CHAPTER 1

INTRODUCTION

Education is a persistent feature characterizing all human societies. In broad sense, it aims at all round development of personality of child. In other words education aims at harmonious development of cognitive, affective and psychomotor domains. There are various agencies which contribute at different stages and to different degrees in achieving the said aim. These agencies can be broadly classified into two categories viz. formal and informal. School is a formal agency. Various activities carried out in school contribute in shaping the personality of child. Apart from this, the various activities of school are organized so that student’s academic achievement, achievement motivation and intelligence can be raised and academic anxiety can be reduced. The academic achievement is day by day, attracting the attention of educators because it has been taken as a criterion for selection in various walks of life.

Motivation in education means inculcating and stimulating interest in study and other such activities in pupils. It involves the understanding and use of natural urges of the child and also assisting him in acquiring new desirable motives. In educational programmers, with the help of motivation, the teaching learning process becomes more effective. For a teacher and students motivation is important because motivation can serve as both an objective in itself and as a mean for furthering achievement of other educational objectives.

1-1 Concept of Academic Anxiety

Anxiety has come to be seemed as a central problem in dynamic psychology and learning is also one of the variables which are most important in the development of personality. Anxiety has been defined as an emotional state arising in situation of
impending danger and manifested in expectation of unfavorable events. Unlike fear, as a response to a specific threat, anxiety represents generalized, diffuses or pointless fright. In man, anxiety is usually associated with expectation of failures in social interaction, and is often caused by the fact that the source of danger is unknown. Anxiety and fear, often classified as effects or emotions, also play an extremely important role in human motivation. They are unpleasant states that evoke behaviors designed to reduce the uneasiness and discomfort. Many normal problem solving behaviors are motivated by the desire to relieve anxiety or fear. At low level, anxiety can serve constructive purposive, acting as a spur to creativity and problem solving. However, strong anxiety may be emotionally crippling, evoking a deep sense of helplessness and inadequacy, rendering the person ineffectual and desperate. Excessive anxiety may have its roots in harsh, punitive, or inconsistent child-rearing practices. Parents might impose standards of behavior that are too high, they might be too critical, never praising the child’s efforts; or they might change frequently and inconsistently in their moods and discipline. The child begins to distrust her own impulses, anticipating punishment or rejection. She becomes anxious and insecure.

Freud (1959) described anxiety largely in terms of fundamental emotions of fear, and his concept of signal anxiety is roughly equivalent to fear anticipation, an affective-cognitive orientation. Anxiety results from exposure to danger, signal anxiety (fear anticipation) from perceived threat of danger. Saron (1956) describe anxiety in terms of fear, hostility, distress and guilt. Grinker and Spiegel’s(1945) definition includes concepts related to fear, distress, and guilt. Sullivan(1953) recognized fear, shame and psychophysiological arousal.
Bowlby (1973) consider anxiety as closely allied to fear to fear, as in the case in the psychiatry, but he does not equate the two concepts.

1-1.1 Trait versus State Anxiety

Anxiety research has also led to a distinction between trait anxiety and state anxiety. Trait anxiety is a relatively enduring personality trait, a disposition to be anxious in many different situations, whereas state anxiety is the anxiety an individual experiences in a specific situation at a specific time. Two are commonly measured with state-trait anxiety inventory. The concept of trait and state anxiety has a great deal of significance for the academic learning situation. There are individual differences in their frequency and intensity of their becoming anxious on different teaching-learning situation under state anxiety, attempts are made to measure academic anxiety too, which is a kind of state anxiety which relates to the impending danger from the environments of the academic institutions including teacher, certain subjects like mathematics, English etc.

Academic anxiety is a common issue that students cannot ignore if they want to succeed in school. It often lead to problems concentrating while studying and remembering information while completing tests, which makes the student feel helpless and like a failure. Academic anxiety is a kind of state anxiety which relates to the impending danger from environments of academic institutions including teacher, certain subjects like mathematics and English etc. If academic anxiety is not properly addressed, it can have many serious and lasting consequences, such as causing a student to procrastinate perform poorly on school work, fail classes and withdraw from socializing with pears or pursuing activities that interest him.

Cornell University lists four main components of academic anxiety: emotionality, study-skills deficits, task-generated interference and worrying.
Emotionality is linked to biochemical signs, such as fasts heart beat, nausea, sweaty palms and tense muscles. Study skills deficits result from inadequate study techniques that trigger anxiety. Task generated interference is an outcome of unproductive behaviors that impede academic performance such as spending too much time on questions you cannot answer. Worry undermines academic success by distracting you from focusing on what needs to be done to perform well. According to Cornell University, academic anxiety is the result of biochemical process in the body and brain that make your attention level increase when they occur. The changes happen in response to exposure to a stressful academic situation, such as completing school assignments, presenting a project in the class or taking a test. When anxiety becomes too great, the body recoils as if threatened, which is a normal fight or flight reaction.

Greenfield Community College recommends teaching students who suffer from academic anxiety how to practice relaxation techniques to make study habits more effective. For instance, tell yourself at the beginning of study sessions that you are alert, calm and open-minded. Cornell University suggests additional approaches, such as thinking about positive mental image during stressful academic situation and seeking counseling to learn better study techniques. A manageable level of anxiety is actually a good thing, according to Greenfield community college moderate academic anxiety provides the motivation. Students require exerting effort completing assigned school work and preparing to take examinations. Academic anxiety only becomes a problem that needs a solution when the amount experienced grows so excessive that a student is no longer able to function productively.

1-1.2 Effect of Academic Anxiety on Academic Performance

People who perform in public confirm that a little anxiety, a touch of excitement, sharpens attention and improves performance, but a little more may produce
unwelcome disruption like forgetting lines or playing wrong notes. Students giving a report before a group is sometimes dismayed to hear them uttering a badly jumbled version of what they had in mind. At a crucial moment in an athletic contest errors may occur that would never happen during practice. Beyond a light stage, anxiety tends to disrupt skilled performance. At more advanced levels, as in severe stage fright, the interference with organized activity becomes painfully evident.

Educational achievement is unfavourably affected by anxiety. There has been considerable reach on this problem. Anxiety can be measured in specific situations, such as when taking on exam, by physiological measures like heart rate and blood pressure or by behavioral signs like restless and distractibility. It can be measured as relatively constant trait. The Taylor Anxiety Scale, for instance, yields an inventory of life situations reported by subjects that feel anxious. Subjects with high anxiety, as measured by this scale, are less confident, less adventurous, and more self-disparaging than subjects with low anxiety, and they are less favorably regarded by friends and teachers. In school system where much weight is placed on a small number of examinations, students prone to anxiety may be estimated at their true ability.

