CHAPTER III
CHAPTER III

THE PROBLEM AND THE HYPOTHESES

3.1 SOME UNEXPLORED AREAS

After discussing the various definitions of creativity in the first chapter it was considered that creativity might be viewed from the following points, namely:

1) Creativity and person
2) Creativity as a process
3) Creativity and press
4) Creativity as product

Creativity and person involved in personality correlates of creators. Creativity as a process has involved the problem of intervening psychological process which leads to a creative product. Creativity and press refer to the problem of human interaction between creator and environment. In case of products attention is mainly concentrated on the final outcome of the creative process.

Therefore, environment is an important factor in relation to creativity (Weisberg and Springer, 1961; Gupta, 1974). A large number of investigations have tried to correlate various environmental factors like

The chief objectives of such studies have been to determine such developmental and environmental factors that are conducive to fostering of creativity. But often one may not ultimately get much significant results from such studies because majority of the environmental factors are uncontrollable and sometimes unpredictable even.

Keeping this in mind it has been considered in the first chapter that child-rearing is one of the most important subjects for study because of the following reasons:

1. Firstly, child rearing practices as it has been noticed in different studies show certain trends within some specified time and culture. These are more observable variables than such things as determinism of favourable or unfavourable environment.

2. Secondly, child-rearing variables seem to be one of the basic variables of home environment because:
i) Home is more important than other kinds of environment which has effect on children and home environment primarily is reflected through child-rearing.

ii) Early development is more important than later development and this early development is primarily regulated by child-rearing.

iii) Outer environment acts through home at the childhood stages. Again home-environment determines the development of child in the media of child-rearing.

Therefore, child-rearing deserves much attention within home-environment.

In the second chapter it was found that home environment, particularly parental behaviour, has an important impact on various developments of children. It is also found that parental behaviour is important in relation to creativity. In India and abroad some attempts also have been made in this direction. But except a few studies, majority of them did not take child-rearing as the basic variable of their study. Again some significant aspects of child-rearing almost have been ignored in relation to creative development. The following aspects of child-rearing have not been given proper attention in connection with creativity.
1. Parental perception of child's behaviour and vice-versa constitute the climate of the family. Some researches regarding child's perception of parental behaviour have been reported in the second chapter, though these reports did not speak anything about whether child's perception is related to parental rearing behaviour and in turn creative development (Mussen and Kagan, 1950; Vogel and Lautperbach, 1963; King, 1975; Sethi and Gupta, 1984). There is only one study reported in the second chapter regarding parental perception of behavioural components of infants (Hubert and Wachs, 1985).

In this study also the authors did not report anything as how parental perception is related with the development of the child. On the basis of above discussion, it can be said that the relation between parental perception and creative development of child is one of the important and an unexplored area of research.

2. Secondly, parental attitude towards responsibility and role of parents, parental interference and parental concept regarding parental role, goal of child-development have not been considered in relation to creative development though these may have significant relationship with creativity in children. It may be assumed that the parental attitude and concept play their role as antecedent conditions to parental behaviour and find their expression
through child rearing practice of parent for the development of children.

3. Thirdly, many researchers concluded that parental behaviour is intimately connected with creative development and other developments of child. (Bornston and Coleman, 1956; Hoffman, 1960; Weisberg and Springer, 1961; Aston and Dobson, 1972; Beveridge and Jerrams, 1981; McCall, 1983; Lawrence, 1984; Sethi and Gupta, 1984; Chakraborti, Kundu and Mukhopadhyay, 1985; McCarthy, 1986; Sharan, 1987). But some important dimensions like parental interference, effect of parental reward and punishment on children have not been given adequate attention in relation to the development of creativity. A few studies including one study of present author and others indicate that there is a relationship between reward, punishment and creativity (Feld, 1967; Chakraborty, Kundu and Mukhopadhyay, 1985).

3.2 THE RESEARCH QUESTIONS

It seems, therefore, that a gap or inadequacy is present in the past researches. On the basis of this inadequacy one may raise several questions to be answered.
1. How do parental perception of children's behaviour and parental perception of environment determine the creative development? This question which is wide in character may be divided in the following components:

i) Is there any relationship between parental perception of language development of the child and creativity?

ii) Is there any impact of parental perception of development of intelligence on creative development?

iii) Is there any relationship between parental perception of emotional development, like anger, fear, excitement, anxiety and of tolerance in their children and creativity?

iv) How does parental perception of children's characteristics, as depicted through some everyday behaviour like choice of dress, choice of food, relationship with sibling, discipline, sense of responsibility related to creative development?

v) What is the relationship between parental perception of home, social, economic and academic environment and creativity?
2. Is there any relationship between parental attitude and creative development? This question may have the following specific components:

i) What is the relationship between parental attitude toward parental role and responsibility and creativity?

ii) How does parental attitude towards parental control of children determine creative development?

3. How does parental concept regulate the creative development? This question may be divided into the following parts:

Does

i) Whether parental concept regarding role of parents determines creativity of children and how.

ii) How does parental concept of the goal of child development regulate creative development?

4. What is the relationship between parental behaviour with the children and creativity? This question have the following specific points:
1) Does parental interference with the child's activities have any impact on the development of creativity?

ii) What is the effect of reward on creativity?

iii) What is the effect of punishment on creativity?

3.3 STATEMENT OF THE PROBLEM

On the basis of discussions already made in the previous chapters and the sections, the research problem may specifically be stated as:

A study of relationship between certain child-rearing variables which have been broadly classified as antecedent conditions to parental behaviour and behaviour proper of parents and creativity in children.

The meaning and important concepts of the research problem has already been discussed to some extent in the Chapter-I. Now we shall try to define and explain all the concepts which are included in the present research problem more categorically.
The key concepts of the present problem are 'creativity' and 'child-rearing'. So these two concepts should be explained first.

3.3.1 Creativity

We have already discussed in detail in the Chapter-I the definitions of creativity. Now we shall try to evaluate those definitions of creativity in order to reach a meaningful and operational definition suitable for the present investigation.

It is found that the different psychologists defined creativity from different angles. In all the definitions there are something to be accepted and at the same time are liable to criticism.

