CHAPTER I

INTRODUCTION
CHAPTER I

INTRODUCTION

The present study was undertaken with a view to study the influence of family and peer group on the vocational interests of the gifted adolescents identified from different school environment. Though from the times of Plato and Aristotle, recognition of gifted had started, yet little work was done on different aspects of the gifted adolescents before the nineteenth century. But in 1869 with the publication of Galton's book on 'Hereditary Genius', the researchers became interested in exploring the area of gifted individuals scientifically. A lot of work, on different fields of the gifted individual, has been done since 1869. However, in India, the research on gifted individuals has been still in its rudimentary stage. More studies on the gifted are, therefore, needed.

India, a dynamic and a developing country, is seriously concerned about promoting and utilizing the nation's intellectual resources. Its progress is dependent on the fuller development of the human talent. Hence identification and training of the gifted individuals are of utmost value to the progress and prosperity of this nation.

It being a democratic country has to provide equal opportunities of education and training to all its children.
It is, therefore, essential that public money is spent for all children equitably. Any special treatment of the intellectually superior is considered undemocratic. Hence, no proper arrangements are made to meet the extraordinary potentialities of these children. As a consequence of this situation, these gifted children seem to be neglected and frustrated. This results in a huge national waste of talents and a consequent dearth of leadership. It is because of this realisation that in the report of the Education Commission (1966) it was mentioned that "a dearth of competent and trained manpower is now felt in nearly every branch of national life, and is probably one of the biggest bottlenecks to progress. Poor as we are financially, the poverty of trained intellect is still greater. We might do well to remember Whitehead's warning: in the modern world the rule is absolute - any race that does not value trained intelligence is doomed".

It may be emphasized that the gifted children are assets and responsibilities. They are assets of incalculable value to society. During these modern centuries of democratic set-up our socio-economic structure, both national and international, demands leadership of the highest quality and keenest intelligence, in the words of John Dewey (1933), "If democracy has a moral and ideal meaning, it is that a social return be demanded from all and that opportunity of distinctive capacities be afforded to all."
There is nothing undemocratic in utilizing all social sources for the betterment of society. No people can afford to disregard the differences in human materials. Special education aims to prepare the child of low mental ability for his proper place in the society. It is none the less important that the child of superior mental ability be prepared for social leadership."

Today, there is a growing consciousness in developed nations to build up with utmost care, plans and programmes for talented children, lest the nations get impoverished as a result of misuse or destruction of the talents. This has been the concern expressed in the first world conference on gifted children held in London in 1975. In India also the Kothari Commission (1966) has rightly pointed out that every little of available talents should be discovered and developed. The Commission stressed the need for locating the talent early and then allowing it to grow in the best atmosphere. It is essential for the teachers, educationists, counsellors and parents to identify the talented and the bright in every school. Then these may be offered the best opportunities to grow as a person and as a professional. For becoming efficient professionals, their vocational interests need to be identified and various influences on their emergence are properly investigated.

The present study was undertaken to meet the above mentioned needs.
CONCEPT OF GIFTEDNESS

Various terms have been used to describe unusual children: child prodigy, precocious, gifted, highly talented, genius and creative. Although the term "gifted child" did not come into public use till 1917 or 1918 yet its reference was available in many reports as early as 1912 and 1913. In his early writing, Hollingworth (1926) used "prodigious child", Terman (1925) used the term "bright" to define mentally superior children; later on he used the term "genius" to designate the most highly endowed intellectually. Today the term "genius" is generally used for adults who have made original contribution of unusual distinction. The terms "mentally advanced" or "mentally accelerated" have been used for bright children.

The German adjective, 'begabten', referring to intellectually gifted children as well as to the talented, began appearing in foreign literature about 1905. Terms the Gutbegabten, the Mittelbegabten, and the Schwachbegabten were given by Dr. William Stern (1928) for school children of high, average and low mentality. In the Soviet Union these children are appropriately referred to as "eagles". The French word bien doué applied to gifted children has come into existence within recent years. The term "talented" is not only for those with specialized talents but is also used in describing all sorts of gifted children generally though it has always had a little different meaning from gifted.
"The most accepted view is that the giftedness in young people is primarily a matter of special talents; the gifted child is one who is "specially talented" in music or art, in dancing or dramatics, or in a particular school performance, as in the case of a child who can do complex mathematical computations." (Hildreth 1966). The studious child who is absorbed in his books or the lonely young student interested in literary composition or maps is not less likely to be thought of as "gifted". The idea that the gifted are those who have special talents is more acceptable to most of the people than the concept of giftedness as all-round intellectual superiority. The term "special talent" would include more of those who are "not so bright".

Now the problem is - what is an acceptable definition of the giftedness? Is the gifted child one who is accelerated in an all-round mental development or whose school achievements are extraordinary as compared with his classmates; especially in an academic field? Does it refer to those who show special talents at an early age in dancing, music or art? Or is the gifted child one who exhibits creative abilities?

Previously the gifted child was considered gifted if his level of cognitive development was advanced beyond children of comparable age as measured by the standard tests. All the experimental work during this period has been based on I.Q. or in terms of rank on the intelligence test. The advantage
of the definition is that it is based on clearly defined and measurable criteria. But the research workers have adopted different standards of I.Q. as the lower limit or the cut off point for selecting the gifted children.

Holilngworth (1926) and Coy (1923) restricted their experimental classes to those children who had I.Q. 130 and above. Goddard (1928) used an I.Q. of 120 as low limit for selecting the gifted children. The Hunter College Elementary School (1941) and Baker (1955) also employed the method of 130 I.Q. or more for selecting such children. Bentley (1937) used 110 I.Q. for research purpose. Hollingworth (1942) considered those individuals as genius who have an I.Q. of 180 and above. Some of the research workers suggested that the children with special artistic and mechanical talent should be included among the gifted.

According to Wali (1960) an I.Q. of 110 to 115 distinguishes the mentally gifted child from the average, whereas at the university level, an I.Q. of 120 to 125 is adopted. Thus the I.Q. of 110 and above is the most commonly stated figure as the minimum for the classification of the bright.

These definitions based on I.Q. were criticized because, the I.Q. obtained on the basis of intelligence tests pertains only to mental functioning and conceptual thinking. The present standardized tests measure only a few of the fifty or
more dimensions of the mind. The capacities of extraordinary children can hardly be encompassed by the definition based on the high I.Q. Nowadays the trend is toward a broader definition of the gifted, based on the multi-dimensional traits, elastic concepts of unusual ability and superior capabilities; including creativity and original thinking and more understanding. In 1940, a conference on the gifted children held at the Teacher College, Columbia University, described that "we may define the intellectually gifted child as one who excels markedly in ability to think, judge, reason, invent or create".

Giftedness is characterized by an inherited or spontaneous appearance of a potentially creative predisposition to psychological or psychomotor performance in diverse areas and at a degree of intensity. A hierarchy of giftedness exists through an ascending order from ability to reproduce artistic creations of others; to combine existing components into new synthesis; to interpret creative work of others and finally the ability to invent things.

The most popular definition in vogue these days was given by Paul Witty (1940) more than two decades ago. He defined the gifted as one "whose performance is consistently remarkable in any potentially valuable areas of human activity". This definition has broader meaning as compared to the definitions based on limited test scores, it includes the talented as well as intellectually superior individuals.
Sumption and Luecking (1960) described giftedness in intellectual terms .... "The gifted are defined as those who possess a superior nervous system characterized by the potential to perform tasks requiring a comparatively high degree of intellectual abstraction or creative imagination".