### 1-1.3 Anxiety and Intelligence

Anxiety and intelligence also may interact as determinants of the quality of complex performance. The effect of anxiety level on meaningful, no laboratory measures of performance, such as college grades, seem to depend importantly on student’s intelligence. In one study, students were categorized in five ability levels. On the basis of test of scholastic aptitude, high anxious subjects achieved lower average grades than students low in self reported anxiety. At the extreme ends of the ability range, however, anxiety level did not influence grades and the student’s college performance
depended mainly on their ability regardless of their anxiety. The relationship between anxiety and intelligence is also moderated by age, for example in early childhood; brighter preschool children tends to have more fears than do less intelligent youngsters. The types of fears displayed by children also tend to change with age in course of development. As the children grow older, the correlations between their self reported anxiety and their intellectual and academic achievement tends to become increasingly negative.

Ausubel(1968) contended that anxious people particularly when compulsive; do much better in highly structured learning situation where novelty and the need for provision is minimal.

Good and Brophy(1977) concluded that high anxious students will perform complex that high tasks much better than low anxious students.

1-1.4 Coping with Test Anxiety

Anxiety is a mixture of heightened physiological arousal (nervousness, sweating, pounding heart) and excessive worry. This combination arousal plus worry tends to distract student with a rush of upsetting thoughts and feelings. Studies show that student is typically most anxious when they don’t know the material if this case, calling down simply means you will remain calm while failing.

Suggestions for coping with Test Anxiety

1. Preparation: Hard work is the most direct antidote for test anxiety. Many anxious students simply study too little, too late. That’why improving your study skills is a good way to reduce test anxiety. The best solution is to over prepare by studying long before the “big day”. Well prepared students score higher, worry less, and are less likely to panic.

2. Relaxation: Learning to relax is another way to lower test anxiety
3. Rehearsal to reduce your nervousness, rehearse how you will cope with upsetting events. Before taking a test, imagine yourself going blank, running out of time or feeling panicked. Then calmly plan how will handle each situation by keeping your attention on the task, by focusing on one question at a time and so forth.

4. Reconstructing thoughts: Another helpful strategy involves listing the upsetting thoughts you have during exams. Then you can learn to combat worries with calming, rational replies.

1.2 Concept of Achievement Motivation

In the contest of the classroom, “motivation” refers to such characteristics of student behavior as interest, alertness, attention, concentration and persistence. These are motivational qualities of immediate interest to the teacher. If students will not pay attention, follow instructions and complete assignments, it is obviously difficult to teach them. The educator is also concerned with long term motivational characteristics. For instance, the primary school history teacher wants students to develop a continuing interest in current events.

1.2.1 Significance of Motivation

Motivation is concerned with arousal of interest in learning and, to that extent, is basic to learning. The teacher is ever on the alert to discover stimuli that will produce pleasant feelings or satisfaction in order that the interest of learner shall be maintained long enough for him to master definite ideas or subject matters. No lessons plan is considered complete unless it includes motivation. The teaching approach that is integral part of learning procedure often serves as the most effective form of motivation. The teacher attempts to relate the content of new learning material to experiences with which the learner is familiar and e give him satisfaction. It is not
sufficient, however, merely to develop an immediate or temporary interest. The learner must be motivated that his interest will be directed toward a definite goal which will take him beyond the experiences which are used as motivator’s further learning. Important as motivation is in arousing learner interest, too much time and energy should not be given to part of lesson. Interest for its own sake can retard rather than encourage the mastery of new ideas. Education is a serious business, and a teacher should not try to entertain simply to motivate the learners. Motivation is effective only when it gives a mental set toward learning. Otherwise it is a distracting rather than a directing force.

The concept of achievement motivation has been applied frequently in the psychological literature to account for the behavior of different cultural and economic backgrounds. The major theoretical perspectives which have laid the basis for extensive body of research considers that the particular individual/group/culture possess achievement motivation to greater or lesser degree in the form competitive effort and individualistic striving which results in economic growth or success. This culturally specific notion of achievement, however, for a long time viewed as the universal model of achievement and a plethora of studies has been conducted to measure, compare and enhance achievement efforts. Achievement motivation is the expectancy of finding satisfaction in mastering challenging and difficult performances when discussed in relation to school achievement, achievement motivation is motivation to perform specific tasks for which there is a standard of excellence against which results can be judged, classroom teachers decide what learning tasks students are to perform and also to evaluate the quality of achievement.

Achievement motivation has been referred to as the need for achievement, a wish to do well. It refers to behavior of individual who strives to accomplish
something to do best, to excel others in performance. This involves competitions with a particular standard of excellence of performance. Achievement motivation is learned motive to complete and to strive for success. Achievement motivation is a pattern of planning of actions and of feeling connected with hard efforts to achieve some internalized standard of excellence. It involves a fundamental assumption that the desire to achieve something of excellence is inherent in all being.

1-2.2 Definition of Achievement Motivation

1. Gupta (1993) defined achievement motivation concentration primarily upon achievement related behavior. Behavior in which there is competition with a standard of excellence.

2. Atkinson (1964) defined achievement motivation as the tendency to endeavor for the attainment of a goal. A specific motive is concerned with attainment of specific type of goal.

3. Atkinson and Feather (1966) characterized achievement motivation as a personality dimension in their theory and assumed that there is an intrinsic interaction among achievement motivation, value and expectancy.

4. Heckhausen (1967) defined achievement motivation as the striving to increase or keep as high as possible one’s own capability in all activities in which a standard of excellence is thought to apply and where the execution of such activities can therefore either succeed or fail.

5. Mehta (1969) defined achievement motivation as dissatisfaction with the present condition and urge to improve upon the condition of life.

6. Vidler (1977) defined achievement motivation as, “a pattern of planning of actions; and of feelings connected with striving to achieve some internalized standard of excellence, as contrasted, for example, with power or friendship”.

The achievement motivation does not originate in the organism but depends upon childhood training. It has been found that those adults who are high in achievement motivation were subjected to relatively rigorous training. The mothers of such individuals are known to have encouraged them during their childhood to
independence and self reliance by making them sleeps alone, earning their pocket money and so on. Low achievement scores as children were also expected to learn this behavior patterns but at a comparatively later age. The occurrence and magnitude of achievement motivation thus, is a product of child rearing practice in a society. It is known that in certain tribes achievement is actually discouraged and such tribes have continued to be backward for longer periods of times. Competition and individual achievement, on the other hand, are the corner stone of modern society.

Achievement motivation can inspire behavior in many kinds of situations (Srivastava 1984 and 1987)

Studies pertaining to achievement motivation and entrepreneurial behavior show that high achievement motivation motivate good performance in work situations. McClelland and others (1953) have shown positive relationship between amount of achievement motivation that exist in the people of a culture and economic attainment of that society.

Atkinson and Litwin (1960) conducted a study and concluded that actual achievement is determined by three factors viz motive, probability of success (or failure) and incentive value.

Anantharaman and Deivasen (1979) studied achievement motivation among managers, supervisors and workers suggested that managers have high achievement motivation than supervisors.

