Chapter one

INTRODUCTION

1.1. Background of the Study

Several decades of research documented that secondary school students experience academic problems that manifest themselves in the form of poor academic performance (Ajayi, 1999; Akinboye, 1980; Aremu, 2000; Fasanmi, 1986; Kagu, 2000; Omolewa, 1981; Salami, 1987 & 2002). Adolescence involves a number of developmental tasks and challenges. To deal with the demands that confront them, adolescents draw on their coping resources. Research has shown that adolescents mental health problems are associated with academic underachievement, social skill deficits, and increased levels of suicidal inclination and behaviors (Kovacs, 1989). Clearly, an inability to cope with stress has many negative outcomes.

Student faces several ups and downs. The peer pressure, demand of the teachers and parents for good grades, and the competitive environment in the schools lead to stressful life for the students. Consequently, stressful life leads to depression, anxiety and in severe cases suicide and suicidal attempts among students. School-related stress is the most prevalent, untreated cause of academic failure in our schools.

Recently, a number of social and behavioral scientists have become interested in the study of the different aspects of stress and its relationship with adjustment, achievement and personality variables. Stress and its relationship to related variables are being studied in almost all the disciplines of behavioral sciences. Several researchers
conducted studies on different kinds of stress in the areas of clinical psychology, organizational behavior, and human resource management. Academic stress is also found to be related to achievement, performance, and fear of failure, anxiety, adjustment and a number of personality variables. (Mustafa, 2003).

1.2. Statement of the present study

The present study is aimed at finding out the impact of academic stress and hardiness on achievement motivation and problem solving behavior of adolescents. The variables like academic stress, hardiness, achievement motivation and problem solving need to be described briefly.

Academic stress is becoming increasingly common and widespread among adolescents, (Garcia, 1986; Gupta, 1989). Shakespeare’s description of the child “creeping like snail unwilling to school” reminds us of the stressors which exist in the system and the neurotogenic limitation that education places. There are many situations which are stressful to the child like negative consequences of failures, future life, too much home work, cut throat competition, etc.

Hardiness has been shown to be associated with the choice of coping strategies for dealing with stressful events. Kobasa (1982) and Gentry and Kobasa (1984) have suggested that hardy persons may prefer to rely on active, transformational coping, which transforms stress into being experience by means of problem-focused strategies. In contrast, persons low in hardiness may prefer to use regressive coping strategies such as cognitive and behavioral withdrawal and denial, which neither transform the situation nor solve the problem and may even enhance the emotional problems and maladjustment.
A study of Sharma (1998) says that achievement motivation refers to the tendency to strive to success or the attainment of desired end. In the words of Atkinson and Feather (1966) “Achievement motivation is conceived as a talent deposition which is manifested in overt striving only when the individual perceives performance as instrumental to a sense of personal accomplishment.” Individuals high in achievement motivation are at their best when they can maintain in high level of involvement in ensuring the excellence of activities under their coordination and control. However, they do relatively less well when required to manage excessive tasks or to function in highly stressful environments.

Problem solving ability is the framework or pattern in which thinking and creativity plays an important role. In the day to day life, a person faces many problems and tries to solve them. It can be done by right thinking and proper reasoning which depend on the level of intelligence of the person. A person with average intelligence is able to solve simple day to day problems, while one with below average intelligence may not be able to solve them. However, a person with a high level of intelligence would be able to solve complex or difficult problems as compared to the other two categories. Problem solving is a continuous process of multidirectional efforts.

1.2. Stress: Nature and Concept

Stress is a part of our everyday life. The modern world, which is said to be a world of achievement, is also a world of stress. Stress is an unavoidable consequence of life, without stress, there is no life. Distress can cause stress-related diseases. There are eustress that promote wellness and lead to positive growth. Stress comes from various sources and has become so pervasive that it seems to permeate everything and everybody.
In psychology, stress refers to a particular kind of state of the organism resulting from some interaction between him and the environment. According to Selye (1956), any external event or any internal drive that threatens to upset the organismic equilibrium is stress. Stress is experienced as a restriction of our existence.

The term ‘stress’ has a different meaning for researchers in various disciplines. In the biological literature, it is used in relation to single organism, population of organisms, and ecosystem. Biologists refer to things such as heat, cold and inadequate food supply as being sources of stress. Human biologists add to this microbial infection and taking toxic substances. Social scientists are more concerned about people’s interaction with their environment and the resulting emotional disturbances that can sometime accompany it (Hinkle, 1987). The concept of ‘stress’ is elusive because it is poorly defined. There is no single agreed definition in existence. It is a concept which is familiar to both the layman and the professional alike. It is understood by all when used in the general context but by very few when a more precise account is required and this seems to be the central problem (Cox, 1978).

Stress to us is a very general term that means somewhat different though related things at different levels of analysis. Each of the levels of stress analysis is partially independent in that it refers to different conditions, concepts, and processes (Lazarus & Launier, 1978). Stress, a term borrowed from physics by Cannon (1929) and Selye (1936) which means the mutual actions of forces that take place across any section of the body is a state of threatened homeostasis (Stratakis & Choruson, 1995). Stress is a subset of emotion (Lazarus, 1993). The term stress is caused by a multitude of demands (stressors), such as an inadequate fit between what we need and what our environment offers and
what it demands of us (Levi, 1996). Stress is the external pressure and tension is the internal pressure (Saunders, 1997).

In 1910, Sir William Osler explored the idea of stress and strain causing disease when he saw a relationship between angina pectoris and a hectic pace of life. The idea that environmental forces could actually cause disease rather than just short-term ill effects, and that people have a natural tendency to resist such forces, was seen in the work of Walter B. Cannon in the 1930s (Hinkle, 1987).

In the 1950s stress was described as a “response to internal or external processes which reach these threshold levels that strain its physical and psychological integrative capacities to, or beyond, their limit” (Basowitz, Persky, Korchin & Grinkler, 1955). Some researchers have also used the term stress to describe the environmental characteristics that affect people adversely. For example, the researchers like Kahn, Wilfe, Quinn, and Snock, (1964), and French and Caplan, (1973), asserted that there is a potential for stress, when an environmental situation is perceived as presenting a demand which threatens to exceed the person’s capabilities and resources for meeting it.

Stress is a psychological upset or disequilibrium (Kisker, 1972). He explains that stress is a class of stimuli which threatens a person in some manner and produces disturbance in behavior and in inner experiences. For Selye, (1973) stress is the non-specific response of the body to any demand made on it.

A response based model of stress views stress as the non specific response of an organism to a demand placed upon it, (Selye, 1956). The demands ranged from the initial physical to psychological and social demands later. From this point of view, a wide variety of environmental events, known as “stressors”, can produce the same stress
response syndrome. From studies with animals, Selye (1956) identified a three stage reaction to stress consisting of alarm resistance and exhaustion as the general adoption study.

1. **Alarm stage:** This involves “fight or flight” reactions and therefore the activation of the sympathetic division of the autonomic nervous system.

2. **Resistance stage:** In this stage the stress continues, the body attempt to revert to normal functioning while at the same time coping with the additional adrenaline in the blood stream and the effect which it produces.

3. **Exhaustion stage:** In this phase, the general adaptation syndrome is characterized by a return to apparently normal levels of heart rate, blood pressure and the like, but is identifiable by an excessively high level of adrenaline remaining in the blood stream. This produces immediate and strong and sometimes excessive reactions to even mild source of additional stress.