DeHaan and Havighurst (1961) prefer to include all sorts of outstanding talent and aptitudes in their definition: "Gifted children are those individuals from kindergarten through high school age who show unusual promise in some socially useful area and whose talents might be stimulated". In Portland (1959) the definition of the gifted was broadened to include creative talent in art, music, dramatics, dance, social leadership and mechanical ability.

Mental giftedness has been defined statistically in the terms of the percentage of individuals who range above average on standard intelligence and achievements derived from the frequency curve of distribution of abilities. According to this criterion, a mentally gifted child is one who deviates to a substantial degree in a plus direction from the average of his age group. In the early period, Terman (1916) Hollingworth (1926) and others preferred to describe those children as gifted who were in the top centile of the distribution curve. A conference on the gifted children held at the Teacher College, Columbia in 1940 also agreed with this statistical criteria.

Laycock (1957) advocated 5 per cent of the child and youth population as mentally gifted. Comant (1959) mentioned
15-20 per cent of the Secondary School population i.e. almost 3 per cent of the population of the United States. DeHaan and Havighurst (1961) defined the most extremely gifted or the "first order" of giftedness as 1/10 per cent of the general population. Dunlap (1958) mentioned 5 to 10 per cent of unselected school children. Peynato and Birch (1957) set the degree of ability at a level usually found in the top 1 per cent of the population.

Ruth Strang (1958) has observed four concepts of giftedness: as part of the individual's total development, as many sided, as existing in different degree, and as a progressive development.

One characteristic of the total development of the child is giftedness. It is also related to all the other aspects of his growth. The gifted child is different from the average child in certain ways at every stage of development and at no age is he completely different. As one wise mother said, "I know my child is gifted, but he is, first of all, a child".

Giftedness is many-sided and many patterned. Among the intellectually gifted, we find persons talented in many fields. Different patterns of personality have been noticed among children with different kinds of talent - scientific, musical, leadership qualities. Giftedness may take many forms, depending upon the circumstances.

Gifted children are far from being a homogeneous group; there are wide individual differences among children designated
as gifted. Giftedness exists in different degrees; it may be described as a continuum ranging from small talent to the highest level of genius.

Giftedness is progressive from birth to maturity. On the one hand, it is continually elaborating itself as the child responds to his environment and on the other, it may be blighted by extreme deprivation of love, by lack of intellectual stimulation or by limited opportunities for social relationships. Truly gifted children may be expected to maintain their initially high level of spontaneity, originality, creativeness, and achievement under favourable conditions.

Since there are many facets of the giftedness, it is necessary to have some understanding of the nature and significance of each.

**INTELLECTUAL ABILITY**

An outstanding manifestation of the giftedness is intellectual ability having several aspects. One aspect is the ability to use words, to comprehend their meaning, to read and to write effectively. Another is the ability to use numbers, to compute rapidly and accurately, to remember and to reason inductively. Intelligence, or intellectual ability, is basic to other talent, such as those in fine arts, social leadership, science and mechanics. It is seldom, for example, that a person highly talented in the fine arts is not above average in intellectual ability.
CREATIVE THINKING

This is another important aspect of the giftedness. It is a complex talent made up of many abilities, such as the ability to recognize problems, to be flexible in thinking, to invent and originate ideas or products, and to find new uses for old objects and materials.

SCIENTIFIC ABILITY

Scientific ability is not primarily a mental ability in itself but is a compound of many skills and attitudes. Some of them are skill in using numbers and algebraic symbols, ability to reason arithmetically, curiosity about the natural world and an ability to use a particular kind of thinking called scientific method.

SOCIAL LEADERSHIP

Another aspect of the giftedness is social leadership ability - the ability to help a group to reach its goals, to improve human relationship within a group, and to achieve prominence by individual effort. Children with such an ability will take their places in the adult world in a few years to fill positions of leadership in business and industry, labour unions, professional organisations, community groups, government and international agencies.

MECHANICAL SKILLS

These might be called the "craft skills". These are
closely related to the fine art and to the scientific and engineering talents. This category includes manipulative skills, spatiality, ability, and ability to perceive a visual pattern, details, similarities and differences.

TALENT IN THE FINE ARTS

Artists, writers, musicians, actors and dancers produce forms, colours, patterns, and symbols which are aesthetically satisfying to many people.

A gifted child usually has a cluster of superior abilities based on his intellectual ability. For example, he may be well in all academic areas but particularly well in reading, language and in areas requiring abstract thinking of verbal ability but he is not equally superior in all areas.

In summarizing research on the gifted and the talented over a period of six years, Fliegler and Bish (1959) took the position that:

"The term gifted encompasses those children who possess a superior intellectual potential and functional ability to achieve academically in the top 15 to 20 per cent of the school population; and or talent of high order in such special areas as mathematics, science, expressive arts, creative writing, music, and social leadership; and a unique creative ability to deal with their environment".

From the above discussion it may be clear that most of the psychologists, educationists and workers in the field of guidance tend to accept such a broad concept of the gifted that includes not only intellectual ability as measured by the
traditional intelligence tests but many other special abilities. For the present investigation the term gifted was applied to those who show superior intellectual ability as well as superior creative ability as measured by the intelligence test and creative thinking test.

HISTORICAL BACKGROUND

Historically the recognition of the gifted goes back to Plato and Aristotle. This can be proved from his remarks in his Republic that children of labourers or artisans be elevated to the rank of magistrates or warriors if they came into the world with a "Vein of gold or silver". In other words, Plato suggested that "promising juveniles be watched from their youth upward and make them to perform actions in which they are most likely to forget or to be deceived and he who remembers and is not deceived is to be selected and he who fails in the trials is to be rejected that will be the way". Hence he talked about the I.Q. and the giftedness while using these words. Sumption (1941), Stimpson (1945) and Isaacs (1962) also gave examples of recognition in other periods of history. The reflection about this problem is also found in the Bible. Romans later adopted some of the ideas of Plato and gave special training to the superior youths so that they might become leaders in war, in oratory and of the government. In the 15th century, Turkish Sultan sent emissaries throughout the empire to select the fairest, the strongest and the most intelligent boy without (social) class consideration. In the
16th century this trend was adopted by Suleiman the magnificent. But the later centuries generally witnessed a scant and disorganized interest in analysis of this field. Naturally this has resulted in no definite concept or theory or interpretation of the giftedness and its use in a society. One reason for this had been the lack of uniform criterion of superiority. This very concept of criterion of superiority had been changing with the change of times. While birth was the main factor at one time, wealth and power at another time, it was only two three centuries back, that the intellectual superiority took the place of honour. 19th century America came out as the first country to recognize the importance of the gifted for a nation or a country. "Education for the bright pupil" was the first field of attack. According to this a multiple track system was introduced in 1866 which permitted the bright pupil to advance more rapidly than the average ones. In other schools, promotional system was introduced in 1867. By 1900 other cities had also started some kind of provision for superior children. Special classes in 1920 and acceleration or enrichment also came into existence in 1930.