Before classifying the definitions into some basic concepts and criticising them, we shall explain the salient features used in the definitions. Following are the salient features used in different definitions:
1. Creativity is multifaceted phenomenon
   (Guilford, 1965a; Mackinnon, 1970)

2. Creativity includes novelty or uncommonness
   (Warren, 1934; Drever, 1964; McDowell and Howe, 1941; Hutchinson, 1949; Kelman, 1963; Barron, 1969)

3. Creativity means finding new unity
   (Lehrman, 1960)

4. Creativity means to bring something new into existence (Barron, 1969)

5. It means worthwhile or significant product or useful novel-work (Fiers et al., 1978)

6. Invention means completion of pattern
   (Wertheimer in Harriman, 1951; Wheeler, 1929; Koffka, 1935)


* Drever, James. 1964. A Dictionary of Psychology (Revised ed.)
7. Creative imagination transcends the threshold of consciousness and is a visionary quality. (Arasteh and Arasteh, 1976)

8. Creativity is characterized by originality, adaptiveness and realization (Mackinnon, 1962)

9. It is characterized by fluency, flexibility and originality (Ketchman and Kheiralla, 1968)

10. Creativity is divergent thinking, which includes fluency, flexibility, originality, elaboration and evaluative abilities (Guilford, 1956)

11. Creativity is the whole act in which process leads to a product within a particular kind of environment (Hallman, 1963)

12. It is a process of sensing gaps (Torrance, 1969)
13. Creativity is problem solving (Dewey, 1910; Hillgard, 1959)

14. Creativity is the encounter with the world (May, 1979)

15. Creativity is harmony between external world and individuals internalised needs (Vinacke, 1979)

16. Creative pattern manifest in creative behaviour (Guilford, in Jha, 1978)

17. It involves an idea that is novel or statistically infrequent (Mackinnon, 1962)

18. It is a novel work satisfying by a group at some point in time (Stein in Taylor, 1964)

19. Creativity is manifestation of inherent capacity which takes the form of original work (Raychowdhury, 1968)
20. It is a response which refers to a high professional estimate of the worth.

(Anderson, 1978)

21. Creativity is behaviour that is uncommon relevant and called by society (Waltsman in Bourne et al, 1971).

If we consider carefully the above-mentioned salient features used in the definitions we shall find that every component is to some extent significant in relation to creativity. But it is not possible to take all the components in a single definition. So we shall try to find out the basic concept or approach which has been taken by most of the psychologists and researchers.

Novelty or uncommonness or statistical infrequency of the product are the criteria which have been taken by many investigators in defining creativity. Though these terms are not identical but signify to be some kind of originality. With this concept of novelty some investigators added a new dimension of creativity described as purposefulness, constructivity, significante or worth-whileness. The meaning of which is that creative work must be novel and at the same time would be useful. To some extent in a different fashion some
psychologists meant by creativity completion of pattern or finding a new unity. So far approach is concerned, creativity has been defined in terms of person, process, press and product.

In relation to creativity all these aspects have their role to play. But if we consider deeply we shall be able to realise that definition of creativity as a product is more objective and reliable. Again if we want to judge creativity, we can do so properly by its manifest products. Process, though important in relation to creativity, should be regarded as inferential and with the present state of knowledge, it may not be convenient to seek evidences of creativity in convert behaviour (Jha, 1978). Again, it may not be possible to consider creativity by analysing personality traits of the individual. Because research findings regarding personality correlates of creators are too diverse to come to a definite conclusion. Moreover, to measure creativity through personality traits is an indirect way. Because to know somebody to be creative we have to know first the traits of personality of creators which differentiate him from non-creative persons.
On the other hand product implies process, person and environment. If one undertakes creative process which leads to a creative product he is definitely a creative person. So if we take product as the measure of creativity we shall be able to find the evidences of process, person and environment within the creative product. Product, though indefinitely, indicates that there are so creative process and kind of environment behind it. Again, product, though may not be mirror image of one's personality, bears the personal stamp of its maker. In this regard we can mention the remark of Rudolph and Witt (Singh, 1981):

"Every work of art, bears, of course, the personal stamp of its maker .... We can recognise an artist's style as we do a person's handwriting and the style tells us something about the man, even if we are uncertain about artist's biography and name, his work be-speak a distinct personality." (P. 10)

The above discussion indicates the justifiability of seeking evidence of creativity in the product. But now the question arises that what kind of product will be treated as creative product. We have found that novel or uncommon product has be treated as creative
product by many psychologists. But for the present purpose the author thinks that the term 'statistical infrequency' is more appropriate than that of 'novelty' or uncommonness because of following reasons.

We have dealt with creativity by child aged 9 to 13 approximately for the present investigation as it will be mentioned later on. The creativity of those children has been considered in terms of statistical infrequency within a certain group. The term 'novelty' in relation to creative product signifies that either it is simply new to the author himself or novel more or less in the context of the world. But we measured creativity of the child, none of the both senses mentioned above. So statistical infrequency which is considered in our study in relation to creative product is more significant term than that of novelty or uncommonness. Again, this 'term' has been used by many researchers in their definition of creativity. For example Mackinnon (1962) writes that creativity

"...... involves a response or an idea that is novel or at the very least statistically infrequent ......." (P. 485)

So considering the reasons mentioned above it seems right for the present purpose to seek evidence of creativity in the products which is statistically
infrequent.

Again the other characteristics of a creative product, i.e., fluency and flexibility have been considered for the measurement of child's creativity. So these concepts should be taken in defining creativity. These concepts of fluency and flexibility including originality are very important in relation to creative product and used by many psychologists in defining creativity.

Guilford (1956) who tried to measure creativity systematically with the help of his structure of intellect showed that only divergent production may be considered as creative production which included fluency, flexibility, originality, elaboration and evaluative abilities.

Creativity has been defined by Ketchman and Kherilla (1968) in terms of fluency, flexibility and originality. According to them creativity is the ability of a person to achieve ideational fluency, spontaneous flexibility, original products and remote associations in response to a problem or stimulus.

Thus both Guilford (1956) and Ketchman and Kherilla (1968) considered creativity in terms of fluency, flexibility and originality. So this supports e
justifiability of using the terms fluency, flexibility and originality in formulating an operational definition.

In the context of foregoing discussions the following operational definition of creativity was accepted by this investigator for the present study:

Creativity may be defined as production of an idea which is measurable in terms of fluency, flexibility and originality denoted by statistical infrequency.

3.3.2 Child Rearing Variables

Child rearing is the kind of behaviour the parents indulge in to the child.

In our research both antecedent conditions to parental behaviour and parental behaviour proper have been taken as child-rearing variables. Moreover, antecedent conditions to parental behaviour have been given more stress in the study considering its fundamentality for the following reasons:

1. Antecedent conditions to parental behaviour like parental perception, parental attitude and parental concept are the determinants of child-rearing practice
to a great extent. Other antecedent conditions that originate mainly from the specific characteristics of the child and the social factors have not been taken into account except in a few instances. It may be noted that some specific characteristics of children as they are perceived by their parents have been considered in our study. It is considered that the antecedent conditions are the locus of control of parental behaviour proper and so child-rearing practice is largely determined by the parental perception, parental attitude and parental concept.

