CHAPTER I
Interest in the concept of curiosity is not new. The inherent urge to explore and unravel the mysteries of the unknown has taken man deep into the portals of knowledge. Plato therefore calls curiosity "the mother of knowledge". The term 'curiosity' is derived from the Latin word 'curioses', i.e. 'the unknown'; it is a process of questioning, investigating, exploring and looking around. It is manifested through attempts at collecting information relating to events in the environment. In short, it is a quest for knowledge. This questioning, this curiosity, has contributed in great measure to the solution of many problems relating to man and the universe. Galileo, Einstein, Freud, Fleming, to name but a few, were embodiments of inquisitiveness and curiosity, and our laboratories and research institutions are living monuments to the universal quest into the unknown.

Questioning minds now began to question the nature of 'curiosity'. Early attempts to understand and explain curiosity were not very systematic. Shand (1914) refers to curiosity as a 'primary emotion' consisting of the impulse to know.
Psychologists like Tolman (1925); Dashiell (1925); McDougal (1923, 1926) and Nissen (1930) made the early systematic attempts at understanding the problem of curiosity. These investigators in their study of drives in animal behaviour, were led to understand the importance of the exploratory drive, which according to them signifies the attempt at getting more information and stimulation, from some distant and unfamiliar object in the environment.

During the 1930s and 1940s exploration in animals was generally regarded as a kind of general activity, that was allegedly energized, by an animal's drive state. In 1950, exploratory behaviour began to be interpreted as a kind of drive in addition to being a kind of behaviour. (Harlow, 1950; and Berlyne, 1950). Many investigators (Berlyne, 1950, 1960; Harlow, 1950; Buttler, 1953, 1958 and Walker, 1956) have found curiosity in animals manifested as exploratory behaviour and the tendency to engage in manipulation of various objects. According to them, locomotor exploratory behaviour appears to be universal among higher vertebrates, and is present to some degree in other species of the animal kingdom, that are capable of locomotion. The exploratory drive according to them, is an example of
behaviour which depends upon novelty rather than upon a physiological state. It continues until the environment becomes familiar and known, rather than strange and uncertain. On the other hand, exploratory or investigative behaviour began to be studied systematically by comparative psychologists, in order to explain the apparently complex behaviour in children and adults. Current psychological knowledge has to a very significant extent been influenced by the results of research on curiosity. Since the biological drives of hunger, thirst and sex, fail to explain many kinds of behaviours, even those of lower animals, a series of new drives have been postulated, and among these is the exploratory or curiosity drive.

Berlyne (1950) postulated that when a novel stimulus affects the receptors of an organism, a curiosity drive is aroused. Further, when the stimulus that arouses curiosity continues to affect the receptors, curiosity diminishes.

A few psychologists (Day 1964; Maw and Maw, 1964, 1965; and Penney, 1965) have considered curiosity as a personality trait, i.e. individuals differ in the intensity and pervasiveness of the curiosity drive.
Thus, while any novel event may induce exploratory behaviour in a large number of individuals, a highly curious person would be expected to show greater interest in seeking new experiences, and/or in exploring stimuli at greater length, than a less curious person. Maw and Maw (1964, 1965); Day (1964, 1967); Penney and McCann (1964); Penney (1965) and Penney and Reinhr (1966) have investigated curiosity as a personality trait, while Maw and Maw (1964 and 1965) and Day (1966 and 1967), have attempted to bridge personality research on curiosity with motivational studies of curiosity such as those of Berlyne (1954, 1958 and 1960). However, the relationship between motivational and personality factors and between specific and divergent curiosity remain ambiguous. It appears that no one has attempted to interrelate the various types of curiosity measures in use and to show whether curiosity is a unitary or a multifactor phenomenon.

There has been very little research relating various curiosity measures, although curiosity tends to be treated as a unitary construct in the experimental literature. In the studies that have been done, measures of curiosity have been only moderately correlated with other variables, suggesting
again that curiosity is not a unitary construct.
Even at the conceptual level there are many definitions of curiosity suggesting that it is not a unitary construct, (Berlyne 1960, 1965; Maw and Maw 1964; Penney 1965 and Livson 1967).