Though, up to 1900, work on the gifted had started yet it was inadequate. Moreover, not much was known about the 'Gifted' himself. This side of the problem was attacked in England in 1869 with the publication of Galton's book Hereditary Genius for the first time. This book attracted
the public towards the gifted, and the educationists of America were also influenced by it. Terman (1925) believed that this book marked the beginning of an era of strong interests in the individual differences. Perhaps this was the time when for the first time, in the history, the problem was being so dealt scientifically. This scientific approach to this problem was the result of the growth of disciplines like biological genius, psychological identification and factors of heredity and environment. Influences of social forces and possible utilization of these potentialities can now be investigated more fruitfully. In 1905 at Galton's inspiration, the anthropological section of the British Association appointed a committee to accomplish an anthropometric survey including mental and physical measurements with special attention to the study of subnormal and supernormal children of school age in British isles. From 1910 onward, German psychologists and educationists showed increasing interest in the intellectually gifted students and their social career. Efforts towards it were stopped due to the War in 1915. Burt (1962) organized a series of surveys in London schools. Parkyn (1962) did the same in Newzealand. Terman et al (1925) started the same type of inquiry in different schools of California. Throughout the history, interest of the public in the gifted was there but no psychological research was done in this field till the last
decade. Terman et al. (1925) gave the following reasons for it.

In recent years, quite a large number of books came into existence which paved a way for more researches. Under the editorship of Paul Witty, the American Association of the Gifted Adolescents brought about a book The Gifted Child (1951). Similarly, authors like Cutts & Moseley (1953), Laycock (1957), Abraham (1958), Brumbaugh & Rosach (1959), Strang (1960), Getzel and Philip (1962) have written many books. Before them, Terman and others (1925) gave their first volume of Genetic Studies of Genius Mental and Physical Traits of Thousand Gifted Children. Cox et al. (1926) produced the second volume entitled The Early Mental Traits of 300 Geniuses. Terman in 1930 brought out the third volume The Promise of Youth, Hollingworth wrote Gifted Children their Nature and Nurture in 1926 and published another book Children Above 180 IQ 1942. The authors like Isaacs (1959, 1960 and 1962), Shertzer (1960), Kough (1960), Sumption and Luecking (1960). French (1959), Terman and Oden (1947, 1959), Havighurst, DeHaan and Stivers (1955) have also contributed a lot to this field. National Society for the Education has also published a number of yearbooks. One yearbook was published in 1962 under the editorship of Bereday and J.A. Lauweys. These research books paved the way for more researchers on this field by educationists and
psychologists. But, it would be better if these researches are organized and supported by persons of influence both within and outside the teaching profession.

Modern study of the gifted includes many different types of unusual children with all sorts of special abilities, talents as well as creative tendencies. Maximum attention has been given to the background factors also as determinant of achievement, interests, ambitions. Research on creativity and divergent behaviour has been moving forward at a rapid pace. Space studies have explored the nature of creative talent, measurement of creativity and invention as well as the educational factor that foster creativity and divergent thinking. Maximum attention has been given to a problem, the resources of specialized manpower and fullest conservation of potential for creativity and leadership. A committee was appointed by the Associated Research Council to plan and conduct a series of inquiries for national supply of natural scientists, social scientists and members of other professions. Hence talent research programmes are widely supported for identifying promising young people with high academic aptitude.

Since 1965 research related to the gifted has indeed shifted dramatically from a concern for the gifted child to a concern for the creative process. Parnes and Brunelle's (1967) research literature on creativity and giftedness during
the year prior to Guilford's books equalled the amount reported during the previous decade. The research review offered by Gallagher and Rogge (1966) analyzed the 1963 to 1965 period and cautiously predicted a research trend which has been fulfilled in a remarkable way. According to them "One current emphasis seems to be on exploring the nature of creative thinking and the possibility of expanding the concept of superior intellectual ability itself". Hoffinger (1968) confirmed that the research on the gifted published in professional journals from 1961 to 1966 changed its emphasis from the gifted child studies in 1961 to the creative studies in 1966. In the present study the investigator identified the gifted on the basis of intellectual ability and creative ability by administering the standardized tests.

IDENTIFICATION OF THE GIFTED

More than twenty four centuries ago, Plato pleaded for the identification of the able to act as the guardian of his ideal state. Efforts to identify the talented started from two assumptions:

1. The emergence of talent is not inevitable.

2. The assessment techniques and procedures exist to uncover great potentials for attainment of individuals who will not profit from custom tailored experiences. Due to different approaches to giftedness different methods and procedures came into existence. The
intelligence test was the result of researches on General Mental Ability. DeHaan and Havighurst's (1957) work on "Special Abilities" birth to the 'Aptitude Test'.

Carroll (1940) criticised the 'Report of Parents' on the basis of unreliability. Similarly 'Reports of Teachers' has been criticised by Terman (1951), Lewis (1943, 1945), Henderson (1947), Bristow (1951), Goertzel and Goertzel (1957), Pritchard (1952), Peggato and Birch (1959) and Gesell (1921). Terman and Oden (1947) considered 'Age grade status' of the gifted as one of the useful criteria for identification of the gifted. Only this method is thought to be helpful in the field of acceleration. The method of 'School Accomplishment and Achievement test' was found inaccurate by Terman and Oden (1947). Hence standardized Achievement Tests for this purpose were devised. Such tests include group intelligence tests, vocational aptitude tests and academic achievement tests.

MENTAL TESTS

Mental tests are based on individual differences to acquire, arrange and use facts as objectively as possible. The intelligence test scores are - a numerical appraisal of mental abilities required for performing a task that depends on the exercise of intelligence. Bristow et al (1951) and Terman (1951) thought that with the revolution in
the field of education by Binet's test, the psychological study of the gifted was undertaken. Burt (1962) while writing about reliability of these tests, reported it to be between 0.90 and 0.95 and their validity coefficients were also above 0.90.

Though these tests will not pick out all the mentally gifted in a group yet they are considered to be the most effective, scientific and systematic. In the present investigation too the identification of the gifted has been done with the help of intelligence tests and test of creative thinking which is also a mental ability.

Gallagher (1960) notes that a few complaints that are heard are concentrated on the limitation of the I.Q. tests in assessing special talents, such as art, music and dramatic abilities. These tests were criticised on the basis of emphasis on convergent converging thinking by Guilford (1960), Thurstone (1952), Getzels and Jackson (1958) 1960) Taylor (1959) and they criticised that these tests are the invention of the western society. Smillie (1959) criticised them due to over-emphasis on traditional academic values. Taylor (1959) also gave the same ideas.

That is why now different tests were used to identify the gifted children. Belinger and Stafford (1969) identified the creatively gifted students with the help of California Test of Mental Maturity and Torrance Test of Creative Thinking.
Kaufmann (1973) identified the gifted by using Otis Lennon Intelligence Test, California Test of Mental Maturity, a Teacher Judgement form and Kaufmann critical observation Scale. Gene-Viene (1975) and Priscilla (1975) identified the gifted students with the help of non-verbal tests of Intelligence and Creativity.

Weiskopf (1979) identified the gifted and the talented through peer nomination techniques. Janine (1977) made four groups on the basis of cognitive ability test, Torrance test of creative thinking with pictures test and Renzulli scale for rating behavioural characteristics of superior students.