2. Secondly, the antecedent conditions to parental behaviour like parental perception, parental attitude and parental concept etc. are more or less stable. On the other hand most of the parental behaviour proper or more specifically most child-rearing practices change in their form and application in different time, in different places and in different stages of development of child. For example, child rearing practice of abusing parent in early childhood may be expressed through severe physical punishment to the children, whereas in later childhood period the same practice may take the form of parental threatening, isolation or ignorance to the children due to many factors. Again the same attitude may express
itself through different form of rearing practices in different parents. But the attitude of abusing parent is comparatively stable or enduring or common to all parents. We may refer here the comment of Spinetta and Rigler (1972) which states that the abusing parents share common misunderstanding with regard to the child rearing, and look to the child for satisfaction of their own, parental emotional needs.

On the other hand, there are innumerable parental behaviours which are very difficult to classify scientifically. We may refer here one such effort of classifying parental child-rearing behaviour under some 'broad factors' by Milton (1958), which has been mentioned in Chapter-II. But the attempt of classifying child rearing behaviour could not be accepted as quite satisfactory and dependable for the following reasons:

1. First, the list of parental child rearing behaviours was not exhaustive.

2. Second, ultimately 44 behaviour events were chosen from 200 reflects. But the satisfactory reason for selecting 44 out of 200 reflects from the parents have not been mentioned.
Therefore, in the light of above explanation it may be thought that antecedent conditions to parental behaviour such as parental perceptions, parental attitude and parental concept are more fundamental, observable and controllable than actual child rearing practice of the parents.

We have already mentioned that other than antecedent conditions, some parental behaviour proper like parental interference, use of reward and punishment, which seem to be more stable and continuous process of child rearing in all time and in all stages of development, have been accepted in our research. These child rearing practices have been given keen attention, as far as possible, in order to study all the aspects satisfactorily.

Thus the term 'child-rearing' as it is used in this investigation includes the following dimensions which will be discussed one by one in the subsequent sections. However, the first two dimensions may appear to many to be very remotely associated with the basic concept of child-rearing, but cannot be ignored due to their high mediational relevance. Therefore, the term 'child-rearing variable' has been accepted in this investigation as to include the following:
3.3.2.1 Parental characteristics
3.3.2.2 Characteristics of children and family structure
3.3.2.3 Parents' perception
3.3.2.4 Parents' behaviour with the child
3.3.2.5 Parents' attitudes
3.3.2.6 Parents' concept.

3.3.2.1 PARENTAL CHARACTERISTICS

Under the heading of parental characteristics, parental age, sex, education and interest pattern will be examined in order to find the relationship with creativity.

Parental Age

Parental age may be an important factor affecting development of child. Physiologically, before 21 years of age the female reproductive apparatus is not fully mature and the hormones needed for reproduction do not reach their optimum levels. On the other hand, after 29 years, hormonal activity gradually decreases. But there is no evidence that parental age affects the prenatal development of the child (Hurlock, 1978).

Other than physiological conditions there are some psychological factors like values, belief and
romance relating to parental age which affects development of child. In this regard the comment of Hurlock (1978) is relevant.

"... older parents, in general, welcome their parental roles more wholeheartedly than younger parents". (P. 65)

The reason of this difference of attitude toward parenthood may be more than one. The younger parents generally have a romanticized idea regarding parenthood and their children. They do not normally think about the hazards which are associated with the parenthood. As a result younger parents may form unfavourable attitude toward their children. On the other hand, older parents due to their experience and maturity able to adjust with the hazards of parenthood and feel that the parenthood is the combination both of pleasure and duty which help the older parents to treat their children reasonably.

It is understood that parental age may be an important factor affecting development of the child. Therefore parental age is one of the important child rearing variables as because it determines the parental attitude and in turn gives rise to favourable or unfavourable treatment to the child. Again though the
relationship between parental age and creativity is not relatively available, it can be assumed on the basis of above discussion that there may be a link between parental age and creative development of the child. However, parental age is not directly a child rearing variable, rather one can call it to be an antecedent condition that determines the kind of child rearing practices. In this sense, it has been included into the set of child rearing variables.

Parental Sex

Parental sex has important role to play in the development of a child. Child rearing attitude of the father and mother differ according to their own belief, values and experience which ultimately find expression in their child rearing practices. Actually men and women may acquire different values and beliefs about themselves from early childhood. This kind of experience has strong influence on their parental role. Tuan (1974) observed that:

"In cultures of strongly differentiated sex roles, men and women will look at different aspects of the environment and acquire different attitudes toward them" (p. 61)
Again Tuan (1974) observed that:

"Persistent differences in the perception and evaluation of environment between the sexes could lead to intolerable discord. However, in middle class American Society such conflict is rarely serious; husband and wife may agree to the same act but for different reasons."

(P. 62)

The nature of relationship between father and mother in the family, may be characterised by the dominance of either spouse or mutual understanding in relation to their parental role and responsibility.

Any of these situations in the family may have important impact on child rearing which in turn may regulate the development of the child in a particular way. It is also found that nature of relationship between parents has important influence on creative development of the child. Weisberg and Springer (1961) observed:

"It appears from the data that there are certain family characteristics correlated with creative performance in the children. These are, in summary, expressiveness without domination,"
acceptance of regression, and a lack
of dependency of each parent. On the
other, or on the marriage or family as
a means of reinforcing their own
individual status". (P. 74)

There are other factors which also may insti-
gate the parents to treat their children in a particular
manner. For example, child may prefer one parent to the
other. That slight likings for one parent may be accept-
ed with good humour, or it may lead to hurt feelings and
friction. Parent who is not being preferred may begin
to think himself/herself as third member of a triangle
(Hurlock, 1978).

Therefore, parental sex is significant in
relation to creative development. But this area of study
of relationship between parental sex and creativity did
not get adequate attention and need to be studied
properly.

**Parental Education**

Parental education may be related to the
development of child. Firstly, parental education may
have important impact on cognitive development of the
child. Because it is quite expected that highly educated
parent's will be able to realize child's potentiality and will try to stimulate his intellectual capacity properly than parents who are illiterate or less educated. Parental education, in a sense, makes the academic climate of the family which play's important role in the cognitive intellectual and other development of the child. So far creativity is concerned it may be assumed that primarily parental role is to help their children to actualize whatever creative potentiality their children possess. So particular parental child rearing practice may emerge from parental education which may encourage or inhibit creativity in children.

Some investigators found relationship between parental education and various developments of children. Barbe (1956) investigated the parental educational background of highly intelligent children. Gupta (1976-77) reported after a thorough survey of research studies that parental education influences creativity of the child. Laosa (1980) observed in his study that education has important influence on maternal behaviour resulting from the differences in average level of formal education attained by the mother. Bhandari and Ghosh (1980) found that education of the mother is related to adaptive and personal social development of the children. Garfield and Helper (1962) also observed that parental educational level is important in child rearing attitudes.
Therefore, it is found that parental education is related to child rearing attitude of the parents as well as various developments of the child. Creativity also appears to be related to parental education, though research in this area is inadequate. Considering all these, parental education has been included for study in relation to creative development.