1.2.3 Types of Achievement Motivation

Intrinsic achievement motivation:

When we see people engage in action to display competency or exercise control over is happening, we infer they are intrinsically motivated. Intrinsic motivation is what the learner brings in to the learning situation. The more intrinsically controlled a person is
the more intrinsically satisfying external events. We maintain intrinsic motivation by being involved in things or events that are internally satisfying. They do not have to lead to intrinsic reward. It represents concern over standard of excellence or doing something well for its own sake i.e. to attain inner feelings of personal accomplishment without regard to other benefits. In this, activity is, in itself, interesting and absorbing.

**Extrinsic achievement motivation:**

Extrinsic achievement motivation represents concern over success in competition with other involving social competition and social recognition. Extrinsic motives are so called because they arise from a source outside the individual. We are said to be motivated, extrinsically when we do something, because someone else wants us to do it. For example, children love to be rewarded for their efforts.

**1.2.4 How to Develop Achievement Motive**

Development of achievement motive is affected by a number of variables in home, school and society. Home plays an important role in the early training of children for the development of attitudes and motives. Parental expectation and guidance to the child develop need for high achievement in life. The society and its social philosophy is an important variable in developing achievement motive. There are communities which are achievement oriented. The teacher can play a very crucial role in the development of achievement motive by following methods.

1. The teacher should make clear the importance of achievement motive in life by means of telling the stories of great men and their achievement from all walks of life.

2. The teacher should provide a proper environment in the class and outside class. The teacher’s attitude and enthusiasm will create better environment for achievement motive in children.
The teacher will succeed in his attempt if he convinces the students that developing a new motive is realistic and reasonable.

The teacher should relate the motive with future life of students and assign independent responsibility to them.

The teacher should make clear to the students that new motive will improve their self image.

The teacher should emphasize upon the fact new motive is an improvement on prevailing cultural values.

The teacher should make students committed to achieving concrete goals in life related to newly developed motive.

The teacher should ask the students to keep the record of their progress towards their goal.

Self study should be emphasized.

The teacher should make efforts to develop conducive social climate in the class so that every individual should feel that he belongs to a group.

1-3 Concept of Academic Achievement

One of the most concerns of education is to ensure that each child is able to make most of his abilities. The problem why students achieve or fail to achieve in school has always interested psychologists and educators (Naylor, 1972)

Achievement in itself has become more or less a power symbol and way of life. However even if the course of life is not determined by achievement, it is essentially directed by it. Hence every individual is obsessed by social and psychological pressures later leads to various tensions and strains. Such resulting tensions are more often disruptive and resulting performance decrements and
discrepancies’ between potential and performance. In the realm of educational measurement, the most meaningful achievement is almost certainly academic success. Academic achievement constitutes a socially desirable, equally relevant and integral aspect of all students’ lives such that all students are motivated to seek academic excellence. Academic achievement is the outcome of training imparted to a student by the teacher in school situation.

Academic achievement of an individual is so far considered to be influenced in part by his ability to make adjust to his environment, in part by his special abilities, aptitude and intelligence, which are integral part of his personality and in part by the intensity of drives and motives which serves as the impelling for his activities. Thus academic achievement refers to the degree or level of success and that of proficiency attained in some specific area concerning scholastic and academic work.

In the view of Good (1959), there seem to considerable similarities in as much as all of them place emphasis on knowledge attained or skills developed in academic subjects and designated by test score. It is different from proficiency in the area of different arts or physical skills. Academic or educational age, accomplishment quotient or achievement quotient are the most commonly used means to intercept the level of achievement of pupils in general or in specific subject matter.

According to Tang and Thomas (1977) achievement means performance in school or college in a standardized series of educational tests. The term is used more generally to desirable performance in the subjects of curriculum.

1-3.1 Importance of Academic Achievement

In the present world thing is changing is very fast. There is an explosion of knowledge in all walks of life. The growth of science and technology has brought changes in socioeconomic condition of the society. Because of explosions of aspirations, every
parent today sets high goals to educate his child. Thus academic achievement has become a case of educational growth. Good academic achievement help to develop self esteem self respect and self confidence and helps the individual to create a niche for himself in the competition ridden society. Academic achievement has a great importance in personal life. Success in academic subjects act as an emotional tonic and any damage done to a child in the home or neighborhood may be partially repaired by success in school or college. It motivates the students to set high goals for themselves. Importance of academic achievement can be judged when we realize fuller and happier life, which we wish for every student, would be impossible unless he has attained high degree of proficiency in his subjects. Academic achievement to a great extent predicts the future of student. At the time of admission, for entrance in job or for further studies, good academic achievement record is the only recommendation. Therefore, academic achievement is the unique responsibility of all educational institutions established by society to promote a whole sum scholastic development of the student.

1.3.2 Factors affecting Academic Achievement

Academic Achievement depends upon numerous factors which are responsible for high, average or low academic achievement of students. These factors are

1. Cognitive factor: it includes intelligence; creativity and language ability.

2. Non-cognitive factors: It includes variables such as self concept, adjustment and level of aspiration, needs motivation, aptitude, anxiety values and self-confidence.

3. Home environmental factors: It includes demographic variables i.e. socioeconomic status, residential background, parental aspiration and expectations, parental education and occupation, sex etc.
4. **Social environmental factors:** It includes personality, attitude, method of teaching, curriculum, emotional climate of school etc.

1-4 **Concept of Intelligence**

Intelligence is a component of successful living. One indicator of the difficulty involved in understanding intelligence is the variety of the definitions used in its measurement. Intelligence refers to ease or difficulty with which people are able to learn various things. On the basis of this working definitions, people of high in a particular function learn new behavior in that area with comparative ease, while people with low intelligence find it difficult to learn the same things.

1-4.1 **Historical View Points of Intelligence**

In the late 1800s psychologists conceptualized intelligence as consisting of various tasks such as the ability to discriminate the weight of objects, the ability to make auditory discriminations, the speed of the subject’s response, and similar tasks. Galtons (1883) was one of leaders of this orientation. Galton’s approach, however, was soon discredited because performance on Galton type tasks did not correlate with other tasks thought to represent intelligence. Aware of the ability of the Galton scales to predict academic achievement, Binet greatly influenced the mental measurement movement in the early 1900s by postulating that intelligence consists of a general intellectual ability to respond effectively toward environment. Binet interest in intelligence stemmed from his position. With the Paris school system where he was asked to help the schools identify potentially unsuccessful students. Collaborating with Simon, Binet constructed a new type of intelligence test consisting of 30 “mental” items arranged in ascending order of difficulty. The items chosen for test purportedly measured a student’s general ability and were designed to predict academic success and failures. With a few years after the Binet scales were developed
some psychologists began to question. Binet’s conceptualizations concerning “g” did not address the issues related to uneven mental development. Theories were thought to be needed to bridge the gap between the general ability (“g”) notion of Binet and observation that people possess unique constellations of abilities. The early work of Thurstone(1938) typify this viewpoint. Thurstone eventually identified nine such abilities: space, perceptual speed, numerical ability, verbal comprehension, rate memory, induction, word fluency, deduction, and general reasoning.