Atkinson (1980) used Teacher Check List, the School Personnel Response Form, Staff Nomination, Peer Nomination, the Guess Who? Form; Group I.Q. Test, the Cognitive Abilities Test, Non-verbal I.Q. Scores and Group Achievement Test; the Iowa Test of Basic Skills, Subtests Scores for Vocabulary, Reading Comprehension and the Math Composite.

Patricia (1983) used Cognitive Level and Reading Achievement for identification of the gifted.

In India, Bhatia (1966) identified the gifted children by using intelligence test and according to the academic achievements based on teacher's judgement. Four verbal and three non-verbal tests, Raven Progressive Matrices and Scholastic Aptitude tests were used by Vijaya (1968) to show the gifted. Deo (1969) used Jalota Test of Intelligence,

CREATIVITY AND INTELLIGENCE

The concept of giftedness is not fixed potential measured only by I.Q. tests. Instead giftedness appears to be multi-dimensional hypothetical construct determined by the interaction of an individual's observable genetic and environmental factors. According to Janine (1977) "whatever, procedure are used to identify or plan an educational program for a gifted child they must be based upon a broader interpretation of giftedness to include unusual creative and leadership attitudes and skills".

Are intelligence and creativity two different frames? Is the presence of contradictory evidence of research, the answer to this question does not seem to be categorically distinct. Guilford (1950), Getzels and Jackson (1962) and McNemar (1964) cast doubts about the possibility of expecting high correlation between creativity and intelligence. Findings of Getzels and Jackson (1962) confirmed this doubt. They reported positive but low correlation .132 to .378 between measures of creativity and intelligence.
As early as 1899, Dearborn while studying the imaginative responses of Harvard students found low correlations between measures of productive imagination and intelligence. Inconsistency in logical power and original responses on the one hand and intelligence on the other was perceived by Colvin and Meyer (1906). Chassell (1916) working with a number of tests involving both convergent and divergent type of thinking found that performance on the I.Q. test has relatively little relation to performance on the creativity test. Simpson (1922) recommended measures to supplement the information of creativity with general intelligence in order to have more comprehensive evaluation of an individual's worth. Earlier Andrews (1930) made a mention of the correlation equal to .15, .02, .03 between intelligence scores and three imagination test scores taken by the preschool children. A correlation of .27 between originality and Wonderlic Intelligence Test was found by Welch (1946), McCoy and Meier (1939). Low positive correlation between different measures of creativity and intelligence was reported by Meier and Stein (1955), Phatak (1962), Ripple and May (1962), Torrance (1962), Altenhaus (1964), Richards et al. (1964), Seitz (1964), Woitke (1964), Copley (1965), Hudson (1966), Madans (1967), Flescher (1963) make a mention of negative low correlations between some measures of creativity and measures of intelligence.

The existence of distinct factors of creativity and intelligence, beyond the domain of correlational studies
was empirically demonstrated through factor analytical approach by Guilford et al. (1951, 1952), Wilson et al. (1954) and Cropley (1960). In contrast to the low correlation between creativity and intelligence, Ketcham and Kheiralla (1962) found fifty-four out of the sixty-four correlations between the scores on Wisc Stanford Binet and PMA Test on the one hand and scores on a battery of creativity test on the other hand to be significant beyond .05 level.

According to Taylor (1964), Vernon (1964) and Yamamoto (1965) creativity and intelligence become independent of each other only when some critical level of I.Q. has been exceeded. Barron (1969) found that specific minimum I.Q. was probably necessary for certain intrinsically creative activities but beyond that minimum I.Q. which often was surprisingly low, creativity had little correlation with scores on the I.Q. tests. "Ripple and May (1962), Guilford and Hoepfner (1965), Hadeus (1967), Cave (1970)," Schlicht Jr. et al. (1968), Callaway (1969), Carlier (1970), Brunelles and Feldman (1970) and Pappovova (1971) have used similar approaches and found low correlations with intelligence. " (quoted from Sharma 1979).

Taylor and Holland (1962) found positive but low correlations .20 to .40 between creativity and intelligence in many investigations but no correlation was found at higher ability level. Torrence (1967) has summarized all the available evidence on the question of relationship of creativity with intelligence by tabulating 178 correlation co-efficients reported in literature.
This tabulation showed the median correlation to be .20. Relationship at three levels of the I.Q. in three diverse populations was done by Dacey and Madaus (1971). They found the highest of the nine correlations to be equal to .57. When opportunity was held constant by Meer and Stein (1955) they found that the I.Q. beyond a percentile of ninety-five was not significant for the creative work. On the basis of summary of many studies, Barron (1961) summed up that beyond a threshold I.Q. of 120, any increase in intelligence is unimportant for creativity. Mackinnon (1960) and his associates found that the creative person was intelligent, but the level of intelligence does not determine the quality of a person's creativity. Kazalskis et al. (1973) found average correlation of .46 between all creativity and intelligence tests.

Hasan and Butcher (1966) put an altogether different situation in which a correlation as high as .74 was reported between intelligence and creativity for Scottish children. Correlation of .60 for an Australian sample was also found by Ginsberg and Whittemore (1968), in 1969, Dacey, Madaus and Allen attributed the phenomenon of high correlation between the intelligence and creativity. Wallach and Kogan (1965) found the scores of uniqueness and those of originality and fluency similar to those by Guilford (1951,52) and by Torrance (1962) on the basis of their own tests. They concluded that creativity possessed an internal consistency but was independent
of intelligence. Ward (1967) with the help of oblique rotation supported Wallach and Kogan's point of view and in addition maintained that creativity itself possessed multifactor structure. Madaus and Allen (1969) employed the varimax rotation and supported the views expressed by Wallach and Kogan (1965). As against these studies, Thorndike (1963) and Marsh (1964) separately factorized the correlation matrix reported by Getzels and Jackson (1962) and failed to obtain a separate factor of creativity. Similarly, Burt (1964), McNemar (1964) doubted the existence of a construct of creativity completely independent of intelligence. Hudson (1966) in England, employed similar method with one exception that his group was based on scores than the I.Q. level as used by Jackson & Getzel (1962) who found creativity and the I.Q. test correlations to be .20 to .30.

These diverse evidence presented by various correlational and factor analytical studies as cited above make it clear that there is no unanimity regarding the relationship between creativity and intelligence. Therefore, it is essential to probe this vital problem further by conducting scientific studies in different cultural set up especially under the Indian conditions which are important for the present investigation.

INTERACTIONAL STUDIES

The achievement of highly creative and highly intelligent
students was studied by Getzels and Jackson (1962) by sorting out (1) a highly creative group comprising 20 per cent on the measures of creativity but falling below top 20 per cent on the intelligence test. (2) Highly intelligent group representing 20 per cent on intelligence test but below top 20 per cent on creativity measure. These two experimental groups were found to be significantly better in achievement than the total parental sample to which they belonged. The findings reported by them further speak of difference between mean achievement levels of highly creative group and highly intelligence group. Torrance (1960) replicated the same research design followed by Jackson and Getzel. Jackson (1962) with eight different samples supported their findings in six of the samples. Yamamoto (1960) also reported similar results and maintained that in spite of a difference of twenty-six points in the mean I.Q. of highly intelligent and highly creative group there was no statistically significant difference in the achievement of these two groups. Rambo (1964) found highly creative students similar to the low creative students in their grade point average. Rambo (1964) Althenhaus (1964) modified the above cited research designs and worked with double talented group of highly creative and intelligent subjects and demonstrated that the achievement of this group was better than the achievement of single talented group of highly intelligent and highly creative subjects. Anastasi and Shaefer (1971) in a study over 989 students from 10 to 12 grades, using Guilford Test of Alternate Uses and Consequences found significant inter correlation with I.Q. and indicated that the I.Q.
and the creativity are broad, loosely defined concepts which describe a multiplicity of interrelated traits. Hednick (1963) found a correlation of .41 between RAT test scores and the I.Q.