**Parental occupation**

The relationship between parental occupation and creative development have been studied by some investigators.

Weisberg and Springer (1961) found that the degree to which father was professionally autonomous was very significantly associated with children's divergent ability.

Kohn (1977) observed that there was a difference of values and parental behaviour between working class and middle class parents. But this difference, according to him, was due to occupational conditions of parents. It was perhaps due to the occupational conditions of parents belonging to different classes of society which cause difference of values in themselves. Middle class
occupations mainly deal more with the manipulation of interpersonal relations, ideas and symbols. On the other hand, working class occupations deal more with things. Again middle class occupation is generally free of close supervision, but working class occupation are more subject to direct supervision. In short, it can be said, that the middle class occupations demand a greater degree of self-direction, while working class occupation demands individual confirmation to rules and procedures established by authority.

One of the current important problems of developmental psychology is the impact of maternal employment on child. Hoffman (1974) studied the effect of maternal employment on child. He found that mothers who were employed provided a different role model than that of unemployed mothers. He also observed that mother-child interaction were influenced by mothers mental state which was an effect of employment. One of the important findings of Hoffman (1974) was that the emotional state of working mother affect child rearing practices. It was also observed that working mothers were not able to supervise their child properly. But cognitive and emotional deprivation of child due to maternal employment had not been established by his research.
Recently a study by the University of Michigan Institute for Social Research (U.S. News of World Report, 1986)* found that mothers who are employed spend an average of 11 minutes per day of quality time (defined as exclusive playing or teaching) with their children during week day and about 30 minutes daily on the weekends. Fathers spend an average of 8 minutes of quality time with their children on week days and 14 minutes on weekends. On the other hand non-working mothers spend 13 minutes per day of quality time with their children. There is no clear evidence that children of working mothers are being disadvantaged.

Another similar study was the Kent State University study (U.S. News of World Report, 1986)*. The sample consisted of 573 elementary school students. It was revealed that children of working mothers scored higher on I.Q. and reading tests, had better communication skills and were more self reliant than children of non-working mothers.

**Parental Interest Pattern**

Parental interest pattern has been included into the set of child rearing variables for the following reasons.

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Parental interest to some specific activities may subject their children to the exposure characterized by similar activities. That means child's interest pattern may be determined, to some extent by the parental interest pattern.

The type of activities in which parents are engaged in their leisure time at home, constitute a particular climate within home which may influence interest pattern of their child indirectly. For example, parents who are repetitive in their interest are not expected to stimulate their children to perform non-repetitive or creative work. On the other hand parents who spend their leisure time by doing creative work would be expected to provide scope for their children for performing creative activities.

Therefore, parental interest mainly through their child rearing practice may help their children to develop the similar interest pattern. And here lies the justification of taking parental interest as child rearing variable for our present research.

Again interest pattern is significantly related to creativity. Because, interest pattern denotes, in a sense, creativity of the person. Children who are repetitive in all of their activities cannot be called creative.
So far research in this area is concerned, it is found that the study of impact of parental interest on creativity of their children are relatively unavailable. Though many researchers like Weisberg and Springer (1961) examined the relationship between professional autonomy of father and divergent ability of children. Reporting Eisenman and Foxman, Sharma (1979) writes that father having autonomy of profession provides model for autonomous thinking and effectiveness. The parents exhibit enthusiasm for creative activities and encourage children for independent achievements. Sheldon (1954) investigated the families of 28 highly gifted children and found that in terms of families' value system there was a strong emphasis on education and on verbal and dramatic performance. It was also found that parents tended to plan the non-school time of their children arranging all play and social events by appointment with other parents. Dyk and Witkin (1965) also found mothers and fathers who were interested and participated in child’s creative activities.

The above findings imply the relationship between parental activities and creative or other developments of child, but do not clearly established the impact of parental interest pattern on creativity of their children. Therefore, our concern here is to study the relationship between parental interest pattern and development of creativity in children.
3.3.2.2 CHARACTERISTICS OF CHILDREN AND FAMILY STRUCTURE

It has been found in the previous section that parental characteristics like age, education, occupation, and interest pattern are some of the significant antecedent conditions which control child rearing practices of parents and in turn might be related to creative development of their children. But it should be noted that parental child rearing practices do not solely depend on parental characteristics. The characteristics of children and family structure are also very important factors which play vital role in shaping parental rearing attitude and treatment to the child. So 'parent shapes Child' is not the only perspective of parent-child interaction. Many investigators like Bell and Harper (1977), Lerner and Spanier (1978) claimed that the given characteristics of a child shape parental action. According to Laosa (1982):

"... it seems obvious that at least in some instances the child's behaviour vis-a-vis parental actions would influence the nature of the interactions between parent and child." (P. 6)

For the above mentioned reasons some factors like ordinal position, number of children, pattern of education among children, child's interest pattern,
children's intelligence and early physical and motor development of children have been taken for our study. It has been assumed that these factors may be very much important in relation to creative development for the reasons discussed against each factor.

**Ordinal Position And Number of Children**

Many investigators studied the relationship between ordinal position, number of children and child's development. There is evidence that most of the gifted children belong to first in ordinal position or only children in the family (Weisberg and Springer, 1961; Goertzel and Goertzel, 1962; Schachter, 1963; Altus, 1965).

Mackinnon (1960), Cicirelli (Gupta, 1976-77) observed that birth order and family size play a vital role in creative development. Roe (1953), Cattell and Brimhal (1921) also found that the chances of the first born child to be creative were rated high. Though some investigators like Datta (1967) did not support these findings. After examining the sample from U.S. and England Altus (1965) found that there was a strong relationship between eminence and ordinal position. It was found that first born children were more curious, cooperative and motivated by affiliative needs.
According to Altus (1965) it was possibly social factors which may cause first borns to have a different relationship with their parents than other siblings.

Some investigators like Belmont and Marolla (1973), Zajnoc (1976) observed that performance of children on intelligence or achievement tests varies with family constellation factors such as number of children in the family, spacing between children, and the birth order of the child.

Hurlock (1978) also reported that family size has important impact on family relationship. Family size again has many dimensions like the number of interactional system in a family, the composition of the family, parental attitude toward family size etc. All these factors may have impact on child's development.

Therefore, it is found that there is a relation among ordinal position, family size, creativity and other developments. In this regard some contradictory results also have been found by the investigators. For example, Roe (1953), Cattell and Brimhal (1921) found that the chances of first born child to be creative were rated high. On the other hand Datta (1967) did not support their view. So further research is needed in this area to explore the nature of relationship among ordinal
position, family structure and creative development.