Another approach of stress research is the stimulus based model which views stress as a characteristic of the variety of external and internal stimuli rather than the response of the organism. Laboratory and non laboratory studies have investigated the nature of stress by using stimuli as electric shocks, noise crowding, daily hassles and environmental condition, boredom, uncontrollable stimuli and sleep deprivation. (Glass, Singer, & Friedman, 1969; Gunderson & Rabe, 1974; Holmes & Masuda, 1974; Trumbull & Appley, 1986). We prefer to use term the stressor to refer to events that can cause stress, the organism’s biological and behavioral response to the stressor.

Lazarus (1976) suggests that an individual’s stress reaction “depends on how the person interprets or appraises (consciously or unconsciously) the significance of a
harmful heartening or challenging event.” Pre work of Lazarus (1976) disagrees with work of others who see stress simply as an environmental pressure. Lazarus (1976) observes “the intensity of the stress experience is determined significantly by how well a person feels he or she can cope with an identified threat. If a person is unsure of his/her coping abilities, they are likely to helpless and overwhelmed.”

Similarly, Cox (1978) rejected the idea of looking at stress as simply as an environmental pressure or as a physiological response. He and his researchers suggested as “part of a complex and dynamic system of transaction between the person and his or her environment.” Cox further criticized the mechanical model of stress: Men and their organizations are not machines…Stress has to be perceived or recognized by man. A machine however does not have to recognize the load or stress placed upon it.”

Stress is difficult to define because it means different things to different people. Some see stress as a stimulus (external force acting on the organism) that causes wear and tear such as the pressure to perform at work. Competitive pressures, the uncertainties of modern life, job insecurity, the threat of unclear war all these factors have made life increasingly stressful. In this view, stress consists largely of how we respond to events not the events themselves, so we bring a lot of our stress on ourselves. The term stress has been used also to refer to interaction (interaction between external force and the resistance opposed to it, as in biology) and some times refers to above factors i.e., stimulus, response and interaction (Selye, 1979).

Although the overall experience of stress includes both stimulus and response variables, most definitions tend to emphasize one aspect of stress more than the other. There is also a considerable debate among stress researchers, about how to adequately
define stress. As Singer (1980) has pointed out, there is still only limited agreement among researchers, regarding the definitions of stress.

A definition that incorporates both the ‘positive’ and ‘negative’ kind of stress in our lives has been offered by Monet and Lazarus (1977); “stress…..consists of any event in which environmental demands, internal demands or both, tax or exceed the adaptive resources of an individual social system or tissue system. This definition includes a number of concept (a) environmental demands alone can be stress producers; (b) inner emotional conflicts alone can be stress producers; (c) environmental and inner demands can combine to produce stress when either one alone might not; (d) all people have ‘adaptive’ resources; (e) adaptive resources exist on several different levels; and (f) stress involves situations in which our adaptive mechanism are over burdened.

Lazarus (1980) sees stress as a result of a transaction between person and environment. The way people appraise or construe their relationship with the environment, are a function of cognition, or thought, these thoughts influence the way people feel.

Zimbardo (1988) defines stress as “the pattern of specific and non specific responses an organism makes to stimulus events that disturb its equilibrium and tax or exceed its ability to cope”. Stress is experienced when a situation is appraised as exceeding the person’s adaptive resources. That’s why there exist individual differences in how people respond to the same event. Appearing in a final examination may create stress for some students and merely present a challenge for others.

Several other researchers as Cox (1978), Lazarus and Folkman (1984), Singer and Davidson (1986), Trumbull and Appley (1986) have also defined stress. Recently,
Sarafino (1994) said, “stress is the condition that results when person/environment transaction lead the individual to perceive a discrepancy whether real or not-between the demands of a situation and the resources of the person’s biological, psychological or social system.”

According to Selye (1980), the notion of stress can be divided into four basic variation; distress, eustress, hyperstress, and hypostress, when event have a harmful effect, stress is correctly labeled distress. Stress which has a beneficial effect is eustress or good stress. Hyperstress or excessive stress usually occurs when we are lacking stimulation.

However, a number of researchers have argued that neither the response based nor the stimulus based model of stress adequately account for the phenomenon associated with it. Therefore, an interaction model has been proposed which takes into account individual differences and view stress as an interaction between the person and the environment. In order to understand stress phenomenon two types of the theories have been proposed by researchers: biological and psychological.

Everybody have to face stress at every stage of development. There is evidence that stress before birth can influence both the mother and fetus and it may contribute to complications and birth defects. The adolescents face the problem of adjusting to opposite sex, gaining popularity, choosing a career and want of independence from the parents. The adults face the stress of marriage and raising a family earning a living and maintaining a respectful status in competitive society, old age and retired persons also experience stress. A particular stress may affect different people in different ways. Due to cultural differences, an event which is highly stressful in one society is not experienced
as such in another society. Similarly events experienced as least stressful in one society may be experienced as highly stressful in another (Jahan & Hasan, 1987).

1.4. Academic Stress

Academic stress is associated with a variety of negative health outcomes, including depression and physical illness. Academic stress, conceptualized as a disturbance induced by student’s appraisal of academic stressors, is common in children, and often leads to psychological and somatic distress (Lee & Larson, 2000; Lou & Chi, 2000).

Academic stress is a common risk factor that adversely affects student health and psychological well-being (Fields & Prinz, 1997) Stomach ulcers, high blood pressure, and asthma are frequently found among students with high academic stress (Aheneku et al., 2000; Guidi et al., 1999). These students are reported to have a higher frequency of suicide, bullying, drinking, or substance abuse (Ang & Huan, 2006b; Ma, 2001; McCormack 1996; Weidner, Kohlmann, Dotzauer, & Burns, 1996). Regarding mental health, anxiety and negative emotions are found to be related to academic stress (Wang & Ding, 2003; Zhou et al., 2005). Many students experience rapid heart beat and dryness in the mouth during solving a question in examination. Stress has been found to affect physical health and emotional well being (Hendrix, William, Spencer, Barbara, & Gail, 1994).

Normally, the academic stress of students comes mostly from examinations, tests, excessive homework, unsatisfactory performance, time pressures, intense competition with other students, and parent and teacher expectations (Burnett & Fanshawe 1997; Gu 1999).
Coleman (1973) reported that factors influencing the stress were: (1) the characteristics of adjustive demand, (2) the characteristics of the individual including his or her tolerance of stress, and (3) external resources and supports available to the individuals. So the severity of adjustive demands depends not only upon the stress situation but also upon the way the individual evaluates the situation.

A disturbing trend in college students’ health is the reported increase in students stress nationwide, (Sax, 1997). Stressors affecting students can be categorized as academic, financial, time or health related, and self-imposed, (Goodman, 1993; LeRoy, 1988). Academic stressors include the student’s perception of the extensive knowledge base required and the perception of an inadequate time to develop it (Carveth, Gesse, & Moss, 1996). Students report experiencing academic stress at predictable times each semester with the greatest sources of academic stress resulting from taking and studying for exams, grade competition, and the large amount of content to master in a small amount of time (Abouserie, 1994; Britton & Tesser, 1991; Kohn & Frazer, 1986).

When stress is perceived negatively or becomes excessive, students experience physical and psychological impairment (Murphy & Archer, 1996). Methods to reduce stress by students often include effective time management, social support, positive reappraisal, and engagement in leisure pursuits (Blake & Vandiver, 1988; Mattlin, Wethington, & Kessler, 1990).

Although relationships among some leisure domains and perceived stress have been studied in a variety of settings involving retirees to school-related settings (Kabanoff & O’Brian, 1986; Kaufman, 1988; Pickens & Kiess, 1988; Ragheb &
McKinney 1993; Tice & Baumeister, 1997) relationships between leisure satisfaction and academic stress of college students have not been addressed directly.