A special relationship has been reported by Kogan and Pankovce (1972) when they studied some 16 males and 15 females at 5th and 10th grades (after 5 years). In fifth grade their creativity and intelligence do not show any correlation, but at the 10th grade boy's data showed significant positive correlations whereas girl's data did not. Sharma has referred to the following studies in his book Dynamics of Creativity (1979).

In some Indian studies, correlation between verbal test of intelligence and verbal creativity had gone as high as .44 with both Indian tools on the urban sample and .51 on the rural sample (Sharma 1972), and as low as .194 with Indian verbal Baqur Mehdi Creativity Test and Non-verbal Raven's APQ, and .131 with Indian Non-verbal Baqur Mehdi Creativity Test and Raven's APQ on a rural sample (Kam, 1974). Correlation of .176 and .159 respectively was found on urban samples with Kohsion's verbal test of Intelligence and Mehdi's Verbal and Non-verbal test of Creativity Thinking. The high correlation reported above has been explained as a result of general factor of verbal component in both the tests of creativity and intelligence.

Patel and Joshi (1978) found positive and significant correlation ranging from .12 to .201 in cases of both 935 and 35 subjects. Singh et al. (1978) found correlation between
composite creativity and intelligence to be +.188. Vijaya (1963) found positive and significant correlation between creativity and intelligence.

**Characteristics of the Gifted**

A number of studies on the gifted have been carried out which have examined their characteristics. Though the gifted represented an unlimited variety of patterns here yet only those which are emblematic of the gifted have been described briefly.

Heredity is a great determining factor of innate ability and environment helps in giving an opportunity to develop this ability. Galton (1874), Terman (1916), Scheidegger (1931) found that the superior mental ability was hereditary. Clark (1916), Cattell (1921), Hollingworth (1926), Barbe (1956) and Parkyn (1962) showed that the source of intellectual ability was primarily due to professional classes.

The surveys done on the physique of the gifted by Galton (1874), Terman (1925), Hollingworth and Taylor (1924), Burt (1962) and Scheifele (1953) showed that they were of superior physique. The research done on the age of walking and talking of the gifted by Terman (1919), Mean (1916), Hollingworth and Taylor (1924) and Burt (1962) showed that superior learn to talk and walk much earlier than the average children. Hollingworth and Taylor (1924), Terman (1925), Scheifele (1953) and Burt (1962) showed that superior group had a correlation of height and weight.
Galton (1954), Hollingworth (1926) and Taylor (1952) showed that physical defects both major and minor as well as physical anomalies were not common amongst the gifted unselected group. Later Hollingworth (1926) found that "they tend to be tall and heavy and maintain high ratio between weight and height. In so far as this weight ratio indicates nutrition, they are very well nourished as a group".

Galton (1874) and Terman (1947) further say that the gifted have lower mortality. According to Terman their insanity rate was also slightly lower than the rate given for generality by Pallock (1941). Terman (1947) and Scheifele (1953) found that the gifted show relatively less nervous disorders as compared with others.

As far as educational attainment of the gifted was concerned Terman (1919), Lewis (1957), Hollingworth (1926), Witty (1940), Burt (1962), Parkyn (1962) and Scheifele (1953) showed that the superiority of the gifted was very high in all fields tested at all ages and with both sexes over unselected children. The superiority of the gifted was found to be greater in reading language, usage, arithmetical reasoning, science, literature and arts. The gifted child's achievement had been affected little by regularity of attendance.

Intelligence is the only determinent factor of man's behaviour. The bright children are often found to be lacking in intelligence in the matter of adjustment. For good adjustment, it is essential to curb the natural tendencies and to form a
character which according to Scheidemann (1931) is final set of habits formed to meet life's problems. To determine the emotional and moral characteristics of the gifted group Terman (1925) gave a battery of seven character tests to the control group and unselected group aged 7 to 14, 10 to 14 respectively. Cody (1923) and Hanbenheimer (1925) selected the tests of trustworthiness, honesty, modesty, moral adjustment and emotional stability. The study showed that the gifted child of 9 years has reached a level of character development corresponding to that of a unselected child of 14 years. The gifted girls made better superiority average scores than the gifted boys. According to Hartshorne and May (1928), Hildreth (1933), Finch and Carroll (1932), Davidson (1943), Maghee and Lewis (1942), intellectually gifted children showed superiority in character and personality. Terman (1925) while studying various traits of gifted children asked the parents and teachers of 600 gifted and 500 unselected children to rate their children on twenty-five traits falling in seven groups. Parents and teachers agreed regarding the traits on which the gifted were most or least superior to average children. The agreement was striking with respect to the traits of character and personality.

Hildreth, Brumbaugh and Wilson (1952) found these children (mean I.Q. 151.9), generous and more self-critical than egocistical. Scores on California personality test showed group medians above the norms for average population. Brumbaugh (1953)
found that these children have to be encouraged many times because of deflated ego. Brandwein (1955) revealed that gifted were quiet, reflective, inward looking, reading various books and conservative in dress, seldom elected to office and had a strong tendency for social work. Goddard (1928) found no signs of snobbery in them and compared themselves with eminent women about whom they read. They usually under-estimate than over-estimate their abilities and they have fears of social inadequacies. Strang (1950) found that in school situation the gifted were found to have a feeling of inadequacy. They are emotionally more stable as compared with the children in general. They have certain problems of adjustment and special tensions which vary according to their range of intellectual ability. Terman et al (1925) found that they scored high on the test of emotional traits. The proportion was 67% per mean for emotional traits and 57% per mean for social traits. Lewis (1957) also found the same type of results. Hartshorne and May (1928) found in their experimental study that most intelligent children were more stable emotionally than the control group.

Apart from these traits some other traits have also been studied by different investigators. Since these variables are closely related to the present study they have been discussed elaborately in the following paragraphs.

INTERESTS AND PREOCCUPATION

Lewis, M. Terman and Melita H. Oden (1947) found in a study
conducted on 209 gifted and 262 of the control group that in
scholastic area the gifted children were more interested in
abstract subjects such as literature, debate, and ancient history
and less interested in practical subjects such as penmanship
and manual training, drawing and painting than the control
group. The gifted and the control group were equally interested
in games and sports. The scholastic interests of the gifted girls
resemble those of the gifted boys much more than they resemble
those of control girls. Moreover, the scholastic interests of
the girls appear to be more influenced by superior intelligence
than those of the boys. Witty and Lehman (1924, 1927) reported
that these children engaged themselves in the same number of
play activities as the control group does, but avoided competitive
and social activities. Their hobbies have an intellectual
flavour. They spend their time more in individual interests
than in typical club activities. They form association with older
companions and prefer complex games because those appeal to their
intelligence. Terman (1925) found that a large number of
students showed interest in music, mathematics, science, mechanics,
experimentations, and art.