**Children's Interest Pattern**

A person's pattern of interest speaks much about the person. It may be inferred that the pattern of interest of creative persons will differ from that of non-creative persons. Persons who are repetitive in all their activities, perhaps, cannot be called creative. On the other hand, at least, certain activities of creative persons are expected to be non-repetitive. So the pattern of interest may have some relationship with creativity. For this reason an attempt will be made to explore this relationship.

So child's interest pattern which grows basically from home environment is very much important in relation to creativity. But child's pattern of interest in relation to creativity has not been studied by the investigators. The present study, therefore, considers interest pattern of children within the span of child rearing variables because, it speaks indirectly and partially something about the interest and encouragement on the part of the parents.
Intelligence

Intelligence as a variable has been taken for our study. Perhaps the most burning problem in the area of creativity is to explain the exact relationship between intelligence and creativity. Psychologists possess difference of opinion regarding the relationship between intelligence and creativity.

Getzels and Jackson (1962), Torrance (1964) reported that many children with high creativity have I.Qs considerably below the average for their peers. Torrance (1964) observed that:

"if we were to identify children as gifted on the basis of intelligence tests, we would eliminate from consideration approximately 70 percent of the most creative. This percentage seems to hold fairly well, no matter what measure of intelligence we use and no matter what educational level we study from kindergarten through graduate school" (P. 53)

The psychologists like Bowers (1960), Bee (1976), Olshin (1965) also possess more or less similar views with Torrance (1964). Bowers (1960) found a low positive correlation of .26 between various subtests of the MTCT
and Stanford-Binet I.Q.'s in a school group of children 9 to 11 years of age. An important link between verbal creativity items on MTCT and I.Q. was observed by Olshin (1965), Wodtke (1964), Wallach and Kogan (1965), Yamamoto (1965) have questioned whether creativity as measured by the MTCT is actually independent of intelligence. Yamamoto came to conclusion after administering the Lorge-Thorndike Intelligence Test and the MTCT to 1288 fifth grade children divided into four groups on the basis of I.Q. that:

"... beyond a certain minimum level of intelligence, being more intelligent does not guarantee a corresponding increase in creativity. The results do not, however, support the view that creativity is an entity independent of other facets of human intellect." (P. 300)

Anastasi and Schaefer (1971) observed significant intercorrelations with I.Q. and reported that I.Q. and creativity are broad, loosely-defined concepts which describe a multiplicity of interrelated traits. Guilfor and Christensen (1973) observed that an average correlation of .25 between divergent production tests and I.Q.

So importance of investigating and relationship between intelligence and creativity is bey question.
But why should it be considered in the perspective of child rearing? There are two reasons. First, when we apportion our sample into two or more creativity groups, we must be sure that the basis of stratification is creativity, not intelligence, and second, indirectly, the intelligence reflects the child-rearing climate in the family to some extent.

**Early Physical & Motor Development**

Early physical and motor development are important psychologically because it influences child behaviour both directly and indirectly.

For the present purpose both physical and motor development of children in their early life have been included in our study for the following reasons.

Early years are critical in the child's development. Many investigators showed that child's life time is the most important period during which the foundations are laid for the complex behavioural structures (Erikson, 1964; Glueck, 1966; Smith, Flick, Ferriss and Sellmann, 1972; Crumley and Blumenthal, 1973; Bijou, 1975).

Therefore, early physical and motor development of a child may be important and may have far-reaching effect on child.
Now these two kinds of development have been the subject of our study for two basic reasons. First, physical and motor development may be regulated by family environment and may regulate the environment of family. In other words, physical and motor development may partially be the effect of parental child rearing practice and also determine parental reaction to the children. Hurlock (1978) writes that there are so many factors in postnatal environment which may affect the child's physical development. Hurlock (1978) mentioned some of these factors influencing variations in body size, height etc. These are nutrition, emotional disturbances etc. Well-nourished children, for example, are taller and reach puberty sooner than poorly nourished children. Persistent emotional disturbances prevents the children to reach the expected height. Children from homes of low socio-economic status are smaller than other children (Hurlock, 1978). Again parental authoritarian child rearing methods cause nervousness and sickness in children than children who are brought up by democratic child rearing methods. Deprivation of mothering in early childhood is also responsible for hindrance in favourable physical development (Coddington, 1972; Mattasson, 1972). Unfavourable environmental conditions may be responsible for delayed motor development. Wenar (1976) reported that parental over-protectiveness, restrictive mothers lower the child's level of competence in motor activities while stimulating
So it might be told that family environment, particularly, parental child rearing method are responsible for physical and motor development in many respects. Again, parents may react variedly to the physical development of their child. These reactions also may determine the development of the child. Because these reactions of parents to the physical development of their child according to Hurlock (1978) have greater psychological impact. Hurlock (1978) writes:

"... if parents are concerned about their children's being too short or too thin and if they constantly urge them to eat more than they want so that they will "grow bigger" children are likely to become concerned and wonder if there is something wrong with them" (P. 112)

So our assumption that child rearing practices of parents are related with physical and motor development has strong ground. But the question now arises as how the physical and motor development of child may be related to the development of creativity.
Physical and motor development are related to emotional, personality and intellectual development. The time of dentination, growth of teeth, the time of erupting permanent teeth etc. have impact on child's emotion (Hurlock, 1978). It is also reported that physical defects are related to emotional disturbance, behavioural difficulties, personality disturbances (Halverson and Victor, 1976; Hurlock, 1978).

Intelligence is, as reported by many investigators, related to motor development. Children with very low I.Q. may be accompanied by retardation in motor development. Again, very high I.Q. which encourages interest in intellectual rather than motor activities, lack of opportunity and motivation to develop muscle control and emotional tension that interferes with muscle coordinations (Dare and Gordon, 1970; Koocher, 1971; Isaac and Connor, 1973).

Physical development is related with mental development. Some psychologists observed that good physical development is positively related to intelligence. Hurlock (1978) writes:
"When physical development is rapid, so is mental development. Just as physical development is marked by changes in body proportions as well as by increase in size, so mental development is characterized by different rates of growth for memory, reasoning association, and other mental abilities." (P. 34)

Mattsson (1972) reported that children who could not engage in the activities of their healthier agemates develop feelings of inferiority and martyrdom. Rapier et al (1972) also observed that physical defects may be related to inferiority complex. So physical and motor development determine personality pattern of the child.

Therefore, it is observed that physical and motor development may have favourable or unfavourable relation to cognitive and personality development of the child. So there is sufficient reason to believe that physical and motor development may be related to creative development as it is found in the case of intellectual development.
Again, if physical and motor development are related to personality of the child then those may have an indirect effect on creativity of the child. Because investigators observed some unique personality characteristics in creative persons. For example, as Hurlock (1978) comments that physical conditions have greatest effect on the core of the personality pattern which may be called self-concept. Again this self-concept may be related to creativity. Some investigators (Reid, King and Wickwire, 1959; Weisberg and Springer, 1961; Fleming and Weintraub, 1962) described creative children as having less attitudinal rigidity and great self-confidence and persistency in goals. These personality pattern of creative children may be described as manifestation of their self-concept in a broad sense. Therefore, in all respects, physical and motor development have justifiably been included within child rearing variables.