Academic stress among college students has been a topic of interest for many years. College students experience high stress at predictable times each semester due to academic commitments, financial pressures, and lack of time management skills. When stress is perceived negatively or becomes excessive, it can affect both health and academic performance (Campbell & Svenson, 1992). University students often attempt to control and reduce their stress through avoidance, religious and social support, or positive reappraisal (Mattlin, Wethington, & Kessler, 1990; Blake & Vandiver, 1988). Student’s academic stress is also found to be reduced and controlled through effective time management and study techniques (Brown, 1991). Macan, Shahani, Dipboye, and Phillips (1990) observed those students who perceived themselves in control of their time reported greater work and life satisfactions and fewer job-induced and somatic tensions. Research examining gender differences and comparison of students and faculty perceptions of students' academic stress, however, are limited.

Academic stress pervades the life of students, and tends to impact adversely their mental and physical health, and their ability to perform schoolwork effectively (Clark & Rieker, 1986; Felsten & Wilcox, 1992). What are the skills that students need to protect them from this stress? One promising construct is that of learned resourcefulness, which is defined as a set of skills for regulating internal events such as emotions that might otherwise interfere with the smooth execution of a target behavior. Previous research suggests that people high in learned resourcefulness deal more effectively with experimentally induced stress, preventing that stress from interfering with their cognitive
performance, such as when solving anagram problems (Rosenbaum, 1980; Rosenbaum & Jaffe 1983).

Embarking upon an academic career is a pleasurable and exciting experience for many people. For many students, however, the transition to university may prove far more stressful than exciting. Leaving home for the first time, examinations, writing term papers, and all other requirements of academia are experienced as immensely stressful by many students (e.g. Murphy & Archer, 1996), contributing to deteriorations in both physical and psychological health (Lesko & Summerfield, 1989; Misra, McKean, West, & Russo, 2000). Moreover, the pressures of academia are likely to be among the most significant stressors in a student’s life. Schafer (1996) observed that the most stressful daily hassles reported by college students were school-related, including writing term papers, taking tests, and the constant pressure of studying.

Individual characteristics such as motivation, coping style, and personality dispositions all contribute to how we respond to a stressor (Bandura, 1997; Lazarus & Folkman, 1984). Within the educational and psychological literature, many individual characteristics hypothesized to reduce the negative impact of academic stress have been investigated.

1.5. Hardiness

Over the past 20 years, the personality construct of hardiness has emerged as an important factor in buffering and offering resistance toward the effects of stress and coping (Maddi, 1987). Hardiness, as conceptualized by Kobasa (1979), is a set of beliefs about oneself and the world manifested as commitment, control, and challenge. Hardiness protects against stress in two ways by altering perceptions of stress and by mobilizing
effective coping strategies. Hardiness transforms difficult life events into opportunities for increased meaning in life (Schwab, 1996).

Hardy individuals are active and goal-oriented, and approach life with interest and excitement (Rowe, 1999). They exhibit a belief that stressors are changeable and that they can influence what is going on around them with a willingness to act on the belief (control). Hardy individuals possess a deep involvement in life’s activities and the knack of finding something interesting or important about whatever it is they are doing (commitment). They have a tendency to view changes, pressures and disruptions, however painful, as something to be learned from and grow with (challenge) (Khoshaba & Maddi, 1999). They see themselves, not as victims of threatening changes, but as individuals who are active determinants of the consequences brought about by change (Kobasa, 1979). Hardiness studies have found individuals possessing hardiness traits become ill less often (Kobasa, Maddi & Kahn, 1982) and have the ability to behave in an adaptive manner when stress is perceived or experienced (Maddi & Kobasa, 1984).

In a study among nurse managers, Judkins (2001) found those with high levels of hardiness reported lower levels of stress and higher problem solving coping skills than those with low hardiness. McNeese-Smith (1997) reported managers cultivating characteristics of hardiness tend to have employees who report significantly higher levels of job satisfaction, productivity, and organizational commitment. Therefore, promoting hardiness among managers and staff may decrease burnout (Balevre, 2001; Rowe, 1998; Simoni & Paterson, 1997), improve job satisfaction (Schwab, 1996), and increase retention (McNeese-Smith, 2000) with subsequent improvement in patient outcomes (Shullanberger, 2000).
The concept of hardiness was introduced by Kobasa (1979) to refer to the personality style which keeps the person healthy even after prolonged exposure to stress. She describes hardiness in terms of three general interrelated factors that function as a resistance resource in the encounter of stressful life events. These are commitment, control and challenge.

**Commitment** The commitment is considered to be opposite of alienation. Hardy people show deeper involvement in whatever they do and have a tendency to perceive these activities as worth doing. Optimistic cognitive appraisals made by hardy people provide them with a sense of purpose which does not allow them to withdraw from social environment in times of greater pressure. Rather they find the objects and situation of their environment meaningful.

**Control** The control disposition suggests that hardy individuals have a tendency to feel and act in an effective manner rather than showing helplessness in the face of varied contingencies of life.

Averill (1973) described highly stressed but healthy people in three ways on the basis of his laboratory observations.

a. They have decisive control, or the capability of choosing among various courses of actions to handle the stress;

b. They have an ability to interpret appraisals and unite various stressful life events in the normal course of life that is beneficial in reducing their debilitating effects;

c. They have coping skills that is they have store or collection of appropriate responses to meet the various demands of life. This description should not convey that hardy persons have complete determination of events and on their outcomes; rather they
have a perception that they can influence the situations through the exercise of imagination, knowledge, skills and choice.

**Challenge** Hardy people tend to perceive change as challenge; for them anticipation of change is an interesting opportunity to grow rather than occasion of threat of security. Optimistic cognitive appraisals of the situation make it possible to perceive change as normal enough, meaningful, and even interesting despite its stressfulness.

In contrast, persons low in hardiness tends to find themselves and the environment boring, and threatening. They have a belief that life is best without any change and feel powerless when confronted with overwhelming forces. Development is not a much important aspect for them. They are, therefore, passive observers of their environment. They allow external forces to impinge upon them and do not try to transform the events by taking decisive actions. Because their personalities provide little or no buffer, the stressful events are allowed to have a debiting effect on health.

Hardiness represents a general orientation toward self and world expressive of commitment, control, and challenge. Specifically, hardy men are committed to what they are doing in various areas of their lives; they believe in having some measures of control over the causes and solutions of problems; and they view changes in life and demands for adjustment as challenges and opportunities. Kobasa argued that such an orientation of hardy men would serve through positive appraisals and successful coping to mitigate the potential unhealthy effects of stress and prevent the organismic strain that often resulted in illness. Specifically, it has been hypothesized that hardiness might alter the perceptions of events to make them less stressful (Kobasa, 1979; Rhodewalt & Agustsdottir, 1984; Rhodewalt & Zone, 1989), and might facilitate transformational (optimistic & active)
coping (Kobasa, 1982; Maddi & Kobasa, 1984). Although hardiness could be the results rather than the causes of well-being, and could apply to working men only, similar findings have been found in subsequent studies using a longitudinal design (Kobasa, Maddi, & Kahn, 1982), and with women (Wiebe & McCallum, 1986).