The gifted appear less "sociable". They showed a stronger
liking for playing amongst themselves than do the control group.
On a scale of sociability of playing interest, almost half of
the gifted fall in the lowest quartile of control group scores.
Sumption, Norrise and Terman (1950 ) found that the interests
of the gifted children were many-sided and spontaneous. They
engaged themselves in all kinds of childhood activities and had acquired far more knowledge about games and sports than the average child of their age. In a test of interest maturity they averaged more than two years above the age norms.

VOCATIONAL INTERESTS

It is generally believed that 'interests' imply vocational interests. Vocational interests mean the interests, likings or preferences pertaining to different vocations and their activities. The occupation to which one would like to belong, the type of job which attracts a person, and the type of vocational activity which the person genuinely enjoys is the main theme of vocational interests. The present study is being conducted on three categories students e.g. the intelligent, the creative and the gifted adolescents as the criterion group. Therefore, strictly speaking the term vocational interests used here signifies pre-vocational/semi-vocational interests in the vocation-oriented subjects and curricula of study.

Walter and Norman (1963) in their article 'Career Requirement of Gifted' wrote that with the gifted children, there is mounting evidence that the selection of a career is major concern for them much earlier than had previously been thought. Ruth Strang (1950) considered that because of their wide interests, gifted children sometimes have difficulty in choosing a vocation. Conflict between the parent's ambition
for the child and child's own occupational interest sometimes have profound emotional reverberation.

The occupational status of the gifted men reported in 1955 shows about eight as many men in the professions as is true of the general population. About 80 per cent of the gifted men are in the two highest occupational groups—Group one professional and Group II semi-professional and higher business. Of the entire population only 14 per cent are found in these two groups. The incomes for the gifted group are considerably higher than the national average. The most successful gifted were compared with the least successful gifted and many striking differences were found (As quoted from Kirk, 1970).

Terman (1951) states "Every thing considered, there is nothing in which the A (most successful) and C (least successful) groups present a greater contrast than in drive to achieve and in all-round social adjustment". Success for the gifted was associated with well-balanced temperament and freedom from excessive frustration. The Stanford Genetic Studies of Genius, under the direction of Lewis, Madison, Terman stand out as one of the monolithic investigations of one kind of exceptional children. Regarding the occupational interests of the gifted, Terman and others (1959) found that this group was more interested in abstract subjects, in professional and semi-professional occupations than the controlled group. Subjects which are more positive with gifted boys and with gifted girls
are literature, history, dramatics, game and sports, and physical training: subjects that are negative with both gifted groups are painting, grammar, permanship and physiology and hygiene. Civics is the only subject that is different in both groups.

The average gifted boy is looking for an occupation which presents more intellectual challenges like the high school teaching, preaching or industrial chemistry, whereas the average prefers the work of a nurse, chef or landscape gardener. Coy (1923) also obtained similar results. Drews (1957) found that the gifted were dreaming of careers as scientists or engineers. Terman's (1947) findings showed greater preference for professional and semi-professional occupations, for various kinds of public service and for the arts. Hollingworth (1926) found the lofty but often unrealistic ambitions of children in general. These ambitions are not peculiar to the gifted then; but two desires appear among them which are rarely expressed by the less gifted children. One is to become a learned person—zoologist, astronomer, mathematician; the other is to become a minister or a missionary.

Terman (1925): The gifted showed greater preference for occupations like public service, professional, artistic, semi-professional and agriculture. The control group showed greater preference for mechanicals, transporation, athletic and clerical work. These groups showed little difference in
commercial occupations and social work. There are more first choices for domestic and personal services (including secretarial work) by the gifted, but more second choices by the control group.

Jacobson (1928) found that high intelligence group showed liking for professional occupations, and highbrow miscellaneous items. Whereas a group of low intelligence showed dislikes, indifference and ignorance of professional occupations and preferences for lowbrow miscellaneous items.

Butson (1931) in a study on 2,700 students in grade seven to twelve found that some relationship is almost inevitable between ability and expressed vocational interests. The median I.Q's of the girls and boys who would enter 'The Professions' is seven points higher than that of girls and boys who have chosen careers in the skilled trades.

Strong (1943) found that men of high intelligence are more likely to have the interests of scientists, public accountants, lawyers and writers and less likely to have the interests of men dealing with office procedures and with people selling and serving them.

Ligon's (1957) reported that gifted children during adolescent period perform remarkably in imaginative, artistic, musical and mechanical works.

Beals and Simmons (1962) found 60% of the gifted students tend to be in the professional and managerial areas. The most popular vocational choices were mathematics,
science, teaching at all levels, engineering, medicine and law. Parents seem to have supplied the primary information and incentives to these young students.

Barba (1964) found that diversity of interest was very apparent among gifted boys and girls. Girls, both in Moderately gifted and High group those teaching first, medical rated professions (Nurse doctor etc) next. Boys chose science in greatest numbers and medical rated positions next. Classification of children as reported by their parents indicated about 38 per cent of boys (Both in moderately and high groups) had no specific interest, but 20 per cent high group girls and about 40% of the moderate group of girls had no specific interest. He also concluded that all the children who had an interest had one in professional or managerial category.

Super and Crites (1965) concluded that interest patterns are related to degree of general intelligence. They further found that in general, students in scientific and liberal arts courses have the highest intelligence test scores, with those in commercial subjects coming next and trade courses last. In one nation-wide study Kefauver (1932) found that the median I.Q. of high school boys in different courses as follows:

<table>
<thead>
<tr>
<th>Type of School</th>
<th>Median I.Q.</th>
</tr>
</thead>
<tbody>
<tr>
<td>College course preparatory</td>
<td>114</td>
</tr>
<tr>
<td>Scientific technical schools</td>
<td>108</td>
</tr>
<tr>
<td>(General schools)</td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>106</td>
</tr>
<tr>
<td>Median J.S.</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td></td>
</tr>
</tbody>
</table>
| Commercial
| 104        |
| Trade      |
| 92         |

Singh (1968) concluded that superior boys show a preference for aesthetic, humanistic, outdoor and welfare areas.

Shah (1969) found that superior pupils selected the field of science in greater proportion than other fields. Boys gave preference in science, arts, and commerce. Major vocations selected by superior boys are engineering, medicine and the commerce, college teachers, poet, and actor while average preferred engineering, commerce, chemist, medicine, college teachers, pleaders, social workers, poet, and others.

Superior girls prefer - medicine, social worker, and others, and average show preference in favour of college teacher, social workers, poet, pleader, domestic work.

Chawla (1969) while studying low achievers and high achievers found that high achiever showed preference for administrative, literary, scientific, medicine, and fine arts area and low achievers in business and other private and government services. High achieving girls showed preference for literacy, scientific instruction, law, medicine, public administration, and arts. Low achieving girls showed interest in instruction, clerical, typist, stenographer, air-hostess, telephone operators.

Paramesh and Maryna (1976) found that high creatives are higher on persuasive, linguistic, artistic, and musical interests.
They showed that the high creative have interests of intrinsic social values that appeal to their individualistic orientation. About high intelligent group, they found that they seem to contribute for high degree of interest in artistic vocations.

Kumar (1981) found that high creatives had greater interest in literacy, scientific and fine arts and low creatives had interest in household and outdoor activities.