3.3.2.3 PARENTS' PERCEPTION

In our study parents' perception of their child's behaviour and development have been given more attention than actual assessment of child's development. Because it appears for a number of reasons that the perception of parents of their child's development and behaviour are no less important than actual assessment
of the same. Parental perception has been considered to be more dependable and controllable aspect than assessing developmental sequence of the child. The reasons in support of the idea of taking parental perception of child’s development and behaviour as more significant than actual developmental events of the child for this investigation, may be stated below.

Firstly, parents' perception of their child's behaviour or development means a gross evaluation of the same by the parents. A father who perceives his child to be highly intelligent means that he evaluates the intellectual ability of his children to the extent of an overall superiority.

Secondly, evaluation along with other things, determines the parental rearing practices. Because how will a parent treat his child, to a great extent, depends on the evaluation of his child. The rearing practice of the parents, in terms of the stimulations and facilities provided, utilization of the advanced mode of communication etc., who evaluate their child's development of language to be fast are expected to differ from those parents who do not evaluate the language development of their child to be so.
The further reason of giving importance to the parental evaluation of child's developmental sequence and rate is that it seems to be relatively enduring. Parental evaluation as it has largely emerged from parental belief and characteristics do not change very shortly. Although the parents may observe the day to day developmental events, the greater source of parental evaluation is basically parents' conception and attitude regarding child rearing and child development. So a kind of mental set is more responsible for evaluating child's development than objective data, which may not be expected to change quickly. On the other hand, developmental sequence and rate of the child undergo change by natural way. Developmental events and amount of change in a child may vary day by day, year after year. There is a continuous change in the amount of development from birth to adolescence which can very accurately be studied by longitudinal studies and it is an admitted fact that longitudinal studies are for a number of reasons difficult.

On the other hand the development of a child may be assessed using standardized norms or may be available from parental retrospective report. But both of these methods of getting developmental information of child have serious problems.
Firstly, for assessing every developmental aspect of the child we have to use specific tests or measures which is difficult and time-consuming. But most striking point in this regard is that in using standardized tests for the assessment of child's development we may get only cross-sectionally the developmental information of the child at the age which has been taken for study. Since the age group that has been taken into this study may be called just the preadolescence group and is liable to undergo rapid change resulting in a state of disequilibrium, it is neither a retrospective report of development nor a standardized measure may be helpful.

Again the retrospective reports of parents regarding their child may be fallible. Many investigators pointed out that parental retrospective reports are not reliable to be taken for scientific study. Radke-Yarrow (Jersild, Telford and Sawrey, 1975) reported an well-conducted study of parent's retrospective accounts over an extended period of time. Radke-Yarrow (Jersil, Telford and Sawrey, 1975) reported that:

"... the children of the mothers in this study had attended a nursery school where systematic records were kept of psychological and medical examinations, teacher
ratings, and interviews with mothers. These children were from six to thirty two years old when retrospective interview reports were obtained from their mothers. Approximately eighty variables or aspects of maternal care and childhood behaviour were singled out for study .... The findings indicate that retrospective accounts given by mothers were, on the whole, quite undependable, both when they described the child rearing practices they had used and when they described the characteristics manifested by their children at an earlier age" (P. 239-240)

Ingraham and Videbeck (Jersild, 1975) also found similar results regarding parental retrospective record. After an interesting study they reported that the parents could not recall 56.5 percent of the incidents happened in their family. Not only that, in addition, 22 percent of the behaviours the parents recalled as having occurred actually had not occurred. If this is the case with the developmental account, one can safely assume that retrospective report of child rearing practices from parents cannot be accepted as reliable.
Therefore, for our present research we have considered the rearing of children from the standpoint of parental perception. The following parental perceptions have been taken in our study. Considering their relative importance than other kind of developments and connection in relation to creative development. Let us discuss them one by one in brief.

**Language and Intelligence Development**

It has already been referred in the first and second chapters that language development is very significant, because for an academic, this is an invaluable groundwork. Speech is the key to so much other learning that it is important to start there (Lovell, 1976). So if creativity is taken into account from the standpoint of human cognitive abilities, then its relationship with other cognitive abilities cannot be ignored. Again human abilities like intelligence and creativity may depend on the development of language. So language development, development of intelligence, and creativity development may be related to each other. Relationship between intelligence and creativity has been the subject of study to many investigators (Ripple and May, 1962; Guilford and Hoepfner, 1966; Cave, 1970; Anastasi and Shaefer, 1971; Sharma, 1972).
But it should be remembered that we have not measured development of language of children by specific test directly (though verbal intelligence of children has been measured by general verbal ability test). So the question arises how may parental evaluation of children's language and intelligence development be related to creative development of their children. It has been assumed hypothetically that parental evaluation of language and intelligence development determines what type of encouragement and stimulation do the children get from their parents. Since the development of language and intelligence are related to creativity, parental evaluation of intellectual development of the child may have some indirect link with creative development. This idea may be viewed by many as looking into the matter from a reverse angle. Because many people can argue that the parental treatment itself may determine the evaluation of language or intelligence development. For example an authoritarian father who disallows his children to speak, may evaluate a normal language development to be fast or advanced. But in either case a kind of relationship between evaluation and parental rearing practice and hence creativity cannot be ignored.
Emotional development

Emotional climate in the family has important impact on child's development. Practically, for all-round development of the child favourable emotional climate is very much essential. Emotional deprivation, on the other hand, results in a deficiency of both emotional nourishment and even in intellectual stimulation. It is very much essential for a child to receive emotional warmth for establishing healthy relationship with others. The child who experienced almost unpleasant emotions like anger, fear, hatred, jealousy etc. cannot adjust satisfactorily to his social environment. Casler (1961) and Yarrow (1961) reported that deprivation of favourable emotional nourishment hampers the physical as well as mental development.

Therefore, emotional climate of the family is intimately related to child's important aspects of development. There are various factors like absence of fathers, mothers' employment, broken home, unfavourable economic conditions, adverse attitude toward parenthood or child and many others which may create unfavorable emotional climate. Again, some other factors like parental harmony, favourable attitude toward parenthood etc. may create healthy emotional climate in the family.
But the important question to be examined for the present purpose is how does the favourable or unfavourable emotional climate within the family regulates the development of child. It perhaps can be explained in one way that parental child rearing practices mediate the effect of family climate on the development of child. So between emotional climate and child's development there is an intervening factor through which the emotional environment of the family controls development. This intervening factor is parental rearing practices.