However, the question whether hardiness should be studied as a unitary, multifaceted construct rather than three separate constructs of commitment, control and challenge remains unresolved (e.g., Kobasa et al., 1982). In addition, the construct validity and utility of the three interrelated components of hardiness have not gone unchallenged. For one thing, the three constructs have not been demonstrated to emerge consistently across different samples (Funk & Houston, 1987), and only commitment and control have been shown to be psychometrically adequate and systematically relevant to health outcomes (Hull, Van Treuren, & Virnelli, 1987; Sheppard & Kashani, 1991). In developing the concept of hardiness for adults, Kobasa’s original conceptualization was derived from an existential theory of personality (Kobasa & Maddi, 1977), supported by findings from empirical investigations on positive personality change in adulthood (Neugarten, 1974), effective use of personal control in stressful situations (Rodin and Langer, 1977), coping as threat appraisal influenced by personality belief systems (Lazarus, 1966), and the adaptive function of varied life experience (Fiske & Maddi, 1961). It follows that notions such as midlife as a time when life goals are increasingly integrated across diverse situations are influential in the definition of components of hardiness and their relevance to health or illness in adults (Ouellette, 1993). In this connection, cautions must be exercised in applying the hardiness concept in a lifespan
context as current conceptualization and assessment of hardiness may need to be altered to fit the age groups under study (Ouellette, 1993; Pollock, 1989).

The need to understand and examine the construct of hardiness in different life stages other than adulthood has been increasingly recognized. McNeil, Kozma, Stones, and Hannah (1986), for example, have also found, in their sample of 223 elderly subjects, the components of commitment, control, and challenges in their hardiness measure, which significantly correlated with measures of happiness and adjustment. In contrast, Magnani (1990) has only found positive effects for control and commitment but not for challenge on the activity levels of their 115 elderly adults. Similarly, Sheppard and Kashani (1991) have found that control and commitment predicted health outcomes for adolescent males but not for adolescent females.

Gentry and Kobasa (1984) argued that “the collection of personality characteristics composing hardiness mitigates the potential unhealthy effects of stress and prevents the organismic strain that often leads to illness.”

In a most comprehensive and pioneering study, Kobasa (1979) explored a strong support for this hypothesis. She identified business executive who had experienced especially large number of stress life events, and divided them into two groups according to number of illness symptoms. The high stress-low illness group showed by comparison with high stress- low illness group more hardiness, i.e., the group had a stronger commitment to self, an attitude of vigorousness towards the environment, a sense of meaningfulness and an internal locus of control.

Two theoretical models of hardiness have been described in literature which explains the hardiness-healthy relationship differently.
Stress Buffering Model: this model as conceived by Kobasa (1979), which implies that hardiness improves healthy by acting as a buffer to stressful life events. In highly stressful conditions, hardiness was proposed not to fall because of their feeling of commitment, control and challenge. This buffering role of hardiness is shown in the figure 1 adapted from Kobasa & Puccetti (1983).

![Figure 1.1.- Buffering effects of hardiness, Kobasa and Puccetti (1983)](image)

2. The Main Effect Model: In this second model, the factors involved in hardiness have direct effects of reducing psychological strain associated with illness. The role of hardiness is evident in figure 2, which is adapted from Kobasa (1982a).

![Figure 1.2- Direct & indirect effect of Hardiness, Kobasa (1982a).](image)
Comparisons of these two models show a very different picture of role of hardiness in the stress-illness relationship. In the first case, hardiness is assumed to reduce the impact of stressful life events by increasing the use of successful coping strategies. It assumed to decrease strain directly. In addition, it has indirect effect by decreasing the use of unsuccessful coping strategies. There is enough research evidence in support of both of these two models, (Kobasa, et al., 1982, Kobasa & Puccetti, 1983).

Dealing with stressful circumstances in an effective manner is an area of interest to many. Past research has shown certain characteristics of a personality promote more effective ways of managing stressful circumstances. For example, Maddi and Kobasa (1984), found hardiness encompasses interrelated self-perceptions of commitment, control, and challenge. Based on Maddi and Kobasa (1984), research indicates that people with a strong sense of commitment rely on themselves to find various ways of turning a stressful circumstance into something that is important. People with a strong sense of control believe that through effort they can alter the course of events rather than perceiving themselves as victims of circumstance. People strong in challenges believe in continual growth through wisdom of what is learned from experience. Together, all three constitute courage and resiliency in facing life’s tasks.

College life for many becomes a prime time for stressful circumstances to arise. For example, Dixon, Heppner and Anderson (1991), examines the link between problem-solving skills to suicide by investigating the role of problem-solving appraisal among students enrolled in introductory psychology courses. The results indicated that problem-solving appraisal and negative life stress are significant independent predictors of suicide
ideation and hopelessness. College is a time where people further develop their personalities, abilities, and well-being.

1.6. Achievement Motivation

The concept of achievement motivation as one singularly measurable personality characteristic, whether it is called Ms (Motive to Approach Success; Atkinson, 1957; Heckhausen, 1963), nAch (Need for Achievement; McClelland, Clark, Roby, & Atkinson, 1949; Murray, 1938), or P (Prestatiemotivatie, i.e., achievement motivation in Dutch; Hermans, 1970), has received little attention, at least in mainstream educational psychology. There are many definitions in circulation, but combining elements mentioned in different sources (Heckhausen, 1955; Hermans, 1971; McClelland, Atkinson, Clark, & Lowell, 1953), we could say that it concerns an ‘intrinsic’ will or drive to master tasks (McClelland et al., 1953) and/or to perform well (Hermans, 1970). Individuals with a high achievement motivation set standards of excellence, show clear affect in connection with evaluation of their performance (McClelland et al., 1953), and display a high level of aspiration in terms of achievement goals (Heckhausen, 1955).

Motivation can be defined as the driving force behind all the actions of an individual. The influence of an individual's needs and desires both have a strong impact on the direction of their behavior. Motivation is based on your emotions and achievement-related goals. There are different forms of motivation including extrinsic, intrinsic, physiological, and achievement motivation. There are also more negative forms of motivation. Motivation is the basic drive for all of our actions. Motivation refers to the dynamics of our behavior, which involves our needs, desires, and ambitions in life.
Motivation is important because it contributes to and predicts, along with other variables, more visible outcomes such as achievement. Achievement motivation research has been developed in four stages. In stage one during the 1940s, the experimental study of motivation was initially concerned with the search for the motors of behavior and was linked with concepts such as instinct, desire, arousal and need (Spence, 1958). In stage two during the 1960s, there was the more general shift in motivational psychology away from mechanism toward cognition (Weiner, 1972). It was gradually believed that if reward was perceived as controlling, then it undermined future effort, whereas reward perceived as positive feedback was motivating (Deci, 1975). Furthermore, reward for easy task was a cue to low ability, a belief that inhibits motivation, whereas reward for difficult task communicated that hard work was expended in conjunction with high ability, a belief that augments motivation.

In the assessment of human motivation, testing instruments have attempted to isolate an individual’s level of achievement motivation was first defined by Murray (1938) and further by McCleland (1953). Motivation is typically defined as the forces that account for the arousal, selection, direction, and continuation of behavior.

Motivation is an internal state or condition (sometimes described as a need, desire, or want) that serves to activate or energize behavior and gives its direction (Kleinginna & Kleinginna, 1981). Internal state or condition that activates behavior and gives it direction, desire or wants that energizes and directs goal-oriented behavior, influence of needs and desires on the intensity and direction of behavior. Franken (1994) provides an additional component in his definition: the arousal, direction, and persistence
of behavior. Many researchers are now beginning to acknowledge the factors that energize behavior are likely different from the factors that provide for its persistence.

Achievement motivation can be defined as the need for success or the attainment of excellence. Individuals will satisfy their needs through different means, and are driven to succeed for varying reasons both internal and external. Achievement motivation is based on reaching success and achieving all of our aspirations in life. Achievement goals can affect the way a person performs a task and represent a desire to show competence (Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997).