SOCIO-ECONOMIC BACKGROUND

The family background is important in shaping the personality and motivating the gifted for the realization of his potential. Hildreth (1966) wrote that the gifted came from every type of home background. The socially superior classes, however, furnish more gifted as well as more potential leaders and professional workers than others. Galton (1869) found chances of eminence much higher among children of upper class and professional families with quality of education held constant. Bright children tend generally to come from better-class homes and neighbourhood. They often grow up in communities that offer superior schooling and other cultural advantages, and the parents of these children are better educated than the average ones. Most acceptable finding is that the I.Q. is directly proportional to socio-economic status. The children who rate high on intelligence test are relatively more in number in middle and high income families. Terman (1925) has given classification on the basis of occupational background of the
parents of the gifted as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>31.4%</td>
</tr>
<tr>
<td>Semi-professional and business</td>
<td>50%</td>
</tr>
<tr>
<td>Skilled work</td>
<td>11.8%</td>
</tr>
<tr>
<td>Semi-skilled and unskilled work</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Hollingworth (1926) confirmed this classification. Paterson (1930) in the standardization of Minnesota Mechanical Ability Test found that tests were virtually independent of measures of socio-economic status, in terms of occupational, educational and cultural status. Havighurst (1960) found that mentally superior children came in relatively high proportions from families where the parents have a good education and the father had a high prestige occupation. According to him upper and upper-middle classes combined produced 1.8 times as many upper children in the I.Q. quartile of the I.Q. as it would if all socio-economic groups had been equally efficient as this, and only 0.4 times as many children in the lower quartile of the I.Q. The lowest socio-economic group showed a reversal of these efficiency ratios.
### TABLE 1.2

<table>
<thead>
<tr>
<th>Socio-economic Group</th>
<th>Percentage Distribution of children</th>
<th>Efficiency ratio in producing children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Top Quartile</td>
<td>Bottom Quartile</td>
</tr>
<tr>
<td>a) Upper and Upper-Middle</td>
<td>40/1.8</td>
<td>0.4</td>
</tr>
<tr>
<td>b) Lower-Middle</td>
<td>27/1.5</td>
<td>0.6</td>
</tr>
<tr>
<td>c) Upper-Lower</td>
<td>39/0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>d) Lower-Lower</td>
<td>24/0.4</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Whipple (1951) found that majority of the gifted subjects in his study may accurately be described as "Upper-Middle Class". Gallanger (1960) found that lower socio-economic population produced fewer number of the gifted. Majority of the gifted children came from the families of high socio-economic level and from the professional and managerial classes. He also indicates the presence of the gifted in the families of all levels of social strata of society. Kahl (1953) found that in lower-middle class families, where father showed limited educational aspirations, high ability boys were less apt to go to colleges than boys of high ability in those families where fathers were concerned with "getting ahead". Bowman (1956)
gave the reference of Quincy Youth Development Commission who found "intellectual talent" unevenly in favour of the higher occupational group. Goldberg (1958) and Holland and Stainaker (1958) also expressed the same view. Hevyer, Pi'eron and their associates (1954) found close association between socio-economic factor, father's occupation, number of children who rated in the top decile on the Gille Moasic Test. Havighurst (1961) in a study of high school seniors in a city of 500,000 population found that the number of superior graduates are roughly proportional to the socio-economic factor. Martinson (1960) found that out of 929 children, 40 per cent came from middle economic group and 2 per cent from lower economic group. Terman with his collaborators (1962) studied the occupational status of fathers of 661 bright children in California and found that the proportion of fathers belonging to the professional or semi-professional classes was more than four times than that in the general population. Comparatively, a few were drawn from ranks of semi-skilled or unskilled labour.

Parkyn's (1962) survey yields similar conclusions though the occupational classification is slightly different from Terman's, classification. He found that 3 per cent had fathers in professional classes and this small group contributed 9 per cent of the gifted children with high I.Qs; 125-13½ and 20 per cent of those with very high I.Qs 135 and above.
In India Rao (1965) found, "a substantial positive relationship" between socio-economic status and achievement in a study conducted on five hundred students of eighth class of Delhi schools. Education, occupation and income of the parents were the variables taken for the study of socio-economic status. The correlation between socio-economic status and scholastic achievement was found to be .39.

Bennur (1965) obtained measures of scholastic achievement and socio-economic status for 102 girls of ninth standard in the University High School, Dharwar, Mysore State. Five criteria were taken to decide the socio-economic status of the family the students came from, and they were (1) Occupation (2) Income (3) Formal Education (4) Subscription to newspapers and (5) Possession of Radio. He found that the pupils of different socio-economic status differed significantly from one another in their academic achievement.

Shah (1969) found that fathers of the gifted children have received university education but their mothers were either illiterate, or elementary educated or secondary educated. Their fathers had higher professional level and their income was very high. He further found that the superior came from the community as a whole except the backward class.

Deo (1973) reported that the gifted group also seemed to be drawn from the group of parents who were in the higher professions, had higher incomes, were more educated and also
showed more prominence in other activities.

Terman and Oden (1947) and Childreth (1960) observed that all the four boys of superior intellectual ability came from homes of similar economic and social status where all mothers were working professional women. Their fathers were more educated as compared with the unselected group. Beals and Simmons (1962) stated that 90 per cent of these students were living with both their father and mother. These students came from homes economically and socially in the middle of upper-middle class.

Terman, Lewis (1954) and Hollingworth (1926) gave evidence showing high incidence of good family situations, low divorce rates, good emotional health, higher median income and more schooling in the background of higher scoring children. Some of these children also came from grossly inadequate homes. Terman (1947) found that unfavourable living conditions appeared to reach very powerfully, and even disastrously, upon these very superior children. Frankel (1960) and Goldberg (1959) concurred in relating poor family situations to underachievement in high school students. "Stratbeck related "democratic" families to higher achievement, finding the home in which the mother shared the decisions - a better stimulus to performance than that where the father ruled autocratically." (quoted from Gold 1965).