Therefore, it is assumed that emotional climate determines child development basically through parental treatment. But the factor which has been taken into our study is not the parental rearing practices but the parental evaluation of child's emotional development. So the chain of relations may be explained in this way that emotional climate of the home, which is the reflection of a host of factors, determines parental evaluation of the child's emotional development and which in turn regulates parental treatment to the child. Out of various antecedent conditions, parental evaluation of child's emotional development is significantly related to parental rearing practices. How the parents treat their child depends on their evaluation. So parental evaluation is very much significant in relation to child rearing practices.
But the question still remains how parental evaluation of child's emotional development may be related to creativity. The following is the reason for assuming a relationship between parental evaluation of child's emotional expression and his creative development.

If parents evaluate the expression of their child's anger, fear, excitement, anxiety as excessive then they may try to exert their power to control child's emotional expression. Again, if a father or mother perceives those emotional responses as adequate he or she may be expected to let the child express his emotions independently. Then the parental evaluation of child's emotional expression, irrespective of child's actual emotional responses, may give birth to two different kinds of parental treatment which may be favourable or unfavourable for creative development of the child.

Many investigators observed that parental excessive control or dominance were not favourable for creative development. On the other hand, parental autonomy was related to creativity positively.
So it may be hypothesized that high, moderate or less parental control which may emerge from parental evaluation of their children's excessive or normal emotional responses may be related to creativity positively or negatively.

**Child's Daily Behaviour**

Some activities of child like his choice of food or dress, relationship with siblings, discipline in daily activities, sense of responsibility, behaviour under common stress have been included in our study.

All the above mentioned characteristics of children have been examined, as it was in other cases, from parental evaluative standpoint. The reasons of assuming relationship between parental evaluation of those child's characteristics and creativity have been explained below.

1) **Choice of dress and food**

Parents who perceive their children as fastidious and who do not evaluate them as fastidious in relation to their choice of food and dress, may differ in their child rearing practices. Children who are highly selective in the eyes of their parents are a type
of restriction from their parents. But the child who is moderate or less selective in his dress and food habits is expected not to face parental restriction. A general reason may be that parents normally try to exert their control at least on some of the child's activities the expression of which, evaluated by them as excessive and the degree of control, as it is referred earlier, may give rise to some traits of personality in the child which may be indirectly related to creative development. Excessive parental control hamper development of self-reliance and sense of individuality in the child and in turn may be related negatively to creative development. On the other hand, reasonable parental control or parental autonomy helps to grow a respect for individuality in the child which may be favourable for creative development.

ii) Sibling relationship

Relationship among siblings is an important aspect of home environment. In case of one-child family the question of relationship within siblings does not arise. But in other cases sibling relationship is very significant. Because family relationship is affected by the relationship within siblings (Hurlock, 1978). Number of siblings determines the number of interactional systems in a family. d this
number of interactional systems in a family is very important. With the arrival of a new family member the interactional system of the family is changed, that means, relationship among siblings also takes a new dimension. Therefore, larger the family, the greater is the number of interactional systems and generally complex the sibling relationship. So it may be assumed that relationship among siblings is very important factor within family which may have impact on the development of child. Moreover, investigators have specifically reported that child's relation with siblings determine the congeniality or non-congeniality for creative growth (Sharma, 1979; Gupta, 1976-77).

Parents' perception of sibling relationship has been hypothetically related to creativity on the basis of similar arguments like those in the case of parents' perception of child's emotional expression.

iii) Discipline in daily activities

Parental evaluation of children's discipline in performing their activities and its relationship with creative development may be conceived on the basis of similar arguments referred earlier.

If parents perceive their child as very
much unsystematic in performing their daily activities then they are expected to exert strict disciplinary measures on their children to make them systematic than the parents who evaluate their children as already systematic or disciplined in their activities. On the contrary, some other parents under similar circumstance may leave out their children giving less responsibility. Therefore, parental permissiveness or disciplinary rearing practices may follow the type of parental evaluation in relation to their children activities.

Parental strict disciplinary or high permissive child rearing practice, as mentioned earlier, may be significantly related to creative development. Many investigators observed a relationship between strict disciplinary or permissive parental behaviour to their children and creative development. For example, we may mention here the investigation of Watson (1957) and Ellinger (1964). Watson (1957) found that the child from the more permissive families were rated as havin significantly greater spontaneity, originality and creativity. Ellinger (1976) also observed that highly creative fourth-grade children were more involved in family activities and experienced less coercive discipline than their less creative counterparts.
Therefore, parental perception of their child's pattern of performing daily activities may be examined in relation to creative development.

iv) Child's behaviour under common stress

Children's behaviour under common stress, as it is perceived by their parents has been included in our study to find out the relationship with creativity.

Individual behaviour under common stress indicates his tolerance to the situation. Men differ from each other in regard to tolerance. Somebody tolerates more stressful situation than other. Generally, in the case of children there are few situations come to their life which may be described as most stressful in comparison to older person. But it should be noted that early stressful situation, how much trifid it may be, is significantly related to child's development.

However, for the present purpose our basic question is how parental evaluation of behaviour of children under common stress may incite them to treat their children and in turn is related to creativity. The relationship between parental perception of behaviour of children in stressful situation and development of creativity may be presented basically in two ways.
Firstly, if parents perceive their children as highly tolerant, then their expectation may be higher and they may exert pressure for more and more achievement on their children which may be harmful for favourable development, particularly of creative development of their children. Now the fundamental question is how pressure exercised by parents as child rearing method may be connected with creativity.

There are some common stressful situations or parental pressure a child has to face within family. Among these we can mention some which may be described as pressure related to child's education. These are pressure for scholastic achievement, pressure from advanced curriculum pushed into lower grades, pressure from unjustified high expectation of parents from children etc.

This is an age of competition. Parents want to see their children in competitive mood. Children who withdraw themselves from competition marked as cissie. Lovell (1976) comments that though preventing competition is an absurd concept but feeding competitive spirit into a child may give him an intolerable burden if he does not match his own expectations. But now-a-days an unhealthy competition has been developed among parents in the name of academic development. So if parents
think that their children will be able to bear stress or in other words he is highly tolerant then undue pressure may be laid on children. Too much pressure in childhood may bring some apparent favourable result, but ultimately it frustrates the child and blocks the advancement. Particularly, pressure may be harmful for creative development. Intolerable burden or tension, perhaps, cannot be favourable for creative development. In this regard comment of Hefferman (1966) is remarkable:

"... pressure implies an impelling or a constraining influence, an exigent demand on ones' time or strength by an outside force. Learning under such pressure demands that the learner disregard his inner direction and attempt to meet exacting external demands for urgency and achievement" (P. 21)

Hefferman (1966) further comments:

"... pressure carries (with it) feelings of haste oppression and uncertainty. Instead of being able to concentrate on the task at hand, the child focusses fearfully on the expectancies of the parent or the teacher and dissipates his energy in unproductive
worry, in self-disparagement, and eventually in the normal efforts of any living organism to escape discomfort and frustration" (P. 21)

Therefore, parental evaluation of their child as highly tolerant may incite them to get much from children. An unrealistic expectation may be the consequence of parental perception that their child will be able to bear much pressure given on him and it is observed by some investigators that pressure is not favourable for creative development.