Achievement motivation refers to the behavior of an individual who strives to accomplish something, to do his best to excel, in performance. This involves competition with a particular standard of the excellence of performance and influences learning and personality development of an individual pupil with high achievement motivation are self confident individuals who function well in situation where they assume personal responsibility and can control what happens to them. They set challenging but realistic goals demanding maximum efforts. They are neither satisfied with automatic success that comes from easy goals nor do they try to do impossible tasks.

Behavioral scientists have noticed that some people have an intense desire to achieve something, while others may not seem that concerned about their achievements. This phenomenon has attracted a lot of discussions and debates. Scientists have observed that people with a high level of achievement motivation exhibit certain characteristics. Achievement motivation is the tendency to endeavor for success and to choose goal oriented success or failure activities. Achievement motivation forms to be the basic for a good life. People who are oriented towards achievement, in general, enjoy life and feel in
control. Being motivated keeps people dynamic and gives them self-respect. They set moderately difficult but easily achievable targets, which help them, achieve their objectives. They do not set up extremely difficult or extremely easy targets. By doing this they ensure that they only undertake tasks that can be achieved by them. Achievement motivated people prefer to work on a problem rather than leaving the outcome to chance. It is also seen that achievement motivated people seem to be more concerned with their personal achievement rather than the rewards of success (Romando, 2009).

According to Monte and Lifrieri (1973), students may have the desire to achieve, and the ability to accomplish the task, but feel that the accomplishment has little or no value and feel that doing it is not worth the effort or time. Others may fear that they are not capable of completing the required task, so they do not even being. They feel it is better to receive a lower overall grade than to prove that they do not have the ability to correctly complete the task, (Atkinson & Feather, 1966) describe this rational as achievement motivation. It is typically a non-conscious process in which a decision how to act or not to act is made. Spence (1983) and Woldkowski (1985) stated that achievement can often bring benefits, and failure can often bring shame. Atkinson (1974) and Aschuler (1973) added that it is only small number of students who fall into these categories of little accomplishment.

Some students have a need to achieve in all that they do. Their desire for success drives them to accomplish every task, no matter what the task is, or the difficulties involved in completing it. Other students also feel a need for success, but consider the value or worth of the task before attempting it. If the student feels the task has no value,
the student chooses not to do the task, even though they are perfectly capable of accomplishing the task (Atkinson, 1974).

Still others, who may or may not be capable, plod on with their tasks, some achieving accomplishment, others not. Then there is a final group; those who choose not to do the task. These students are afraid they will not be able to accomplish the task. They have a fear of failure. Rather than face the humiliation of not being able to complete the task, thus failing the task, these students choose not to do the task at all. They would rather risk a poor grade than a poor image (Veroff, McClelland, & Marquis, 1971; Grabe, 1979).

Most students tend to fall somewhere in the middle of this achievement scale between extremely high achievers and those who may not achieve at all (Alschuler, 1973). Everyone has a need to achieve and a fear of failure, but these needs vary from person to person and from situation to situation. Each student acts on the levels of motivation differently, but some students are predisposed to having little desire to accomplish certain tasks (Atkinson, 1999). Using a simple test designed by Atkinson and Feather (1966), those students who lack motivation could be identified (McClelland, 1968). Then those students could be worked with independently to increase their motivation and their productiveness (Parker & Johnson, 1981).

Since it has been shown that all students are influenced by achievement motivation (Atkinson, 1999; Spence, 1983; Wlodkowski, 1985), all students may benefit from increased motivation from teachers (Bar-Tal, Frieze, and Greenberg, 1974). With proper training, the teacher can guide and motivate students into choosing to complete the task. Teachers are able to increase the perceived value of the task, causing greater
numbers of students to complete projects. This increases the overall production of the class (Alschuler, Tabor, & McIntyre, 1969).

One theory of achievement motivation was proposed by Atkinson and Feather (1966). They believed that a person’s achievement oriented behavior is based on three parts: the first part being the individual’s predisposition to achievement, the second part being the probability of success, and third, the individual’s perception of value of the task. Atkinson and Feather (1966) stated, “The strength of motivation to perform some act is assumed to be a multiplicative function of the strength of the motive, the expectancy (subjective probability) that the act will have as a consequence the attainment of an incentive, and the value of the incentive: Motivation= f (Motive × Expectancy × Incentive)”.

Cognitive views of motivation stress that human behavior is influenced by the way people think about themselves and their environment. The direction that behavior takes can be explained by four influences: the inherent need to construct an organized and logically consistent knowledge base, one’s expectations for successfully completing a task, the factor that one believes account for success and failure, and one’s believes about the nature of cognitive ability.

According to many of the original theorists, the achievement motive is a more or less stable characteristic of personality, which has its basis in early childhood. An increasing number of researchers (starting with Mischel, 1968) have questioned that claim, pointing to the lack of cross-situational generality and the dependence of achievement motivation on field and situation. Murphy and Alexander (2000) also noted a shift away from the classical trait approach and, by showing that his measures are
sensitive to intervention, Martin (2008) did not adhere to the trait view either. However, in other research areas in psychology, the trait view is becoming increasingly popular, mainly due to the construction and use of the ‘Big Five’ dimensions of personality (Digman, 1989, 1990; Goldberg, 1993).

According to Elliot (1997), these concepts can be used alongside the cognitively-oriented concepts of later dates. He illustrates this by constructing a causal model in which achievement motivation and fear of failure serve as predictors of performance and mastery goals. More specifically, he found achievement motivation to be the most important predictor of mastery goal setting, and fear of failure to be the main predictor of performance-avoidance goal setting.

Another attempt to save the classical concept by adding new theoretical insights was made by one of the founders of achievement motivation theory, (McClelland Koestner, Weinberger, & McClelland, 1992; McClelland, Koestner, & Weinberger, 1992). Referring to empirical data, he posited that in fact two types of achievement motivation can be distinguished. The first has its origin in the very early years of childhood and is expressed in spontaneous, operant and often unconscious behavior. The other type of achievement motivation originates in conscious learning and is expressed in behavior in response to specific, culturally-defined, achievement-related situations. While people are often not aware of the first type of achievement motivation, they usually are aware of the second type.

Studies of achievement motivation has implication for many aspects of human life, including how individuals develop new skills, and how or whether they make use of existing skills, consequently issues concerning the nature and development of
achievement motivation take on great theoretical and practical significance. Many approaches have been taken to explain achievement motivational processes. Some approaches have included the examination of global achievement “Motives” or broad self concepts such as self esteem. However, researchers have become aware of the need to examine specific concepts that illuminate motivational processes.

In our society academic achievement is considered as key criteria to judge one’s total potentialities and capabilities. Therefore, it is becoming more and more pressing for the individuals to have good academic achievement. Academic achievement has become an index of child’s future particularly so in highly competitive world. Achievement and motivation are important determinants of aspiration and effort when an individual expects that his performance will be evaluated in relation to some standard of excellence.

Achievement motivation is considered as one of the crucial determinants of student’s achievement and academic success, (Anderman & Anderman, in press). Over the past decades, the concept of motivation has been studied extensively, leading to various terminologies and diverse perspectives that emphasize different aspects of motivation, such as, the expectancy-value theory, Atkinson (1964), Eccles, Adler, Futterman, Goff, Kaczala, Meece, and Midgley, (1993), self-efficacy theory, Bandura (1997), self-determination theory, Deci and Ryan (1985), attribution theory, Weiner (1985) and goal theory, Maehr and Anderman, (1993).