A great deal of research has been conducted in the field of exploratory behaviour in animals, (Montgomery 1953 c, 1954; Montgomery and Segall 1955; Harlow, Harlow and Meyer 1950; Harlow and McClearn 1954; Berlyne 1955; and Dember and Earl 1957). However, research remains to be done in the field of curiosity behaviour in children, particularly in the area of its relationship to cognitive and conative factors and also how it is affected by environmental influences. The study of curiosity in relation to personality factors in children, has more or less been a neglected area of research. The present study to some extent may be considered to fill this void.

**Aim of the Present Study**

The present study endeavours to explore the nature of curiosity in elementary school children and attempts to relate them to cognitive aspects like intelligence and creativity, and personality factors
like extraversion and neuroticism.

An attempt is also made here to explore the problem of sex differences in curiosity and to examine the effect of socio-economic factors on curiosity.

**Definitions and Theories of Curiosity**

The term curiosity is defined in different ways. There are also different theories regarding curiosity. They are all cited and discussed in the following.

According to Hall (1907) curiosity is manifested by observation, experiments, questions and the desire to travel.

Mumford (1914) puts forth the view that "curiosity is an appetite for knowledge and fresh experience, the stimulus which fits the child for freedom....." (p.150).

Waddle (1918) claims that curiosity is an impulse to attend to, to approach and to examine things about which there exists an element of uncertainty.

Young (1958) parallels curiosity with imagination as a trait common in early childhood that often
fades or disappears as time passes.

Warron (1962) and Statton (1963) emphasize curiosity as knowledge-seeking and the acquisition of information in order to understand the events and situations in the environment.

In order to understand this phenomenon, it may be of help to also take a brief look at the development of curiosity in the young child.

**Development of Curiosity**

**Infancy to Pre-school years**

From early infancy, the development of curiosity takes place by gradual stages. Preyer (1839) records the first stage of curiosity as occurring in the fifth week of an infant's life. He accepts the following four stages in the development of curiosity.

1. **Passive staring considered as a reflex with psychic accompaniment manifested in infants as early as the second week of life.**

2. **Surprise usually noted in the second month.**

3. **Wonder which is observable about the end of the second month and**

4. **Interrogation or curiosity proper which begins to be manifested about the fifth month.**
According to Hall (1907) children of kindergarten age respond readily to any kind of environmental stimuli. Experiments in taste, touch and sound become prominent in the second year. The ages of 3 to 5 years are characterized by growth in knowledge. Questions constitute greatly towards the child's need to know and absorb all that is going on within his immediate environment (Hurlock 1964).

The Years Between Six and Twelve

Curiosity is an outstanding trait of these years (Schacter et al 1953). The sixth year is a turning point in a child's life because he steps beyond the family circle into the larger world of the school and community.

A healthy seven-year-old is full of vitality and energy. This age is characterized by a desire to find out how things work by a reaching out to new experience and trying to relate to an enlarged world (Hurlock 1972).

The eight-year-old is very much aware of the adult world around him, and is trying to find his place in it. He is eager for new experiences which is one of the hallmarks of curiosity.
In interest and curiosity, the nine-year-old is closer to the ten and eleven-year-old than to the seven and eight-year-old. Sexual curiosity begins to be manifested at this age.

The ten to twelve-year-olds are realistic. Interest and curiosity in sex now become subjective and personal (Hurlock 1972). The desire to find out what things really are and how they function is an all pervasive characteristic of these years. Intellectual curiosity is the hallmark of the ten to twelve-year-olds.

Theories of Curiosity

1. Psychoanalytic theory

The writings of Freud (1905) and Abraham (1927) make it clear that psycho-analysts would attribute the desire to know to any of several 'component drives' of the libido-scoptophilia, oral-incorporative, oral-sadistic, oral-aggressive or oral-retentive—according to the direction it takes. But, this leaves many questions unanswered. How are we to predict when one of those 'component drives' will find an outlet in curiosity and how intensely? And which particular items of knowledge will be sought?
2. **Gestalt Theory**

Although the Gestalt psychologists have not produced a systematic account of curiosity, it is not difficult to guess how their theory of curiosity will be. Gestaltists explain human behaviour in terms of the 'principle of closure' that is the tendency to act in such a way as to close a 'gap' whether in a perceived figure or in some other aspects of the 'behavioural world' (Koffka 1935; and Wertheimer 1945). It is evident that curiosity consists precisely of a desire to fill in such gaps in the subjects' experienced representations. But again, there is no definition precise enough to explain infallibly what will constitute a 'gap' nor which gaps will have precedence over others.