1-4.2 Definitions of Intelligence

There are probably as many definition of intelligence as there are experts who study it. Simply put, however, intelligence is the ability to learn from, understand and interact with one’s environment. This general ability consists of a number of specific abilities, which include these specific abilities.

1. Adaptability to a new environment or to changes in the current environment.
2. Capacity for knowledge and the ability to acquire it.
3. Capacity for reason and abstract thought.
4. Ability to comprehend relationships.
5. Ability to evaluate and judge.
6. Capacity for original and productive thought.

**Stern (1914):**

Intelligence is a general capacity of an individual consciously to adjust his thinking to new requirements. It is the general mental adaptability to new problems and conditions of life.

**Thorndike(1914):**

Intelligence may be defined as “the power of good responses from point of view of truth or fact”.
Wagnon (1937):
Intelligence is the capacity to learn and adjust to relatively new and changing conditions.

Woodworth and Marquis (1948):
Intelligence means intellect put to use. It is the use of intellectual abilities for handling a situation or accomplishing any task.

1-4.3 Non-Verbal Intelligence

Non-verbal intelligence is the ability to analyze information and solve problems using visual, or hand-on reasoning.

Non-verbal tasks may involve concepts such as

- Concrete or abstract ideas
- Internalized language-based reasoning
- Internalized reasoning without language

Non-verbal tasks involve skills such as

- The ability to recognize visual sequences and remember them
- Understanding the meaning of visual information and recognizing relationships between visual concepts
- Performing visual analogies
- Recognition of causal relationship in pictured situations

Non-verbal intelligence is important because it enables students to analyze and solve complex problems without relying upon or being limited by language abilities. Many mathematical concepts, physics problems, computer science tasks science problems require strong reasoning skills. Non-verbal intelligence is typically assessed in extended IQ tests. Non-verbal intelligence may be improved working with hands-on tasks, occupational therapy, puzzles blocks and building toys, finds-a-word puzzles, mazes, and erector sets.
1-5 Review of Literature

Benjamin (1953) studied the relationship between intelligence test performance and school achievement and found

1. Intelligence test performance is highly correlated with success at the school certificate examination and with success in school of grammar school type.
2. Of the more commonly used predicative measures (teacher’s estimates, performance in English and arithmetic, intelligence tests) intelligence test is most effective single predicator.
3. A battery consisting of tests of intelligence, arithmetic, and English (weighted equally) is more effective than the intelligence test taken alone.

Sinha (1967) concluded a study of intelligence and some personality factors in relation to Academic Achievement of school students and found that

1. The two groups were significantly discriminated on variables, namely, intelligence, achievement motivation, manifest anxiety, extraversion-introversion and neuroticism or emotionality.
2. Science students scored significantly higher on the intelligence test than the students of arts.
3. Intelligence and academic achievement were significantly related.
4. Academic achievement was found to be positively and significantly related to achievement motivation and manifest anxiety at 0.01 level, and with extraversion-introversion and neuroticism at 0.05 level.
5. By partially out the effect of intelligence, the relationship between achievement motivation, manifest anxiety, extraversion and neuroticism remained the same except the relationship between extraversion and academic
achievement and also that between neuroticism and academic achievement lost their statistical significance.

Makhija(1973) conducted a study on interaction among values, interests and intelligence and its impact on scholastic achievements. The major findings of study were

1. Intelligence had a significantly positive influence on scholastic achievement.
2. Students, who were not oriented to political value, exploited their mental ability to much less extent than those who were highly oriented to it.
3. Students who valued beauty, form, symmetry and grade in their life developed vocational interests in literary pursuit and avoided, as far as possible, sports and outdoor activities.
4. Students who were oriented to practical and utilitarian view of life tended to exert their intellectual capacities more in the mechanical fields of vocations.
5. Students who valued power, competition, and renown, etc. in their life utilized their mental abilities to excel in crafts and scientific studies.
6. Intelligence students interested in science and medicine found religious value helpful in their performance but obstructive if they were interested in recreational activities.

Dhami (1974) conducted a study on intelligence, emotional maturity and socio-economic status as factors indicative of success in scholastic achievement and found that

1. Intelligence and emotional maturity contributed to success in scholastic .The contribution of intelligence was more than that of socioeconomic status.
2. A close and significantly high relationship existed between intelligence and emotional maturity.
3. The relationship between scholastic achievement and socio-economic status, though statistically significant, was not very high.

4. The relationship between scholastic achievement and intelligence, between scholastic achievement and emotional maturity and between socio-economic status and scholastic achievement differed significantly from each other.

5. The socio-economic had positive effect on emotional maturity especially the factors of parent’s education, family income, cultural level of the family, the type of house the family lived in and the vocational aspirations of learners.

6. The effect of socio –economic status on the scholastic achievement of girls was more striking.

7. The relationship between scholastic achievement and intelligence was higher in case of students of private schools than for those of government schools.

8. The were higher relationship between scholastic achievement and emotional stability in the case of class IX boys than in the case of class X boys who were more anxiety ridden due to the coming public examinations.

Kohli (1976) conducted a study on characteristic behavioral and environmental correlates of academic achievement of over and under achievers at different levels of intelligence. Major findings of study were

1. Although the spectrum of some of the non-intellectual behavior environmental factors was differently related to academic achievement of over and underachievers, yet single factor , combination of factors and factor constellations were not capable in themselves of clearly separating overachievers and underachievers.
2. Certain factors or factor combinations or configuration were common to these groups which differed widely in achievement. These could be named as correlates of academic achievement which operated for both.

Srivastava (1980) studied the relationship between intelligence, interest, adjustment and family status as predictors of educational attainment of high school students. The results were

1. There was substantial correlation between achievement and intelligence and moderate correlation between achievement and socioeconomic status.
2. Scientific, clerical interest and educational adjustment were substantially correlated with achievement.
3. Mechanical interest and emotional and social adjustment also had significant positive correlation with achievement.

Sharma (1982) conducted a study of intellectual factors and academic achievement in arts, science and commerce at higher secondary stage. The main findings of study were

1. The students of the scientific stream possessed a higher level of verbal intelligence than those of the literary and commercial streams.
2. The students of scientific and commercial streams possessed a higher level of non-verbal intelligence and creativity than those of literary stream. There was no significant difference between students of scientific and commercial streams on these variables.
3. The high achievers of only the scientific stream were significantly better than the low achievers on both verbal and non-verbal intelligence.
4. The high achievers of only the commercial streams were significantly better than the low achievers of this stream on creativity.
5. The high achievers of only the scientific stream were superior to those of the literary and commercial streams, but the low achievers of both the scientific and commercial streams were better than those of the literary stream on verbal intelligence.

