thinking, behavior and physiological activity with symptoms that arise from faulty adaptation to the stresses and strains of life. Students cannot function properly when there are imbalances in their system which may give rise to test anxiety during the examination. Anxiety is a major predictor of academic performance (McCraty et al., 2000).

Tests and examinations are consistently reported by children and adolescents as worrisome, anxiety-provoking and stressful events (McDonald, 2001; Owen, 2008). Pupils frequently become concerned with the consequences of failure where their sense of self-worth has become bound up with external achievement, where there is the possibility of negative judgment from others, such as family members, and where educational and/ or occupational aspirations rest on academic achievements.

Studies have demonstrated that anxiety has a detrimental effect on academic performance. There exists a possible association between high level of anxiety and low academic performance among students. Researchers have revealed that high levels of anxiety result in decrease of working memory, distraction and poor reasoning skills in students (Aronen et al, 2004). Test anxiety may even cause physical repercussions such as headaches or nausea. Cramming the night before a test instead of studying throughout the term leads to this kind of anxiety. McDonald (2001) remarked that test anxiety is characterized by emotions of worry and fear and it occurs in different degrees. It can be displayed differently by individuals. Some researchers feel that highly stressed students often drift into daydreaming. Bembenutty (2008) expressed the view that test anxiety can make school very unpleasant and threatening to the self-esteem. Surely, students with severe text anxiety display a lack of self-efficacy and motivation in the classroom. Test anxiety may also cause students to avoid studying which results in poor test scores.

Abed (2016) stated that in addition to feeling physically tired or exhausted during test organization, some students may not have a healthy diet, fail to have routine exercise and have poor sleeping habits. One must think about ways of protecting students from the threats that may interfere with their achievements and productivity. Academic achievements and anxiety have a complex relationship. High anxiety levels can deter learning. Highly anxious students need a good relationship with their teachers so that they are not threatened and feel safe in the school environment. Intake of good nutritious food during the period of tests may help the students to reduce their anxiety.

Cheema (2012) is of the view that food is like fuel to the human engine and the energy supplied by the food is utilized for maintaining vital functions of the body and for other routine activities including different types of work we perform. According to Wilkinson et al. (2003) the nutritional problems are stress factors in themselves or may increase the effects of other stress factors. There is both a direct and indirect link between nutrition and stress. Although there is no

conclusive evidence that emotional stress directly increases one's nutritional requirements, this type of stress can affect eating behavior. Eating healthy is stated to keep the brain healthy ([www.expressionsindia.org](http://www.expressionsindia.org), 2012).

McTigue (2010) stated that students must eat a healthy breakfast and not add more of caffeine and sugar in their diet. He states that it is like burning poor quality fuel. Students who skip food will fizzle out altogether and can be left jittery, tensed and irritable. Skipping breakfast is like starting a day at a distinct disadvantage. Taking solid breakfast is recommended with high protein, cereal, fresh fruit and milk. This will help to provide steady flow of energy for hours.

An article from The Times of India (2012) aimed to establish that drinking water before exam improved grades. The study found that students who took a drink, such as water or coffee before taking an exam did up to 10 per cent better than those who did not. Drinking water may also calm nerves, while those who become thirsty during the test could be more easily distracted.

Students may feel stressed by their own high academic expectations. In addition to their personal experiences of stress and distress, studies identify many other sources of academic stress, including parents, teachers, school administrators, and larger societal origins (Lee and Larson, 2000; Verma et al., 2002). McDonald (2001) perceived that teachers are responsible for measuring students' learning ability and are also responsible for preparing students for testing. In this respect, teachers must examine, develop and implement strategies to help students receive educational benefits that may increase their test scores.

Suldo et al. (2009) remarked that students in high-achievement programmes have been particularly affected by the increasingly heavy focus on acceptance into elite colleges. These students typically report they must cope with a strenuous academic workload, pressure environment, peer competition for grades and college admittance, and the internalization of high expectations from home and fellow students. To be successful in school and in life, adolescents need trusting and caring relationships. Adolescents desire autonomy, independence, and time

with peers, but at the same time, they continue to rely on guidance from parents and other adults.