3. **Curiosity in Piaget's Theory**

Piaget (1970) in his theory of intellectual development proposes that, 'disequilibrium' or 'discomfort' arising from inconsistency and lack of certainty in judgement, are the main forces, pushing the child towards mature, logical ways of organizing thoughts and perceptions. Piaget is concerned with invention, creativity and discovery in each individual's
development. He links curiosity to intelligent experimentation, by placing it in the realm of work, rather than play. Curiosity accordingly, is related to both construction and innovation. It contributes (Piaget 1971) to a structuring process, where it is equated with exploratory behaviour, which in turn leads to a wide extension of the environment, and thus multiplies the information received from the external world. Hence, curiosity according to Piaget (1971) is a part of a process that progressively leads to the articulations.

Many authors (Hurlock 1962; Jersild 1946; Montgomery and Segall 1955, and Montessori 1964) emphasize curiosity as one of the strongest motives underlying human behaviour. The tendency of children to constantly explore the environment has been postulated as the curiosity drive, which plays an important role in the process of cognitive learning and development in young children, who are often motivated to explore the environment by means of curiosity, and thus gain increasing knowledge of the world around them. Closely related to this is Cattell's factor analysis of human motives where he has repeatedly found what he calls 'exploration' which as a result of his tests was manifested as curiosity in the shape of a desire
to read books, newspapers, and magazines, to listen to music, to study paintings, sculpture, to learn more about mechanical and electrical gadgets and to see films and plays.

4. Behaviouristic Theory

Dollard and Miller (1950) mention learned drives to make a correct report of and to 'have an explanation' of the environment; as well as the punishment that social training and the demands of reality impose on those who fail to do so. Similarly, Skinner (1947) describes how a child learns to emit 'tacts' (i.e. verbal responses controlled by properties of objects or situations) under the influence of 'generalized reinforcers', particularly approval. Mowrer (1950), appears to identify the acquisition of beliefs (p.5) and 'knowing that' (p.268) with the conditioning of emotional responses, but this does not acknowledge the role of symbolic responses in distinguishing items of knowledge with similar affective nature but different content.

Pavlov (1927) refers to the 'investigatory' reflex which according to him has been greatly developed in man. This reflex is represented in its highest form by inquisitiveness or curiosity, which leads
the child to a true orientation in knowledge, of the world around him. Many investigators (Montgomery 1952; Butler 1953; Butler and Harlow 1954; Berlyne 1955 and Denney 1957) working in the area of exploration and curiosity mostly with animals, have shown that the exploratory drive or plain and simple curiosity is a primary drive, which is not dependent upon, nor derived from intellectual drives such as hunger and thirst, but is independent of these biological drives. Having sufficiently established the autonomy of curiosity as an independent motivation, behavioural psychologists have attempted to identify the conditions in the environment, which elicit it more readily than others which might dampen it. Berlyne (1960) has differentiated curiosity broadly into two types of activities. They are (1) exploratory behaviour concerned with perceptual activity which focusses on work with animals and (2) epistemic behaviour which focusses on intellectual activity. It is the second type alone which deals with human subjects. As most laboratory tests have been conducted on animal behaviour, it is considered valid that data relating to epistemic behaviour is considered more or less an unchartered region.

In the background of this context, Maw and Maw (1961) conducted an intensive study into the
meaning of curiosity. After asking people in informal and formal interviews what they thought about children's curiosity, reviewing the literature on the topic, and studying older and modern dictionary definitions of the word, it was concluded that an elementary school child manifested curiosity to the extent that he:

1. reacts positively to new, strange, incongruous or mysterious elements in his environment by moving towards them, by exploring them, or by manipulating them;

2. exhibits a need or a desire to know more about himself and/or his environment;

3. scans his surroundings seeking new experiences;

4. persists in examining and exploring stimuli in order to know more about them.