6. The high as well as the low achievers of both the scientific and commercial streams were superior to those of the literary stream on creativity, but the low achievers of the literary and scientific streams were superior to those of the commercial stream.

Rajput(1984) conducted a study on academic achievement of students of mathematics in relation to their intelligence, achievement motivation and socioeconomic status and found that

1. Intelligence affects the achievement of students in mathematics significantly at all the three levels i.e. high, low and average.

2. In neutral classroom conditions, the achievement of students in mathematics was not affected by achievement motivation.

3. The socioeconomic condition of the children affected the achievement of the student.

Chandra(1984) studied the relationship between achievement motivation and academic achievement among secondary school going tea garden worker’s children of lower Assam and found that

1. High academic achievers were higher than the low achiever on achievement motivation but the difference was not statistically significant.

2. Both boys and girls of high achiever on academic achievement were higher the low achiever.
3. Both high achiever tea workers and non tea workers pupils on academic achievement were higher than the low achiever.

4. Tribal scored higher than the tea worker’s pupils.

5. High achiever middle class were higher than the low achiever in achievement.

6. Achievement motivation and academic achievement were related in the case of whole sample.

7. Between achievement motivation and academic achievement there was correlation in the case tea worker’s pupils.

8. Among the non-tea workers and tribal, there was insignificant relation between academic achievement and achievement motivation.

Barinder(1985) studied general anxiety and test anxiety with reference to the environmental factors and extraversion-introversion of Delhi students. He found that

1. Sex was significantly related to anxiety, both general and test anxiety.

2. Girls exhibited more general anxiety as well as test anxiety, than the boys.

3. There was a positive relationship between general anxiety and test anxiety.

4. Socio-economic status did not play any role in case of boys, neither on their general anxiety nor on their test anxiety. There was significant difference in general anxiety of very high socio-economic status girls and low socio-economic status girls and also between very high socio-economic status girls and also average socio-economic status girls. Test anxiety has also been to be affected by socio-economic status in case of girls (only in case of very high SES and average SES) .The lower socio-economic status of girls, the higher was their test anxiety.

Gakhar(1985) conducted a study on intelligence, creativity and achievement in mathematics. The findings were
1. There is a significant correlation between measures of intelligence and creatively taken singularly on one side and achievement in mathematics on the other side.

2. Intelligence and achievement in mathematics free from creativity and also creatively and achievement in mathematics free from intelligence remains insignificantly correlated.

3. Intelligence and creativity are equally good predictors of achievement in mathematics.

4. Conjoint effect of intelligence and creativity is higher as compared to their respective predictions in respect of mathematical achievement.

Dixit (1985) conducted a comparative study of intelligence and academic achievement of adolescent boys and girls in classes IX and XI. The main findings of study were

1. Among class XI students there was no difference in the academic achievement of intellectually superior and intellectually very superior boys and girls.

2. At all other intellectual levels the academic achievement of the girls was superior to that of the boys.

3. Among class IX students there was no difference in the academic achievement of intellectually very superior and intellectually superior boys and girls.

4. At all the other intellectual levels the academic achievement of the girls was superior to that of boys.

5. In general the intelligence test scores of the boys were higher than those for the girls.
6. In case of the boys there was very high correlation between intelligence tests scores and academic achievement.

7. In the case of girls there was an average correlation between intelligence tests scores and academic achievement.

Deshpande(1986) conducted a study on the interactive effects of intelligence and socio-economic status of students and homework on the achievement of students and found that

1. Students, parents, teachers, girl students and students of middle and upper socio-economic status had a more favorable attitude towards homework.

2. No significant difference in their attitudes towards homework was found when teachers were classified under the four variables of material status, sex, age and teaching experience.

3. Parents with only child had significantly less favorable attitude towards homework than parents with two or more children.

4. The amount of homework and delay in evaluation of homework were not significantly related to achievement of students.

5. Intelligence was significantly related to achievement at the 10 percent level.

6. Intelligence was significantly related to achievement at one percent level.

7. The trend of the relationship between homework and achievement indicated that students who were given homework performed better.

Mehrotra(1986) studied the relationship between intelligence, socio-economic status, anxiety, personality adjustment and academic achievement of high school students. The main findings of the study were

1. Both for boys and the girls there was an inverse relationship between level of anxiety and academic achievement.
2. Both for boys and girls there was positive relationship between socio-economic status of family of students and academic achievement.

3. There was a positive relationship between intelligence and academic achievement.

4. There was positive relationship between level of adjustment and academic achievement.

5. In general, the girls had a comparatively higher level of anxiety than the boys.

Gupta (1987) studied relationship between locus of control, anxiety, level of aspiration, academic achievement of secondary school students and found

1. Anxiety was found to have a significant negative correlation with academic achievement for the total sample, arts and science groups, and girls, boys of arts groups and girls of science groups, science girls of middle socio-economic status, internal boys of the arts curriculum and external girls of the arts curriculum.

2. Academic achievement and anxiety differentiated the maximum number of groups.

Venkatapathy (1987) studied the relationship between anxiety and achievement motivation among students of autonomous and non autonomous courses and found that

1. Autonomous course students are more anxious than non autonomous course students.

2. Autonomous course students have higher level of achievement motivation compared to non autonomous course students.

3. Anxiety (moderate) and (high) achievement motivation are significantly related.
Freeman and Morss (1993) conducted research on study habits and academic achievement among Asian students. Findings indicated that these students studied regularly, studied for long time, and were very intense. They used study groups and adaptive study approaches. They did not make much use of external aids but focused on comprehensive of material presented in their textbooks. Results may have some implications for students whose focus has shifted from reading the textbook to other forms of study.

Sen and Hagtvel (1993) studied correlations among creativity, intelligence, personality, and academic achievement. Finding show significant positive relations of creativity with some personality dimensions (extra-version, theoretical, and aesthetic value pattern) and scholastic achievement. The relation between creativity and intelligence was no significant.

Balasubramanian (1993) studied that how far intelligence is related to pupil’s academic achievement in English and found that

1. Intelligence of pupils positively influenced their academic achievement in English.
2. Pupils having higher level intelligence preferred English medium classes and urban schools.
3. Sex of the pupils had no influence on their intelligence as well as academic achievement in English.
4. Pupils preferred schools of different types of management irrespective of their level of intelligence.
5. The medium of instruction and locality in schools had no influence on pupil’s academic achievement in English.
6. The sex of the pupils and the nature of management of the school had no significant influence on their academic achievement.

Kumar (1994) studied the interaction effect of intelligence, cognitive style and approaches to studying on achievement in biology of secondary school pupils and found that

1. Regarding main effect of intelligence, significant main effect was noticed on achievement in biology for the total sample and for the sub samples.

2. There was no significant main effect of cognitive style on achievement in biology for the total sample for boys. For girls, this variable had significant main effect on achievement in biology and in the comprehensive category.