Shanker (1976) found that they came from all strata of society but a majority of them came from middle strata.
There are many conditions that affect student's interests in, and attitudes towards, different vocations. The common and most important of these conditions, according to Harlock (1973), are parental attitudes and aspirations, prestige of vocations, admired people, abilities and interests, sex appropriateness, opportunities for independence, cultural stereotypes and personal experiences. Parental attitude affect student's vocational attitudes in two ways: Firstly, parents urge children to be interested in vocations they regard as desirable and prestigious regardless of children's interests and aptitudes. Secondly, they advise children to avoid certain vocations because they regard them undesirable. Fryer (1931) reported that family was the greatest single agency in determining vocational choice. Berdie found that vocational interest was a complex phenomenon resulting from a multiplicity of conditions. Family influences are among the more effective factors; determining interests and abilities are among the least effective (as quoted from Kochhar 1977). The type of influence by the family can be classified roughly as positive and negative according to Jahoda (1952). Positive consists of giving either direct suggestions as to what adolescents should choose or indirect suggestion putting emphasis of varying degrees on certain jobs that parents regard as desirable. Leonard (1932) wrote that parents may give sympathetic support to the choice made by the adolescents, thus strengthening the adolescent's
decision. The negative type of family influence may also be direct or indirect. Parents may tell their children to avoid certain type of work due to poor pay, long hours and many disadvantages. Indirectly, parents influence their children's vocational choices through type of work they themselves do. Cunliffe (1929), Kroger and Louttit (1935) found that adolescents themselves want a job higher in the vocational scale than that of their fathers. Anderson (1932) reported that fathers have more influence than mothers on their children's vocational choices. Moser (1952) wrote that in addition to the parental desires, the cultural atmosphere of the home, the background of the parents, the example set by the parents and the training of parents play important roles in influencing vocational choices of their children. Class-mates and friends in school and outside the school also play some role in influencing the adolescents' choice of careers. Adolescents hear age-mates talk about their future vocational plans; they learn more and more about possible vocational opportunities from classroom discussions about different jobs, from mass media and from school visits to different community and business and industrial organisations. Chawla (1969) found that 45% of the high achievers and 60% of low achievers collected suggestions from parents. Deo (1973) also found that parental aspirations of the gifted adolescents influence the vocational choice of their children. Suggestions by teachers and friends influence a lot. The lure of fame and prestige was another important
factor affecting choice. Evidently these students did not look into their own abilities. A number of studies have been conducted on the family and peer group influence on the vocational interests of the adolescents. These are by Simpson (1962), Werts (1966)(1968), Belin (1956), Bell (1953), Green and Parker (1965), Nowsesian et al (1967), Perrone (1967), Smelser (1963) and Reddy (1978). No study, to the best of the knowledge of the investigator, was found to be conducted exclusively on the influences on the gifted’s choice of vocation except the two mentioned above. Thus, the present study tries to fulfil a gap in our knowledge regarding vocational interests of the gifted adolescents.

STATEMENT OF THE PROBLEM

The problem taken for this study relates to the vocational interests of the gifted adolescents with reference to the different factors influencing them. The exact title of the study is as below:

"Family and Peer Group Influence on the Vocational Interests of the Gifted Adolescents Studying in Different Types of Schools".

EXPLANATION OF THE TERMS USED

1. Family

   (1) A basic, primary social group, composed of a man (or a group of men) and a woman (or a group of women), their progeny, and possibly other members of the household; the
structure varies from monogamy to various types of polygamy; the functional organisation varies from patriarchy, through equalitarianism, to matriarchy; personnel inclusion varies from immediate biological relatives to the clan (Roman gens).

(ii) a group of related biological beings classified above a genus and below an order; (Biological).

(iii) a group of two or more persons related by blood, marriage or adoption and residing together.

Operational Definition of family

Here family refers to father, mother, brother, sister and nearest relatives of these children residing together.

Peer Group

Usually interpreted as people who are similar in development level; occasionally refers to persons similar in respect to other qualifications, such as status or education.

Peer Group: Group of individuals usually well known to each other and of the same age, sharing similar social experience, values etc. Peer group relations are of crucial importance to the developing child, especially during adolescence when peer group standards and expectations begin to challenge those of the family. The peer group may establish ways of dress, language and behaviour that set it apart from other groups and may be a form of adolescent rebellion against parents and family.

(Page and Thomas, 1977)
Peer Influence: Motivating factors in adolescence or in social groups arising from peer group behaviour e.g. adolescents often need attachment to peer group or wish to conform to its values.

(Page and Thomas 1977)

OPERATIONAL DEFINITION OF PEER GROUP

Here peer group refers to class-mates and friends outside the class or school.

VOCATIONAL

Pertaining to a vocation or occupation.

INTEREST

"Symptoms of probably future ability"

(Fund & Wagnalls, 1971).

(ii) Interest: A subjective-objective attitude, concern or condition involving a percept or an idea in attention and a combination of intellectual and feeling consciousness; may be temporary or permanent; based on native curiosity, conditioned by experience;

(Good, 1959)

VOCATIONAL INTEREST

Measured patterns of likes and dislikes that have been found experimentally to differentiate successful adults in one occupation from those in other occupations (Good, 1959)

Operational Definition

The student's expressed interests in or his choice of an occupation.
GIFTED

(1) (as applied to a child or youth)
Possessing high intellectual ability, with mental age well in advance of the norm, and consequently a high I.Q.

(ii) (as applied to an adult). Possessing intellectual ability well above the average.

(iii) High level of ability in general or specific activity: academic, artistic, sporting, etc. Akin to genius (Page & Thomas 1977)

OPERATIONAL DEFINITION

The term gifted, in this investigation, includes the intelligent and the creative adolescents. The gifted have been identified on the basis of their scores in the test of intelligence as well as the test of creative thinking. Details are given in chapter II on page 60.

ADOLESCENCE

A period in human development occurring between puberty and maturity and extending roughly from 13 and 14 years of age until 21 years of age, it is initiated by a short period of puberty but continues for many years after the advent of sexual maturity; adolescent boys and girls have physical, mental, emotional, social and moral characteristics that differentiate them from both children and adults; adolescence is a twilight zone in which society does not accord them full
adult responsibility and roles; consequently they become much more sensitive to the social demands of their peers, and the desire for conformity to their social definitions is pronounced; in the difficult adjustments climaxed by adulthood, some individuals have emotional difficulties while others undergo the transition with a minimum of stress (Good, 1959).

DIFFERENT TYPES OF SCHOOLS

The term different types of schools in this study refers to four types of schools in existence in Punjab: (1) Government Schools run by State Government. (2) Recognized Private Schools. (3) Central Schools run by Central Government. and (4) Convent Type of Public Schools (Recognized/Private).

OBJECTIVES OF THE STUDY

(i) To identify the gifted with the help of verbal and non verbal test of creative thinking and intelligence test;

(ii) To find out vocational interest of intelligent adolescents, creative adolescents and gifted adolescents;

(iii) To study the vocational interests of the intelligent the creative and the gifted adolescents across sex.

(iv) To find out the family and peer group influence on their vocational interest.
(v) To study the influence of socio-economic status on the vocational interests of the gifted adolescents; and,

(vi) To study the influence of parental aspirations on the vocational interests of the gifted adolescents.

HYPOTHESES

1. There is a significant difference in the vocational interests of the intelligent, the creative and the gifted adolescents.

2. The family influences of vocational interests of the gifted adolescents.

3. The socio-economic status influences the vocational interests of the gifted adolescents.

4. Peer group influences the vocational interests of the gifted adolescents.

5. Parental Aspirations influence the vocational interests of the gifted adolescents.

LIMITATIONS OF THE PROBLEM

The present study has the following limitations:

1. It is delimited to the adolescents in the age group of 14 to 16 of Punjab State.

2. The investigation was delimited to the recognized and government schools.
3. The study is delimited to family and peer group influence socio-economic status and parental aspirations on the vocational interests of the gifted, the creative and the intelligent adolescents.

4. Only 8 areas were chosen for finding out their vocational interests.

5. The study is delimited to the boys and girls of the 9th and 10th classes only.

**PLAN OF THE CHAPTER**

The plan of the research report has been framed under six chapters:

- Chapter I gives the introduction of the problem taken for study.
- Chapter II deals with procedure employed in the collection of data and construction of a "Family and Peer Group Influence Scale".
- Chapter III describes the analyses and interpretation of results.
- Chapter IV deals with the discussion of results based on the analysis of data.
- Last Chapter deals with the Summary, Conclusion and Suggestion for further study.