Definitions and Theories of Curiosity - An Evaluation

From the foregoing discussion, it becomes clear, that each school of thought has improved, complimented, or supplemented to some extent, what has been lacking in the previously hailed definition. Whereas the Psychoanalytic school links curiosity to libidinal urges, the Reinforcement theory attempts to lead the self outwards towards the physical environment. Both these schools, concentrate on curiosity as a result of the activity of only a part of the self. In order to make these ideas more viable, the Gestalt theorists have tried to
grasp the answers to curiosity as a whole entity, which due to the limitations of the mind often has gaps that need to be filled.

Piaget on the other hand, relates curiosity to construction and innovation and equates it to exploratory behaviour in the child. Cattell holds that curiosity or exploration is manifested in the individual by a desire to obtain information through various sources about the environment. Behavioural psychologists like Pavlov refer to curiosity as the investigatory reflex which helps the child to acquire information about the world around him. Berlyne and Maw and Maw maintain that exploration and curiosity is a need on the part of the child or individual for information and exploration of stimuli. They differ from the Behaviourists in that they have added a rationale to curiosity instead of just accepting it as instincts or reflexes which can be conditioned. In general, curiosity may be considered to be an inherited desire, goading the organism to explore and investigate the environment.

Among the different orientations outlined above, it is the conception of Maw and Maw that has generated more empirical research on the problem of curiosity in young children and thus the concept has come to be
understood better. Hence, it was considered advantageous to accept the definition of Maw and Maw in the present study. There is also a further distinct advantage in accepting their definition. The majority of the studies on curiosity so far, have followed Maw and Maw's (1961) definition. Therefore, comparison of results is possible. This is important in terms of advancement of research in this field.

Therefore curiosity in this study is regarded as manifested when the child:

1. reacts positively to new, strange, incongruous or mysterious elements in his environment by moving towards them, by exploring them, or by manipulating them;

2. exhibits a need or a desire to know more about himself and/or his environment;

3. scans his surroundings seeking new experience;

4. persists in examining and exploring stimuli in order to know more about them.

A review of the literature that follows will show that curiosity and its relationship to the variables of intelligence, creativity and certain variables of personality like anxiety and fear does not necessarily provide us with any conclusive results. This observation has presented us with an interesting aspect of the problem, because studies on curiosity have so far
taken only one age group or sex or just one variable into consideration, whereas this study covers curiosity and its relationship to intelligence, creativity and personality, boys and girls and four age groups. In attempting this pioneering study of curiosity to the above mentioned variables, the Investigator has tried to show that though divergent, the findings are likely to be thought-provoking and relevant.

Areas of the Study: The Concepts Explained

Having discussed curiosity at length, from different angles, an attempt is now made to examine the other variables, namely, intelligence, creativity and personality, which have been included for purposes of the present study.

Intelligence

The term intelligence is used to explain the differences in mental ability that are the products of age and maturation from infancy to adulthood. The history of the measurement of intelligence started with Binet and Simon (1909) who published the first intelligence test which consisted largely of items tapping the functions of reasoning, judgement and imagination. Intelligence is a complex term, and various
definitions have been put forward to explain it.
Thorndike (1926) defines intelligence as (i) social intelligence or ability to understand and deal with persons; (ii) concrete intelligence or the ability to understand and deal with things; (iii) abstract intelligence or the ability to understand and deal with verbal and mathematical symbols.

Spearman's (1932) Two-factor theory considers all intellectual activity to be dependent primarily upon and to be an expression of a general factor common to all mental activity. This factor designated by the symbol 'g' is possessed by all individuals in varying degrees and is known as 'general intelligence'. The other factor is the 's-factor' which refers to a number of specific abilities.

Thurstone's (1929) theory defines intelligence as certain mental operations which have in common a 'primary' factor which gives them psychological and functional unity and which differentiates them from other mental operations.

Stoddard (1943) defines intelligence as the ability to undertake activities that are characterized by (i) difficulty, (ii) abstraction, (iii) complexity, (iv) economy, (v) adaptiveness to a goal, (vi) social value and (vii) the emergence of originals.
Wechsler (1949) defines intelligence as the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment.

However, few definitions and points of views have contained a clear commitment about the relative effects of hereditary and environmental factors. It was Burt (1955) who was almost alone in grasping this nettle firmly and defining intelligence as 'innate general cognitive ability'. Since scores on existing intelligence tests have been shown to be susceptible to environmental influences a result of this definition is that intelligence as defined differs from intelligence as measured by tests. But many scientifically-minded psychologists were uncomfortable with this differentiation, since it is necessary in a science to relate the concepts directly to actual observation or measurements.