Atkinson’s theory of achievement motivation (1964) was one of the first comprehensive theories on achievement motivation that combined the constructs of needs, expectancy and value (Pintrich & Schunk, 2002). According to Atkinson’s theory (1964), achievement behaviour is defined as the resultant of the emotional conflict
between two tendencies, namely, achievement motivation or the tendency to approach success and fear of failure or the tendency to avoid failure. He proposed an orthogonal, two dimensional models in which individuals can be placed on high versus low on both tendencies. These tendencies are determined by a need for achievement/need to avoid failure, which are considered as relatively stable dispositions that vary between individuals, by the subjective probability of success/failure and by the incentive value of success/failure. This means that in achievement situations, both needs are energized and together with the subjective probability of success/failure and the incentive value of success/failure they determine the (level of the) tendency to approach success and the (level of the) tendency to avoid failure.

In educational psychology, attention has shifted to a variety of related concepts, which have their basis in a cognitive approach or which are related to the self, including causal attributions of ability and effort, locus of control, learned helplessness, and performance and mastery goals. Very recently, however, Martin (2007, 2008) has tried to integrate the classical approach to achievement motivation with the new, more cognitively-based, approach by developing a ‘Motivation and Engagement Wheel’, in which the classical construct received a place. However, although Martin (2007, 2008) started with a definition comparable to ours, the construct (which he termed ‘mastery orientation’) did not receive the same central position as in classical theorising.

1.7. Problem Solving

The modern society and other factors have lead people in to the problem situations. The problem is a state of difficulty that needs to be resolved (WorldNet Search, 2009) or an issue or obstacle which makes it difficult to achieve a desired goal.
One of the specific groups that have to face with this situation is the teenager group. This situation involve in daily life of all person including with the students in University. Basically, the students have to cope with the physiological and psychological change; these factors led them to be the risk group. In which they would have inappropriate behaviors, related with the environment, parents, friends, living conditions, education and many other factors. Teenagers face with many problems such as drug addicted and alcohol (Nies & Mc Even, 2001). Consequently of this situation, it effected to their quality of life. It has also impact to the families and societies (Suwannimitr, Deeromram & Jundeekrayom, 2010).

Then it is necessary to find out the appropriate of the problem solving strategies. Problem solving was defined as higher-order cognitive process, requires the modulation and control of more routine or fundamental skills. It occurs if an organism or an artificial intelligence system does not know how to proceed from a given state to a desired goal state. It is part of the larger problem process that includes problem finding and problem shaping (Rappaport & Seidman, 2000; Lazarus & Folkman, 1984; University of South Australia, 2009), or solving a problem was defined in the sense of making it go away, then the problem no longer exists. This indeed is one kind of solution, but it is not the only kind (Harris, 1998).

Adolescence marks the transition between childhood and adulthood. By its very nature, it involves many physiological, psychological, social, and cognitive changes. These changes include the formation of a personal identity, the establishment of new peer networks, and the development of abstract thinking skills (Dacey & Kenny, 1997; Geldard & Geldard, 1999; Heaven, 1994). To manage these challenges, adolescents rely
on their coping repertoire, which includes their problem solving competencies and skills. If adolescents are not able to deal adaptively with stress or have poor problem solving abilities, there are a number of mental health problems that might develop, including depression and anxiety (Nezu & Ronan, 1988). Research has shown that adolescent mental health problems are associated with academic underachievement, social skill deficits, and increased levels of suicidal ideation and behaviors (Kovacs, 1989). Clearly, an inability to cope with stress has many negative outcomes.

A problem occurs when we are faced with a particular state of the world that we want to change or to explain but there is no obvious way to accomplish this. The history of advancement of science, culture and technology bears ample testimony to the intellectual capacity of man to think, reason out, and evolve effective ways of solving the problems of human existence. Hence, quite justifiably problem solving is regarded as one of the most highly advanced cognitive processes. In the discipline of understanding the nature of problem solving behavior itself has been and perhaps will continue to be for quite sometime a highly challenging problem. The problem becomes much more complicated in view of the possibility which attempting to solve a problem, the dispositional tendencies of man may act as a server’s constraint, particularly when the situation assumes a threatening complexion.

But one may asks what it is that makes a task or situation a problem situation. A problem may be said to exist when the situation requires an individual to secure a goal without providing sufficient cues of information as how to reach the problem or discovering an appropriate route the goal necessitates exploring the problem situation and trying out, usually at the symbolic level, possible ways and means of solving the problem.
While doing so the perceptual, associative, retentive, and transfer capacities are brought into operations in varying extent. Presence of a goal, lack of clear cut cues, trying out several alternative possibilities are the essential features characterizing a problem solving situation (Andreas, 1960; Underwood, 1966).

Early experiments in the area of thinking and problem solving were primarily concerned with understanding what goes on in the mind of the subject between presentation of a problem and attainment of its solution. During the course of thinking out the possible leads in a more or less “trial and error” way, others maintained that it was the sudden emergence of a flash of idea in the form of perceiving a new relationship, which led to the solution of the problem. This controversy as to whether problem solving involves searching hither or thither for promising leads or emergence of a sudden flash of idea leading to solution of the problem stimulated a lot of fruitful research.

Problem solving is the pattern in which thinking and creativity has played an important role. Simon (1965) has conducted a research program to know the use of computers to learn about creativity. One very important question has been faced by Simon and that is, “How do we distinguish routine, everyday solving from the kind we value and call creativity”. He made two generalization-First successes in solving a difficult problem result from a tremendous preoccupation with that problem and second, the problem solver must have a deep tolerance for ambiguity. He concluded that problem solving ability has a close affinity to creativity. Problem solving process involves some trial and error search. Simon confirms this condensation with research evidence. Problem solving involves abstraction, ‘by which a good of deal of the details is discarded, thus reducing the problem to manageable dimensions.’
Problem solving behavior is one of the most unique, complex and salient aspect of cognition. Problem solving behavior depends upon the availability of a broad range of concept, generalization and the development of thinking abilities. The success one has in solving, both mundane and challenging intellectual problems, influences his concept of himself as a problem solver. In problem solving situation an individual is confronted by external conditions in which an obstacle must be overcome to reach the goal. According to Johnson (1972), problem solving is characterized by (i) goal oriented and continuity of action towards that goal; and (ii) change of activity after the goals attained. Social characteristics, in contrast to routine activity, are (iii) inter-individual variability, because the individual makes diverse attempts at solution; (iv) inter-individual variability, because even the first attempts of different individuals are seldom the same; (v) time required, because problem solving takes longer than the execution of a previously learned response pattern of comparable complexity; and (vi) the assumption of mediating activities is plausible. These mediating activities are assumed to be responsible for the longer time and the greater variability, and are particularly important for theoretical understanding.

According to Newell (1977), “problem solving takes place in a problem space.” The elements of this space consist of state of knowledge about the problems. Both the initial situation and the desired situation are represented as elements of this space. A problem space also has associated with it a set of operators, which when applied to an element of the space, produce new elements. These operators are the means by which new information about the problem can be obtained from the old. Thus, problem solving is always a matter of search-of starting from some initial position (state of knowledge) and
exploring until a position is attained that includes the solution of the desired state of knowledge.

According to Kintsch (1977), successful problem solving is governed by two principles. Firstly, problem solving must be hierarchical, that is, complex problems must be decomposed into sub-problems until each sub-problem becomes simple enough to be solved. Secondly, solution attempts cannot be blind but must be goal directed. The search through the problem space must be guided by heuristic principles that concentrate the search on promising regions of the problem space and avoid getting lost in an endless exploration of blind alleys.