The various stress coping techniques that suits best can be selected to fit a person. Carter et al. (2003) believed that exercising, relaxing and getting enough sleep will help to deal with stress. Eating right with whole grain cereals and protein included in breakfast help in coping with stress. Addressing issues specifically, developing a schedule and sticking to it, setting reasonable goals, learning to say NO, evaluating assumptions, being surrounded with people who are good listeners, avoiding comparisons with others, cooperating with those who are trying to help and avoiding destructive stress relievers will help to cope with stress effectively. Students first need to focus on past testing successes and learn from past failures, but shouldn't dwell on them. Secondly, students should engage in positive self-talk. They should generate a list of positive qualities and remind themselves by posting them in their room or repeating them periodically. We cannot control life stress, but we can control the effect of stress in us. Positive Therapy is one such effective intervention, which aims at modifying negative thoughts, beliefs, emotions and behavior by using number of techniques. In this study an attempt is made to study the resource availability and test anxiety of students. Since Positive Therapy has been proved to be a panacea for preventing the hazardous effects of anxiety, it will be helpful to the students to manage their anxiety and enhance their exam performance (Hemalatha, 2000).

### **Need for the Study**

Research studies suggest that academic stress can have serious consequences for students and requires urgent investigation. This is particularly an interesting moment in Indian history to explore the issue, because there has been significant social change in India since the early 1990s. Student academic achievements are not only possible with the right use of resources but authorities are also mindful about monitoring the symptoms of stress so that stress does not reflect on performance levels and the health of students. Now another major turnaround in the entrance exam system is the introduction of NEET (National

Eligibility cum Entrance Test). It is a common national level examination for admission into almost all of the MBBS colleges in India, implemented in Tamil Nadu from 2016. Since the admission criteria does not include Board marks (apart from minimum eligibility), a student must prepare in a focused manner for NEET. Students from Tamil Nadu claim that students from the CBSE board will have an advantage over students following state board curriculum and are therefore victims of an added academic anxiety.

In academic institutions, where the demands placed on students are based on deadlines and pressure to excel in tests or examinations, the students are likely to be victims of stress. Research is also necessary to explore the supportive network available to students and the role it plays in helping students cope with stress. The emphasis in the current study remains on the resource availability and the various symptoms of stress experienced by students and how they can be overcome through an effective intervention programme.

### **Objectives**

The scope of the study is to recognize the resource availability and identify the factors causing exam anxiety and stress among higher secondary science students. Science students are more likely to get stressed because they generally appear for highly competitive exams to enter into top universities and institutions that offer engineering or medicine. An attempt is made to introduce positive therapy through auto suggestion tool including important tips to burnout exam stress and enhance positive thinking. This can be followed by higher secondary science students by effectively and efficiently using the resources available to them and setting realistic goals. This will thereby improve their health by reducing symptoms associated with exam anxiety and related stress, resulting in enhancing their performance in board exam.

The study was undertaken with the following objectives: To

1. obtain the academic information and resources available among selected students
2. determine the food opted by selected students.
3. recognize the role of parental involvement and the supportive network accessible to the selected students.
4. detect the symptoms of stress experienced and assess the stress level, test anxiety level and coping strategies adopted by selected students and
5. design an intervention programme and to gauge its effect in managing exam fear among selected students.

A certain amount of research has explored stress, social support, and satisfaction with life amongst postsecondary students (Robotham and Julian, 2006); Many scholars in the field of behavioral science have carried out extensive research on stress and its outcomes and concluded that the topic needed more attention (Rees and Redfern, 2000; Ellison, 2004; Agolla and Ongori, 2008; Agolla, 2009). Our knowledge of examination stress in Indian adolescents is extremely limited. There have been only a few empirical studies of the topic, and some of these studies do not provide sufficient detail about samples or methodology. Many of these studies have also been conducted with middle-school samples, and some with clinical populations. It appears that no systematic study of the topic has been completed, especially for students in the twelfth standard. Furthermore, there have been no qualitative studies that attempt to understand the experience of being a twelfth standard student from the perspective of the student and the involvement of parents going beyond their affordable limits in investing their resources towards supporting their children's education. Media reports indicate that academic stress is a significant problem in India, but little systematic research has been conducted on the issue. The future of any nation depends on the young since they are tomorrow's leaders. Therefore, it is important to identify the causes, symptoms, and the consequences of academic stress on students.

Researchers have not yet explored the current experiences of exam anxiety among higher secondary science students in Chennai and only limited numbers of studies have addressed the seriousness of its adverse consequences. Hence it was considered important to explore "**Resource Availability and Academic Stress among Higher Secondary Students**".

The following hypotheses were formulated for verification:

1. There would be a significant difference in resource availability between eleventh and twelfth standard students.
2. There would be a significant difference in parental involvement and supportive network accessible between eleventh and twelfth standard students.
3. There would be a significant difference in symptoms of stress and strategies adopted to overcome stress between eleventh and twelfth standard students.
4. There would be a significant difference in student stress and test anxiety level before and after the Intervention programme among the selected students.

Since there is no authentic information regarding resources available for the students, its use, symptoms of stress, coping strategies, student stress and test anxiety among the higher secondary students in Chennai, it is hoped that the study will throw light as first hand information.