Psychologists have tried to overcome this anomaly caused by environmental influences on intelligence, by adopting an operational definition of intelligence to parallel the scientific procedure as in other sciences. Hence, it was maintained that intelligence should be defined as 'what the intelligence tests measure'.

In this context, there have been many attempts to
study the development of conceptual thinking in young children through their spontaneous drawings. Significant among such attempts is that of Goodenough (1926) who developed a comprehensive scale to be used in the measurement of the intellectual factors involved in the spontaneous drawings of young children. This scale is based on the drawings of the human figure. The Goodenough scale offers a servicable test of intellectual development.

Burt (1921) presents a scale for the measurement of drawing ability, which according to him involves a glimpse into the intellectual factors of children. It is recognised by many psychologists (Goodenough 1926; Burt 1947; and Harris 1963) that a fairly close relationship exists between progress in drawing the human figure, and general intellectual progress.

As the present study endeavours to study the relationship of curiosity to intelligence in children of the age groups of 7 to 10 years, it was thought relevant to define intelligence operationally as the intellectual ability involved in the spontaneous drawings of young children.
Creativity

The concept of creativity, considered elusive, vague and even mystical until recently, is now understood in clearer perspective, as a result of recent researches. In the past, it was more or less synonymous with terms like intuition, insight and imagination. Now, consequent to numerous studies, creativity has come to be associated with a number of aspects like dimensionality and dynamics of personality which can be objectively tested and measured.

Ever since, there has been a phenomenal growth of research and the output on the subject has virtually exploded. The enormous developments, in the field have been deliberated upon in several symposia particularly in the United States and several reviews and summaries have been brought out (Stein and Heinzer 1960; Taylor and Barron 1963; Taylor 1964; Freeman et al 1968 and Wallach 1970). The problem of creativity has been approached structurally by Guilford (1959); experimentally by Maltzman (1960); typologically by Stein (1963) and descriptively by Flanagan (1965).

Associative Conception of Creativity

There are a number of approaches to the problem of
creativity. One approach that commands greater acceptability is the associative conception. Mednick (1962) posited the associative conception of creativity by pursuing the lead taken by Maltzman and his experimental approach.

As the associative conception of creativity has been employed in the present study, a brief description of this conception would be appropriate here. Analysis of the introspective account of highly creative persons led Mednick (1962 p.221) to define creative thinking as "the forming of associative elements into new combinations which either meet specified requirements or are in some way useful."

According to him there are three conditions that facilitate creative problem-solving; they are serendipity, similarity and mediation.

Following the lead given by Mednick (1962), Wallach and Kogan (1965) came to the conclusion that the creative process consists of the ability to generate under various circumstances, associational responses that are many and that are unique. They proposed a gradient theory of creativity, in which the gradient of potential responses is shallow for a less creative individual. This time/or evaluation pressure prevents the
highly creative individual from evoking his unique or creative responses which will be evoked only after he has produced, the relatively common and stereotyped responses, that all people will tend to give initially, irrespective of their potential level of creativity.

Wallach and Kogan (1965) found a good correlation between the fluency score and the uniqueness score in their study and Pankove and Kogan (1968) found that the fluency scores alone would be an adequate criterion of creativity. In other words, for valid measures of creativity it appears that one can safely rely on the measure of fluency or number without concern for uniqueness. Hence, in this study, the criterion of fluency or number alone is taken into consideration for a measure of creativity. Therefore, for conceptual purposes, creativity is considered here as the ability to generate under various circumstances associative responses that are many.

**Personality**

The term 'personality' in the present investigation, is used in the Eysenckian sense. Therefore the major dimensions of personality as found by Eysenck, namely Extraversion-Introversion and Neuroticism are taken for this study. Hence, explanation of the term 'personality'
is confined to these concepts only. The reason for the choice of Eysenck's concepts are that they are experimentally tested. Moreover Cattell and Guilford following different approaches, found evidence for extraversion-introversion and neuroticism factors, though the terms they use to refer to them are different.

a) **Extraversion-Introversion**

Starting from a multiplicity of theoretical positions, studies of personality in children are in broad agreement in isolating two major dimensions: Extraversion (E) and Neuroticism (N). The dimensions of extraversion closely resembles descriptions which have been variously called participation-withdrawal, sociable-isolated, approach-withdrawn, active-inactive. The second (Eysenckian) dimension, neuroticism, would seem to resemble the descriptions of ego-strength/ego-weakness, stable-unstable, emotionality and so on.