3. Regarding main effect of approaches to studying significant main effect of deep/surface approaches existed on achievement in biology total score, comprehension and in higher objective category for the total sample. In knowledge and application categories no significant main effect of deep/surface approach was found. For boys significant main effect existed on comprehension category only. Among girls significant main effect was found on achievement in biology total score, comprehension and in higher objective category. There was no significant main effect on knowledge and application categories of achievement in biology. Regarding organized/disorganized method there was significant main effect on comprehension category for the total sample and on comprehension and objective category for girls but not for boys.

4. There was no first order interaction of intelligence X cognitive style: intelligence X deep/surface approach on achievement in biology.
5. There was significant first order interaction of cognitive style X organized/disorganized method on higher objective category and the above variables in combination on achievement in biology total score, knowledge, and comprehension and application categories.

6. Achievement in biology total score, comprehension, application and higher objective categories, no significant first order interaction were found.

7. There was no significant second order interaction of intelligence X cognitive style X deep/surface approach or organized/disorganized method on achievement in biology.

Chauhan (1995) examined the academic achievement and intelligence and their effect on adjustment of graduate students of both sexes. The major findings of study were

1. No significant relationship existed between the academic achievement and intelligence of graduate students of both sexes, with their adjustment.

2. Female high achievers adjusted well with their environment as compared to their male counterparts.

3. No significant relationship existed between academic achievement and intelligence with the adjustment in case of students of science and arts faculty.

4. Individual differences existed in the responses of arts and science graduates of both the sexes.

5. Boys of science faculty, who were intelligent, had good health, social emotional and educational adjustment while their home adjustment was not very satisfactory.

6. Intelligent boys of arts faculty had low correlation with social adjustment and high correlation with educational adjustment.
7. Intelligent female art graduates had low correlation with home adjustment and high correlation with educational adjustment.

8. Intelligent female science graduates had low correlation with home adjustment and high correlation with educational adjustment.

Uniyal (1995) investigated the relationship between intelligence and achievement motivation of students activities and found that

1. There existed an insignificant relationship between high and low activities on intelligence variables.

2. It was found that student activism had a nearest correlation with general mental ability of students.

3. Student activism seemed to be insignificantly related with achievement motivation of students.

Trivedi (1995) attempted to study the anxiety level and academic achievement of undergraduate students and found that

1. No significant difference existed between the means of boys and girls, science and commerce streams, science and arts stream in respect of their anxiety level. But there had been significant differences between the means of the students of commerce and arts streams.

2. A negative relationship had been found between the anxiety level and academic achievement among girls, students of commerce and arts streams but among boys and students of science stream, a positive correlation had been found to be very low and not significant.

Singh and Verma (1995) studied the effect of academic aspiration and intelligence on scholastic success of X1 grades. The conclusion drawn indicates that rural students though lower scoring on measures of intelligence are better in scholastic
achievement than their urban counterparts. Thus academic aspiration and intelligence are not considered true predictors of scholastic success.

Kumar (1996) attempted to study curiosity as related to intelligence and scholastic achievement. Major findings of study were

1. It was observed that the correlation between curiosity and intelligence was low but significant and positive.

2. The coefficient of correlation between curiosity and scholastic achievement was significant and positive.

3. The mean scores of boys on curiosity were found to be significantly higher than girls.

4. The mean scores of urban pupils on curiosity were not found to be significantly higher than the mean score of rural pupils.

5. The mean score obtained on intelligence by the high and low curiosity pupils was significant, in favor of high curiosity pupils.

6. The difference between the means of scores obtained on scholastic achievement by high and low curiosity pupils was significant.

Promod (1996) conducted a study on future time perspective, cognitive efficiency, achievement performance among X1 standard boys and girls. The major findings of study were

1. Achievement motivation was the most dominating influencing factors on academic performance followed by state anxiety and future time perspective.

2. Canonical values indicate linear relationship between scholastic performance and independent variables namely future time perspective, cognitive efficiency, achievement motivation and state and trait anxiety.
It was found that boys who were highly trait anxious were not good academic performers. Anxiety and cognitive efficiency had played a more significant role in case of girls whereas future time perspective and state played greater role among boys.

Newbegin and Owens (1996) conducted a study on self esteem and anxiety in secondary school achievement and examined 276 male students (aged 12 to 17) from to secondary schools in Australia to determine if a relationship exists between academic esteem, anxiety and academic achievement. Results indicate that academic esteem is positively related to academic achievement in mathematics and English. However, study state anxiety is negatively related to academic achievement. Academic esteem correlated significantly with all aspects of anxiety.

Allik and Realo (1997) studied intelligence, academic abilities and personality. From the study it was found that low intelligence persons use their intellectual abilities for seeking excitement and elaborating fantasies while high intelligence persons use their intellect for regulating and controlling their affective lives.

Del (1997) conducted a study on sex differences in academic performance and aptitudes for cognition. Sex difference was investigated in the different cognition capacities (imagery creativity and intelligence) and academic performance of 706 secondary school students. Girls scored significantly higher subjective imagery but not on creative perception or intelligence.

Eletcher (1997) studied state, trait and test anxiety and their relationship to assessment centre performance. Finding of study were

1. State anxiety was curvilinear related to several assessment centre performance measures, with low and high anxiety being associated with poor performance.
2. Test anxiety showed an adverse effect on performance in a numerical test and written exercise.

Minnalkodi (1997) studied the higher secondary school student’s achievement in zoology in relation to anxiety, achievement motivation and self concept. The major findings of study were

1. There was a significant difference between boys and girls on achievement scores, achievement motivation, but not on anxiety or self concept.

2. The rural and urban students did not differ on their achievement, but on anxiety, achievement motivation and self concept, they differed significantly.

3. The government and private school students differed significantly on their achievement, anxiety while they did not differ on achievement motivation and self concept scores.

4. As regards the educational level of parents, children who belonged to differing educational levels differed significantly on their achievement, but not on anxiety, achievement motivation and self concept.

5. Differing educational statuses did not affect the achievement, anxiety, achievement motivation and self concept of students.

6. Differing income levels of parents did affect the achievement levels of students and anxiety, but not achievement motivation and self concept.

7. There was a significant positive relationship among achievement scores, achievement motivation and self concept of students.

Shukla and Agrawal (1997) conducted a study on socio-economic status, intelligence, occupational aspiration, self concept and academic achievement of scheduled castes students. The major finding of study were
1. It was found that scheduled castes students were low for socio-economic as compared to non-scheduled castes students.

2. No significant difference was found between SC and non-SC students in their level of intelligence. The same pattern was observed for SC and non-SC boys and girls.

3. The boys of both, SC and non-SC had low level of self-concept as compared to their girl counterparts. SC boys were of low self-concept as compared to non-SC boys though no significant difference was found in the level of self-concept of SC and non-SC girls.