1.7.1. The Process of Problem Solving

Many psychologist have long discovered that many students perform poorly in their academic work not because they do not possess the mental ability to do well but because they not know or do not use the most effective methods of studying (Bakare, 1970). According to Bakare (1970), in learning any school subject or any material, there are three identifiable stages. The first is acquisition stage when the material is studied, “taken in” or “absorbed” by the students. The second is the retention stage when the material studied is stored while the third is the recall stage when the stored material is produced when required by the students or during tests or examination. The three stages are closely interrelated. As such when a material is poorly studied at the acquisition stage, it will be poorly stored at the retention stage and it will be poorly produced at the recall stage. A variety of factors affect the effectiveness of students learning at each of these three stages which can result in poor academic performance. It should be noted that both the passing and failing students need to have effective study habits.
Cognitive psychologists define problem solving as the process that people use when they are confronted with unfamiliar tasks. Simply stated, a problem is any question or matter involving doubt, uncertainty or difficulty. Problem solving is a higher-level cognitive process that includes a variety of mental activities such attention, perception, memory, language and reasoning. It is a conscious, controlled process. Research has shown that problem solving is a cycle that includes the following phases:

1. Recognize or identify the problem.
2. Define the problem and determine its limits.
3. Develop a solution strategy.
4. Organize knowledge about the problem.
5. Allocate and use the mental and physical resources needed to solve the problem.
6. Monitor progress toward the solution.
7. Evaluate the solution for accuracy. This problem-solving cycle is a model only.

Typically, this is how people work through a problem. Depending on the nature and complexity of the problem, some steps may be skipped or combined.

The process of problem solving is a complicated one. The protocols obtained from subjects in problem situations characteristically reveal many different processes which may go on successively or simultaneously. In almost any problem, some of the subjects are likely to display many or even all of these processes. Vinacke (1952) has distinguished three stages while analyzing behavior in a problem situation. These are, (i) confrontation by a problem, (ii) working toward a solution, and (iii) solution. Others like Thompson (1959), Merrifield, Guilford, Christensen, and Irick (1962) and Gagne (1966) while pragmatically agreeing with these stages, have differed in the nomenclature and the
number. The processes of problem solving according to Thompson (1959) are briefly discussed below:

I. **Recognition of the problem:** First the subject recognizes and fixes the problem. In human problem solving, it is rarely the case that random movements are off by a blind and undirected feeling of frustration. It is not a problem until it is defined. There is a difficulty, obstruction, or frustration which has to be pin down, described and analyzed. This process becomes generally evident when we analyze the subject’s verbalization wherein he is found to identify and accept the problem situation. Once the central problem is identified and defined, it is met by activity or avoided by withdrawal (Thompson, 1959).

II. **Search or Exploration:** After the problem is identified, a search or exploration of the field within which familiarization with the materials is essential before the nature of the problem can be fully realized. Exploration or manipulation can also occur at a verbal or observational level before any actual overt movement is made. This stage may be marked by passive observation of the data or careful inspection of the materials involved, or the interrelations which have to be traced and reorganized. It may also involve reflection on possible hypotheses suggested through an examination of perceptual data. Sometimes manipulation of materials and such verbalization takes place during this phase. It may be of a deliberate sort also when the subject attempts testing out successively various possibilities (Thompson, 1959).
III. **Analysis:** It is seen that the subject usually attempts to formulate the problem, or to workout the nature of the difficulty of the goal. This behavior may be highly controlled and rational or more generalized.

IV. **Partial Solving:** Another common aspect of performance in a problem solving situation is mastering of the parts before the final solution is achieved. In many situations, partial solving becomes essential to arrive at the final situation. This is more so in situations where a certain move will clarify the involved principle, or where the final pattern can be found only as a result of prior sub-solutions. But in all such cases, solving of successive steps becomes an integral part of the performance.

V. **Emotional Responses:** Another characteristic of problem solving behavior is the occurrence of emotional responses which accompany the other responses evoked by the successive aspects. Nevertheless, the initial presentation of the problem or the activities of working towards the solution, or the solution itself are usually associated with different emotional reactions (Thompson, 1959).

Merrified et al. (1962) outlines five phases, preparation, analysis, production, verification and reapplication. These are not viewed as clear-cut successive steps; rather, “there is an approximation to temporal ordering with much overlapping of particular events.” Preparation and analysis are more cognitive phases; the motivation leads to mobilization and integration of stored information, examination of goal requirements, and the development of a search model for the control of production. The production of solution involves both convergent abilities. Verification or evaluation results in acceptance
or rejection of a solution and is followed by its reapplication. But there is much variability in the solution of a complex problem, particularly; evaluation may take place at any time.

In many simple problems these phases may become telescoped in a single swift coordinated phase of activity. However, in complex situations all phases may be distinctly observed. Ajwani (1979) has tried to put these processes together and according to him human problem solving consists most typically of the following processes: apprehension or recognition of the problem; together with effort to deal with it; some manipulation or exploration of the situation; some degree of control or direction of performance; the understanding of the immediate requirements of the situation, and emotional responses representing some degree of personal involvement in the situation.

1.8. Adolescence

“Adolescence” come from the Latin term “adolescere” which means to “Grow or to Grow to maturity.” Broadly speaking during adolescence there are individual differences and it is possible to mark to mark off period within adolescent span.

Adolescence is a stage in the life span through which individuals pass in their preparation for adulthood. It is especially dynamic period because many of the roles of adolescents learning are unique to this time of life. The capacity to achieve a high level of self awareness arises during adolescence and self examination is the key to attaining maturity. Energies must be marshaled carefully. However, because consequences are cumulative, options are finite and every choice reduces later freedom.

A comprehensive understanding of adolescence also requires knowledge of youth’s consciousness or the personal factors, aspirations, attitudes, beliefs, dispositions-
that enable young people to sustain intimate and lasting social relationship, accept vocational and economic responsibilities and form ideological convictions.

All young people have basic needs that are critical to survival and healthy development. They include a sense of safety and structure, belonging and membership; self worth and an ability to contribute; independence and control over one’s life; closeness and several good relationships and competency and mastery. At the same time to succeed as adults all youth must acquire positive attitudes and appropriate behavior and skills in five areas: health, personal/social knowledge, reasoning and creative, vocation and citizenship. (Politz, 1996).

Hoffman, Levy, & Malinsky, (1996) indicate that the problem arises due to the transitional aspect during the adolescent period and as a bridge between childhood and adulthood. From the beginning of adolescence, the average youth is preoccupied with problems related to vocation, parental encouragement adjustment in the major areas of adult life.

There are many reasons why the problems of adolescence are so difficult that are especially common.

- Very few young people have had any preparation for meeting the type of problems they are expected to cope as adults. Education in high school and college provides only limited knowledge for jobs, and few schools or colleges give courses in the common problems of vocation, family and parenthood.

- Just as trying to learn two or more skills simultaneously usually results in not learning any one of them well, so trying to adjust to two or more new roles simultaneously
results in poor adjustment to all of them. It is difficult for the adolescent to deal with a choice with a career.

- Young people do not have the same choices they had when they were younger. This is partly their fault and partly the fault of their parents and teachers.

- Most of the adolescents are too proud of their own new status to admit that they cannot cope with it. So they do not take the advice and help in meeting the problems this new status give rise to. Similarly, most parents and teachers, having been rebuffed by adolescents who claimed capable of handling their own affairs hesitate to offer help unless they are specially asked to do so. The shortening of adolescence has made the transition to adulthood especially difficult.