The evidence is in favour of there being a continuity in the growth of personality. Much of the evidence is based on self-rating inventories such as the Junior Eysenck Personality Inventory, or Cattell's (HSPQ) both of which yield the dimensions of personality such as extraversion and neuroticism in children. Observational studies of children as young as 4 years have yielded
factors closely similar to the extraversion and neuroticism dimensions. (Eysenck and Eysenck 1977).

There is much evidence indicating that to Eysenck, personality has a very definite biological basis. Much of Eysenck's consideration of the biological man concerns itself with the central nervous system and particularly the cortical inhibitions that he finds in his research data. Neuroticism and introversion-extraversion operate at the casual level in the neural system. Neuroticism is believed to come from the excitability of the autonomic nervous system. On the other hand, introversion-extraversion is based on the properties of the central nervous system.

Jung (1921) regards extraversion and introversion as the two major attitudes or orientations of personality. An extravert according to Jung (1946) is one whose energies and interests are directed principally to the outside world, while the introvert directs his energies towards his own, inner mental states. Eysenck has borrowed these terms from Jung and fitted them into his neurophysiological theory of personality. The definition of extraversion according to Eysenck (1957) represents sociability, liking for parties, having many friends, need to have people to talk to, and dislike for reading or
studying by oneself. It includes craving for excitement, taking chances, acting on the spur of the moment, and general impulsiveness. It denotes interests in practical jokes, general liking to laugh and be merry, preference to keep moving and doing things, besides aggressiveness and losing temper quickly, and lack of control over feeling.

Introversion is a product of cortical arousal, mediated by the reticular formation; introverts are habitually in a state of greater arousal than extraverts, and consequently show lower thresholds and greater reactions to sensory stimulation. Eysenck (1957) proposed the formal hypothesis that introverted people are characterized by strong excitatory and weak inhibitory potentials, whereas extraverts are characterized by weak excitatory and strong inhibitory potentials. Eysenck (1955; and 1957) has gone to the extent of conceiving extraversion-introversion as a fundamental dimension of personality.

As the present study has adopted the Eysenckian position, extraversion for conceptual purposes is considered as interest predominantly directed outwards to nature and other people, whereas introversion is interest directed inwards to the thoughts and feelings of the self.
b) Neuroticism

The second Eysenckian dimension namely Neuroticism as mentioned earlier, would seem to resemble the descriptions of ego-strength, ego-weakness, stable-unstable, emotionality and so forth. Eysenck (1947) used the term 'neuroticism' to refer exclusively to those who occupy the low end of the distribution of general adaptedness or personality organisation or whatever contributes to the essence of this trait. He does not consider neuroticism as necessarily a pathological variant of personality. Although, Eysenck uses the term to refer to a personality factor, he only means that a certain amount of neuroticism exists in every individual. The items on Eysenck's neuroticism (N) scale indicate that they are maladjusted symptoms expressed in one's emotional expressions. Hence, his measure on N actually yields a measure of one's personality problem. Therefore, for conceptual purposes, neuroticism (N) in the present study is defined in the Eysenckian sense as relating to anxiety and physiological overactivity.

Components of the Study

For purposes of this study, it was felt that background information relating to age, sex and
socio-economic status of the subjects should be taken into consideration, because these biological and environmental factors have as much, if not more, influence than heredity on the curiosity behaviour of children.

**Age**

The age from seven to twelve years is a crucial period in the life of the child, when physical, emotional and intellectual growth and development is taking place at rapid speed (Hurlock 1964). During this period, the child is realistic and wants to find out what things really are and how they function. The child, at this stage, experiments not only with his own sensations but is also characterized by a desire to find out how animals and people will act under various circumstances. Interest, awareness and the attention span of the child are developed to a great extent (Schacter et al 1953).

The elementary school child expresses curiosity in events relating to his environment by exploring them, by questioning and by extensive reading (Maw and Maw 1961; Lintz, Starr and Modinnus 1965). This period marks the beginning of a series of developmental processes particularly of a psychological nature in the life of
the growing child. Hence, the age group 7 to 10 years has been selected for the purpose of the present study.