4. The level of occupational aspiration of SC students was lower as compared to non-SC students. The SC boys had low occupational aspiration as compared to non-SC boys, though no significant difference in the occupational aspiration level of SC and non-SC girls found.

5. The level of academic achievement of SC students was lower as compared to non-SC student. Boys, both SC and non-SC, had now low level of academic achievement in comparison to their girl counterparts.

Murthy (1999) studied the influence of academic anxiety on academic achievement of students studying in two management systems. It has been found that academic anxiety and academic achievement were inversely and significantly related. Boys and girls, irrespective of their management schools, did not differ, while the government and private school students, irrespective of sex did differ significantly in favor of the private school students.

Petrill and Wilkerson (2000) conducted a study on intelligence and achievement: a behavioral genetic perspective and examined the relationship between intelligence, standardized tests of intelligence, and academic achievement from a
behavior genetic perspective. Results suggest that genetic, shared environmental, non-shared environmental influences have an impact on intelligence and academic achievement. Behavioral genetic studies also suggest that the importance of genes may vary as a function of age. Other studies suggest that genes drive the correlation and that the no shared environmental drives the discrepancy between measures of intelligence and achievement. Implications for the identification of intellectually and academically relevant environmental influences are discussed.

Aluja and Blanch (2004) studied socialized personality, scholastic aptitudes, study habits and academic achievement. It was found that the scholastic aptitudes were most predictive variables of achievement, while the personality traits had a low direct contribution to academic achievement, although the students with higher scores on socialized personality traits showed better study habits than those students with lower scores on personality socialization traits. The relationship between personality and academic achievement seems to be mediated by study habits. Moreover, females obtained higher academic achievement scores than females. These differences could be explained by the facts that females showed a more socialized personality pattern and better study habits.

Meijer et al (2004) studied the joint contribution of sleep, intelligence and motivation to school performance. The relationship of chronic sleep reduction, eagerness, achievement motivation and intelligence with school performance demonstrates that the less chronic sleep reduction, greater eagerness, higher achievement motivation and intelligence give rise to a better school performance.

El-Anzi and Freih (2005) conducted a study on academic achievement and its relationship with anxiety, self esteem, optimism and pessimism in Kuwaiti student. The aim of study was to examine the relationship between academic achievement and
the variables: anxiety, self esteem, optimism and pessimism. The salient findings of
the investigation were the significant positive correlation between academic
achievement and both optimism and self esteem whereas the correlations were
negative between academic achievement and both anxiety and pessimism.

Abdel et.al (2006) conducted a study on sex difference on the standard
progressive matrices and in educational attainment in Kuwait and found that result fail
to support the theory that in traditions countries females have lower IQs and
educational attainments than males.

Wolgemuth et.al (2006) conducted a study comparing longitudinal academic
achievement of full day and half day kindergarten students and found that full day
kindergarten students demonstrated significantly higher achievement at the end of
kindergarten than did their half day kindergarten counterpart, but that advantage
disappeared quickly by the end of first grade.

Bal, Singh and Singh (2010) found that significance group difference among
the players of individual and team sports on achievement motivation whereas no
significance group differences among the players of the individual and team sports on
locus of control.

**Conclusion**
The reviews of research literature indicates that relationship studied in the earlier
studies do not show definite trend of relationship of academic achievement
motivation, academic anxiety, achievement motivation to non- verbal intelligence and
academic achievement. These variables might be inter-related. Therefore the exact
relationship of academic anxiety, achievement motivation, academic achievement
motivation to non-verbal intelligence and academic achievement has not been seen
because the effect of other related variables has not been partial out. Keeping these
points in view, the investigator felt it necessary to conduct a study in which
relationship of non-verbal intelligence and academic achievement to all these variables separately should be seen.

1-6 The Statement of the Problem

“A Study of Academic Anxiety, Achievement Motivation and Academic Achievement Motivation in relation to Non-Verbal Intelligence and Academic Achievement among Senior Secondary School Students”

1-7 Significance of the Study

Education is not merely the acquisition of knowledge but also includes proper utilization of knowledge for the improvement of quality of human life. Achievement motivation plays a very important or crucial role in the process of teaching and learning. It acquired extraordinary importance in the field of education. It is shown that if a student lacks an urge to achieve, his performance will be hampered. Needless to mention, if we are really interested to improve the quality of education in our schools, then we have to pay proper attention to harness the potentialities of our students by raising their level of achievement motivation and decreasing academic anxiety. The present study has been undertaken to study the relationship of academic achievement and non-verbal intelligence to academic anxiety, achievement motivation and academic achievement motivation. It is hoped that the results of present study will be of immense value for guidance workers, teachers and parents for raising the level of achievement motivation of students and ultimately their performance in different pursuit of life.

1-8 Research Questions

1. What is the nature of distribution of scores for senior secondary school boys on the following variables?
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
2. What is the nature of distribution of scores for senior secondary school girls on the following variables?
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

3. What is the nature of distribution of scores for total sample of senior secondary school students on the following variables?
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

4. What is the nature of relationship between scores for senior secondary school boys on the following variables?
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

5. What is the nature of relationship between scores for senior secondary school girls on the following variables?
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

6. What is the nature of relationship between scores for total sample of senior secondary school students on the following variables?
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

7. Do senior secondary school boys and girls differ significantly with respect to their mean scores on the following variables?
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
E. Academic Achievement

8. Do senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Anxiety?

9. Do senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Anxiety?

10. Do senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Anxiety?

11. Do senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Achievement Motivation?

12. Do senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Achievement Motivation?

13. Do senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Achievement Motivation?

14. Do senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Achievement Motivation?

15. Do senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Achievement Motivation?

16. Do senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Achievement Motivation?

17. Do senior secondary school boys exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Anxiety?

18. Do senior secondary school girls exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Anxiety?

19. Do senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Anxiety?
20. Do senior secondary school boys exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Achievement Motivation?

21. Do senior secondary school girls exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Achievement Motivation?

22. Do senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Achievement Motivation?

23. Do senior secondary school boys exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Achievement Motivation?

24. Do senior secondary school girls exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Achievement Motivation?

25. Do senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Achievement Motivation?

1-9 Objectives of the Study

The following objectives were laid down for the present study:

1. To study the nature of distribution of scores for senior secondary school boys on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence
   E. Academic Achievement

2. To study the nature of distribution of scores for senior secondary school girls on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence
   E. Academic Achievement

3. To study the nature of distribution of scores for total sample of senior secondary school students on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence
E. Academic Achievement

4. To study the nature of relationship between scores for senior secondary school boys on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

5. To study the nature of relationship between scores for senior secondary school girls on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

6. To study the nature of relationship between scores for total sample of senior secondary school students on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

7. To compare senior secondary school boys and girls with respect to their mean scores on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

8. To compare senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Academic Anxiety.

9. To compare senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Academic Anxiety.

10. To compare senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Academic Anxiety.

11. To compare senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Achievement Motivation.
12. To compare senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Achievement Motivation.