Adolescence is the essence and spring of life. It is the period when an individual is on the threshold to adulthood. Earlier civilization did not consider puberty and adolescent to be distinct period in life span. A child tern adolescent has a broader meaning, and includes mental, emotional, social and physical maturity.

Adolescence was regarded as beginning when the individual becomes sexually mature and ending when he reaches legal maturity. However, studies of changes in behavior through-out adolescence have revealed not only that these changes are more rapid in the early than in the later part of adolescence but also that behavior and attitudes in the early part of the period are markedly different from those in the later part. As a result, it has become a widespread practice to divide adolescence into two period i.e. early adolescence and late adolescence. Early adolescence extends roughly from thirteen (13) to sixteen (16) or seventeen (17) years and late adolescence cover the period from seventeen (17) until eighteen (18), the age of legal maturity.
Some individuals and some people mature early while others enjoy, or suffer a considerable period of growth after childhood before, since the full development of power and abilities has been achieved before life settles down into routine of an adjusted efficient, adult age, is the period which as some to be termed “adolescence.” It is one of the normal stages of developments; certain marked changes in different areas of developments put forth extra demands on the adolescents for proper adjustment. Further, the complexity and the changes of the modern society expect the adolescent to interact suitable and efficiently to cope up with challenging situations.

1.9. Significance of the present study

Stress is a part of our everyday life. The modern world which is said to be a world of achievement is also a world of stress. Academic stress pervades the life of students and tends to impact adversely their mental and physical health. According to the American College Health Association's 2006 survey of college students, the one greatest health obstacle to college students' academic performance was academic stress. Of the 97,357 college students who participated in the survey, 32 percent reported that academic stress had resulted in an incomplete, a dropped course or a lower grade. Academic stress can be the ultimate career stopper. Students Stress Scale (SSS) was developed for the purpose of the present investigation.

In the present era, there is a trend that stress research tends to investigate variables that may moderate the association between stress and other variables. One such variable is personality style known as hardness. Hardy persons, it has been hypothesized, share three basic personality characteristics, these being a sense of personal control, a sense of
commitment to work and self, and a tendency to perceive change as a challenge rather than a threat (Kobasa, 1979).

Other important areas are problem solving ability of adolescents and achievement motivation. Many factors including stress affect the quality and efficiency of group problem solving (Stokes & Kite, 1994). Understanding these factors and finding ways to counteract their effects has direct operational relevance. If adolescents are not able to deal adaptively with stress or have poor problem solving abilities, there are a number of mental health problems that might develop, including depression and anxiety (Nezu & Ronan, 1988).

The present study departs from the earlier ones in several respects. Although, several studies have been conducted on academic stress and hardiness as independent dimensions, there are still many aspects of these which need and deserve more intensive and extensive studies to bring out the relevance and worth of studying of academic stress and hardiness together in recent times. Together with these, the investigator has selected other significant variables, namely, achievement motivation and problem solving for the present study because the survey of literature reveals less number of researches carried out in this area. Keeping in view the above certain facts and review of studies, the investigator has tried to carry out more intensive research to explore the impact of academic stress and hardiness on achievement motivation and problem solving.

We are taught from our childhood that education and technical skills are permanent to success. Achievement motivation is essential for everyone to excel in one’s life. Thus, academic pressures burdening the school going children and adolescents are a reflection of the current educational system in our country.
Simultaneously, due to the explosion of knowledge, diversification of curriculum emergency of new technologists, socioeconomic changes and corresponding rise in people’s aspiration and awareness, the number of youth enrolled in institutions has also registered a phenomenal increase. Pressures on these institutions are enormous so they have devised ways to screen the entrance exam. Thus, the proposed work aimed at studying the influence of academic stress on achievement motivation and problem solving among adolescents.

We live in a society where knowledge is measured by our test scores. Being able to do well on tests has become essential for students to succeed academically, since test scores have become so important in determining a student’s academic future (entrance to higher education), taking test is an increasingly stressful situation.

Adolescence is a period in one’s life span when molded personality’s permanent shape and thus influence the self of a person. Today’s generation on the contrary is susceptible to stress especially academic stress during their adolescent period which is quite often governed by their personality.

Though ample researches have been carried out on adolescence, yet a very little emphasis has been given on academic stress of adolescents studying in science and arts stream and its influence on achievement motivation and problem solving. Thus, the study would bear great significance for the teachers, parents and counselors to make the stress free environment and develop new teaching techniques for our prospective teachers.
1.10. Research Objectives

1. To examine the main effects of levels of academic stress (low and high), stream (science and social science) and gender (boys and girls) and the interaction between them on the overall scorers of achievement motivation.

2. To examine the main effects of levels of academic stress (low and high), stream (science and social science) and gender (boys and girls) and the interaction between them on the overall scorers of problem solving.

3. To examine the main effects of levels of hardiness (low and high), stream (science and social science) and gender (boys and girls) and the interaction between them on the overall scorers of achievement motivation.

4. To examine the main effects of levels of hardiness (low and high), stream (science and social science) and gender (boys and girls) and the interaction between them on the overall scorers of problem solving.

5. To determine the psychometric properties of academic stress scale.

1.11. Research Questions

1. Do boys and girls differ on achievement motivation?

2. Do boys and girls differ on problem solving?

3. Do the science and social science adolescents differ on achievement motivation?

4. Do the science and social science adolescents differ on problem solving?

5. Do the low academic stress and high academic stress adolescents differ on achievement motivation?

6. Do the low academic stress and high academic stress adolescents differ on problem solving?
7. Do the low hardy and high hardy adolescents differ on achievement motivation?

8. Do the low hardy and high hardy adolescents differ on problem solving?

1.12. Operational Definitions

Academic Stress

Academic stress among students has long been researched. The present researcher has identified the stressors as inadequate academic environment in college, lack of adjustment, apprehensive about future, poor administration and worries which result in increasing the level of academic stress.

Hardiness

Hardiness is a way of conceptualizing interrelated self-perceptions of commitment, control and challenge that help in managing stressful circumstances in a manner that turns them into developmental rather debilitating experiences. According to Kobasa psychologically hardy individuals are less likely than non-hardy individuals to fall ill as a consequence of stressful life events (Kobasa, 1979; Maddi; & Kobasa, 1981, 1984).

Hardiness, as conceptualized by Kobasa (1979), is a set of beliefs about oneself and the world manifested as commitment, control, and challenge. Hardiness protects against stress in two ways by altering perceptions of stress and by mobilizing effective coping strategies.

Achievement Motivation

McClelland et al. (1953) define achievement motivation as ‘a competition with a standard of excellence.’ Thus, the need-achievement is characterized by a desire to attain a high standard of excellence and to accomplish the unique objective. In such a situation, a
subject shows concern with competition with a standard of excellence. Therefore, *achievement motivation* can be defined as a concern for excellence in performance as reflected in competition with the standards set by others or over unique accomplishment or long time involvement (McClelland, 1953). It is one of the basic ingredients necessary for one’s success in life.

**Problem Solving**

Problem solving is the framework or pattern in which thinking and creativity play an important role. In the day to day life, a person faces many problems and tries to solve them. It can be done by right thinking and proper reasoning which depend on the level of intelligence of the person. Therefore, it may be concluded that problem solving is a continuous process of multidirectional efforts.

**1.12. Conceptual framework**

In the present study, there are four independent variables (Academic Stress, Hardiness, Stream and Gender), and two dependent variables (Achievement Motivation and Problem Solving). Fig 1.3 shows the conceptual framework.
Fig. 1.3: Conceptual framework

Independent Variables

Academic Stress

Hardiness

Stream

Stream

Gender

Gender

Dependent Variables

Achievement Motivation

Problem Solving