Sex

The factor of sex in the field of child development is a complex structure. In recent years, the sex-linked nature of a child's attitude is gaining prominence, yielding results that are at times complimentary and at times contradictory.

From the time the child is born, strong cultural pressures demand that he conform to the culturally approved pattern of his sex. Throughout the childhood years, both boys and girls are moulded into a pattern that society considers appropriate for the child's sex (Hurlock 1964). Studies have shown sex differences in curiosity with boys showing greater variability than girls. Some boys are more curious than girls, and some are distinctly less curious than girls (Maw and Maw 1961). This difference may be due, in part, to the fact that boys are given more freedom to explore stimuli in their environment than girls. This aspect is of a particular importance in the Indian context, because there are clearcut differences in the rearing of children of the two sexes. In the
Indian social set up, boys enjoy greater freedom to spend their time outdoors. This allows them opportunities to interact with a variety of stimuli in the environment. The same is less true of girls who are mostly confined to the four walls of the home and school. In this context, the influence of sex-based upbringing on the curiosity of boys and girls calls for a systematic investigation.

**Socio-Economic Status**

For the purpose of the present investigation, the income level and the profession of the parents of the children have been the guiding factors to determine the socio-economic status of the children. The schools selected for the present investigation are Catholic Convent Schools managed by foreign missionaries, and which are patronized by children, of the higher socio-economic status groups, where the parents were mostly professionals and businessmen and earning an income of above Rs.2,000/- per month. These schools are situated in the city of Madras. The medium of instruction here is English.

With respect to the schools patronized by the children from the low socio-economic status families, the average income ranges between Rs.80/- to Rs.200/- per
month. Education is free and the medium of instruction is Tamil. Hence in determining the economic status of the children, the schools, the children attended, and the income and occupation of their parents are taken as indices of the socio-economic status, in the present study. It must be mentioned that there are socio-economic status scales standardized for Indian conditions by Kuppuswamy (1959) and Ramoji Rao (1975). These scales are elaborate and time-consuming. Therefore a simple method as explained is felt to be adequate for the present study. In order to study the influence of low socio-economic status in the present investigation, only one age group namely age 10 has been selected.

Need for the Present Study

The need for the study of children's curiosity is indicated by statements claiming that curiosity is important in creativity, problem-solving and some types of learning. Hence, interest in curiosity especially in the West as a subject for study and research, has increased in recent years, (e.g. Maw and Maw 1960, 1961, 1964 and 1965; Berlyne 1960; Day 1967; Langevin 1970 and Maw and Magoon 1971).

In a developing country like India, with increasing interest in the divergent concept of education it is necessary that a scientific study of the concept of
Curiosity be undertaken. This is particularly so, because there are almost no such studies in our country. Curiosity in children, though a big asset, is an almost neglected area of research in India. Except for a few isolated efforts here and there (Kauser 1976, 1978; and Kakkar 1977) there have not been many empirical studies on the subject.

During the past two decades there have been a good number of studies in other advanced countries to measure curiosity in elementary school children, (e.g. Sherwood 1933; Roosevelt 1935; Nunberg 1961; and Maw and Maw 1961, 1965 and 1965). However, attempts to relate curiosity to intelligence, creativity and personality variables are not many. Hence the justification to undertake the present study. Though there have been a modicum of studies in the West dealing with curiosity, intelligence and creativity (e.g. Fohey and Corey 1941; and Langevin 1970), the findings have not been conclusive. Therefore, there is need for more studies on the problem to elucidate the existing data.

The need and the importance of the present investigation lies in its attempt to study the variables of curiosity, intelligence and creativity and the
personality variables of extraversion and neuroticism, all in a single study. Moreover, the study also endeavours to elucidate the influence of sex and socio-economic background, on the curiosity behaviour of children, an area where there is a dearth of empirical data.

It is clear from the foregoing that curiosity needs to be studied more intensively, as the nature of curiosity itself is not clearly understood. The present study may be considered as an attempt in this direction. Moreover, as far as the Investigator's knowledge goes, this is probably the first study in the Indian context integrating curiosity with intelligence, creativity and personality variables in children.