13. To compare senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Achievement Motivation.

14. To compare senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Academic Achievement Motivation.

15. To compare senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Academic Achievement Motivation.

16. To compare senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence with respect to their mean scores on Academic Achievement Motivation.

17. To compare senior secondary school boys exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Academic Anxiety.

18. To compare senior secondary school girls exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Academic Anxiety.

19. To compare senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Academic Anxiety.

20. To compare senior secondary school boys exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Achievement Motivation.

21. To compare senior secondary school girls exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Achievement Motivation.

22. To compare senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Achievement Motivation.

23. To compare senior secondary school boys exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Academic Achievement Motivation.
24. To compare senior secondary school girls exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Academic Achievement Motivation.

25. To compare senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement with respect to their mean scores on Academic Achievement Motivation.

1-10 Hypotheses of the Study

The following hypotheses are formulated which will be tested in the present study:

1. Senior secondary school boys differ in their level of:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

2. Senior secondary school girls differ in their level of:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

3. Senior secondary school students (total sample) differ in their level of:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence and
   E. Academic Achievement

4. For senior secondary school boys there is:
   A. Negative and significant relationship between Academic Anxiety and Achievement Motivation.
   B. Negative and significant relationship between Academic Anxiety and Non-Verbal Intelligence.
   C. Negative and significant relationship between Academic Anxiety and Academic Achievement.
   D. Positive and significant relationship between Achievement Motivation and Non-Verbal Intelligence.
   E. Positive and significant relationship between Achievement Motivation and Academic Achievement.
   F. Positive and significant relationship between Non-Verbal Intelligence and Academic Achievement.
   G. Positive and significant relationship between Academic Achievement Motivation and Non-Verbal Intelligence.
H. Positive and significant relationship between Academic Achievement Motivation and Academic Achievement.
I. Positive and significant relationship between Academic Achievement Motivation and Achievement Motivation.
j. Negative and significant relationship between Academic Achievement Motivation and Academic Anxiety.

5. For senior secondary school girls there is:
   A. Negative and significant relationship between Academic Anxiety and Achievement Motivation.
   B. Negative and significant relationship between Academic Anxiety and Non-Verbal Intelligence.
   C. Negative and significant relationship between Academic Anxiety and Academic Achievement.
   D. Positive and significant relationship between Achievement Motivation and Non-Verbal Intelligence.
   E. Positive and significant relationship between Achievement Motivation and Academic Achievement.
   F. Positive and significant relationship between Non-Verbal Intelligence and Academic Achievement.
   G. Positive and significant relationship between Academic Achievement Motivation and Non-Verbal Intelligence.
   H. Positive and significant relationship between Academic Achievement Motivation and Academic Achievement.
   I. Positive and significant relationship between Academic Achievement Motivation and Achievement Motivation.
   j. Negative and significant relationship between Academic Achievement Motivation and Academic Anxiety.

6. For total sample of senior secondary school students there is:
   A. Negative and significant relationship between Academic Anxiety and Achievement Motivation.
   B. Negative and significant relationship between Academic Anxiety and Non-Verbal Intelligence.
   C. Negative and significant relationship between Academic Anxiety and Academic Achievement.
   D. Positive and significant relationship between Achievement Motivation and Non-Verbal Intelligence.
   E. Positive and significant relationship between Achievement Motivation and Academic Achievement.
   F. Positive and significant relationship between Non-Verbal Intelligence and Academic Achievement.
   G. Positive and significant relationship between Academic Achievement Motivation and Non-Verbal Intelligence.
   H. Positive and significant relationship between Academic Achievement Motivation and Academic Achievement.
   I. Positive and significant relationship between Academic Achievement Motivation and Achievement Motivation.
j. Negative and significant relationship between Academic Achievement Motivation and Academic Anxiety.

7. Senior secondary school boys and girls differ significantly with respect to their mean scores on the following variables:
   A. Academic Anxiety
   B. Achievement Motivation
   C. Academic Achievement Motivation
   D. Non-Verbal Intelligence
   E. Academic Achievement

8. Senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Anxiety.

9. Senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Anxiety.

10. Senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Anxiety.

11. Senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Achievement Motivation.

12. Senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Achievement Motivation.

13. Senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Achievement Motivation.

14. Senior secondary school boys exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Achievement Motivation.

15. Senior secondary school girls exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Achievement Motivation.

16. Senior secondary school students (total sample) exhibiting high, average and low level of Non-Verbal Intelligence differ significantly with respect to their mean scores on Academic Achievement Motivation.

17. Senior secondary school boys exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Anxiety.
18. Senior secondary school girls exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Anxiety.

19. Senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Anxiety.

20. Senior secondary school boys exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Achievement Motivation.

21. Senior secondary school girls exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Achievement Motivation.

22. Senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Achievement Motivation.

23. Senior secondary school boys exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Achievement Motivation.

24. Senior secondary school girls exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Achievement Motivation.

25. Senior secondary school students (total sample) exhibiting high, average and low level of Academic Achievement differ significantly with respect to their mean scores on Academic Achievement Motivation.

1-11 Operational Definitions of Key Term Used

Certain key terms were used in the present study quite frequently. The operational meanings of these terms are given as under.

**Academic Anxiety:** Academic Anxiety refers to the score obtained by the sampled senior secondary school students individually on Academic Anxiety Scale for Children by Dr. A.K. Singh and Dr. (Km) A. Sen Gupta (1986).

**Achievement Motivation:** Achievement Motivation refers to the score obtained by sampled senior secondary school students individually on Costello Achievement Motivation Scale adapted by O.P. Misra and S.K. Srivastava.
**Academic Achievement Motivation:** Academic Achievement Motivation refers to the score obtained by sampled senior secondary school students individually on Sharma Achievement Motivation Test by Dr. T. R. Sharma (1984).

**Academic Achievement:** Academic Achievement refers to the score obtained by sampled senior secondary school students individually on annual achievement record in class X.

**Non - Verbal Intelligence:** Non - Verbal Intelligence refers to the score obtained by the sampled senior secondary school students individually on Standard Progressive Matrices by Raven, Court and Raven (1977).

**Senior Secondary School Students:** Senior Secondary School Students in the present study was meant the students studying in Class X in Government Senior Secondary Schools situated in District Kangra of Himachal Pradesh.

**1-12 Delimitation of the study**

In view of time constraint, the present study will be delimited in the following aspects.

1. Out of twelve districts in the State of Himachal Pradesh, only one District i.e. District Kangra was taken in the present study for data collection.

2. There are 150 Government Senior Secondary schools in District Kangra of Himachal Pradesh. However, the study was restricted to only 20 schools.