The above way of looking child's development which may emerge from parental evaluation of their child's behaviour under stressful situation is one segment of our argument. We may present our argument in this regard from another point of view which has been given below.

Parents who evaluate their children having high stress-tolerance may grant them more freedom to perform their activities independently. On the other hand, if parents perceive their children having less or almost no stress tolerance then they may try to overprotect their children. And it has been examined by a number of investigators that autonomy and overprotection are significantly related to child's creative and other
developments (Morrow and Wilson, 1961; Mackinnon, 1965). Gupta (1976-77) after surveying literature of many researchers reported that autonomy and overprotection are related to creativity.

On the basis of above arguments, parental evaluation of child's behaviour under common stress has been included in our study to find out the relationship with creativity.

v) Sense of Responsibility

Children's sense of responsibility as it is perceived by their parents, is an important factor which may play an important role in the development of creativity of the child.

Parents' perception of child's sense of responsibility may give birth to a sort of interpersonal relationship between parent and child which may have an impact on creativity. If parents evaluate their child to be highly responsible, then an extraordinary respect by the parent for the child may grow. This kind of parental respect for child's individuality incites him to grant an unusual freedom in exploring his universe and in making decisions for himself. On the other hand,
if parents think their child to be irresponsible then they may show lack of confidence on child. Parents may not be trusting and approving in their treatment to the child. All the parental attitudes and rearing practices which may emerge from parental perception of child's sense of responsibility may have an important impact on creativity. Morrow (1961), for example, observed that parents of superior intelligence are more approving and trusting, affectionate and encouraging with respect to achievement. Mackinnon (1965) also observed that some parental behaviour like an extraordinary respect by the parent for the child, and an early granting to him of an unusual freedom in exploring his universe and in making decisions for himself; an expectation that child would act independently but reasonably and responsibly are related to creative development of the child.

Reactions to Punishment

Parental perception of children's reaction to punishment may be related to creative development of their children.

Nature and amount of parental punishment depend on many factors. But it may also depend on parental evaluation of child's reactions to punishment.
Parental evaluation of child's reaction to punishment as adverse denotes a hostile relationship between parent and child. Bornston and Coleman (1956) found that domineering tendency of the mother causes the child to react to frustration by hostile aggression. They also observed that child of domineering mother does not try to evade the expression of aggression and more the tendency for the mother to be ignoring more the tendency for the child to respond with hostile aggression.

So it may be assumed from the findings of Bornston and Coleman (1956) that the parents who evaluate their child's reaction to punishment as highly adverse may be domineering in their child rearing practice. Parents' perception of child's hostile reaction to punishment also disclose that parents may be ignoring in their behaviour to child. Because Bornston and Coleman (1956) found that child showed more hostile behaviour, if mother showed greater tendency to be ignoring to her child. There may be other causes of parental perception of their child's reaction to be adverse or favourable. According to Shorkey (1985) irrational thinking is related to child abuse. Shorkey (1985) reports that irrational thinking causes intolerance and demandingness of parents about themselves and their children. Again, irrational thinking of parents
according to him, lacks humanistic understanding and acceptance of themselves and their children. So on the basis of Shorkey's (1985) findings it may be assumed that perhaps parents who are irrational, more demanding, lacks humanistic understanding may evaluate easily the reaction of child to punishment as highly adverse. On the other hand, parents who are tolerant, humanistic, reasonable may not perceive the reaction of the child to punishment as hostile.

It is found from the above discussion that parental evaluation of their child's reaction to punishment as adverse may be related to parental domineering, ignoring and demanding attitude and treatment. Obviously, none of these favour development of creativity. Because domineering, ignoring or authoritarian parental attitude and behaviour are related to creative and others development of child (Nicholas, 1964; Maccoby and Master, 1970; Weisberg and Springer in Lytton, 1971; Cheng Ping, 1973).

Perception of Home, Social, Academic and Economic Environment

Parental perception of home environment, social, academic and economic environment in general may have an indirect relationship with creative
It is true that environment may be judged from objective standpoint. Environment of home may be really 'bad' and one may realize it to be so. But our point of argument here is that how does a person perceive his environment is not less important than actual environmental conditions. Because the same environment may be viewed by different persons differently and how does a person perceived his environment, to a great extent, depends on the personality make up of that person. A father or mother, for example, evaluate the home or social environment according to his or her values, belief, expectation etc. For this reason one father may have most negative attitude to his social environment. The same social environment may be, on the other hand, appear favourable to other parents. So the parental attitude determines how do they evaluate their environment. A father who is, say, pessimistic will try to find out difficulties and defects of his environment. On the other hand, parent who is optimistic in his outlook will perceive positive sides of the environment and overlook or will not give much importance to the dark sides of the environment. If it is so, then we can say that parental perception of environment is very much important because it denotes parent's adjustment pattern and this in turn influence his treatment
to the child. But the question remains that how parental evaluation of environmental conditions may be related to child's creative development. In this regard our argument is as follows.

If a parent perceives his home, social, academic and economic environment to be completely adverse then he is perhaps not likely to expose his child to an encouraging environment. On the other hand, parents who evaluate their environment as favourable are expected to help actualize their child's potentialities.

It seems to us that parental negative perception of environment may be negatively related to creativity and parental favourable outlook to his environment may be positively related to creative development of the child. Though researches are relatively unavailable on relationship between parental perception of home, social, academic and economic environment and child's creative development, but the same may be assessed indirectly. For example Nicholas (1964) and Getzels and Jackson (1962) noted that parents of highly creative adolescents had an openness to experience and an enthusiasm for life. It may be assumed that this kind of openness to experience and enthusiasm for life, perhaps, cannot be expected from parents who perceive their
environment as negative. So there may be some indirect relationship between parental perception of environment and child's creative development.

3.3.2.4 PARENTS' BEHAVIOUR WITH THE CHILD

In the previous section we have dealt with parental perception and its possible relationship with creative development of the child. In this section some important parental behaviour proper will be discussed in order to find out the rationality of including them in our study in relation to creative development.

Interference with the child's activities

How much does a father or mother interfere with the activities of child has been thought to be an important question in relation to creative development of their child. A father who interferes in child's activities in every step cuts short of child's freedom. If the child does not get scope of taking his own decision then he will be more and more dependent on his parents and may lose his self-confidence gradually. Again moderate or minimum parental interference means granting more autonomy to the child to perform his
activities. Minimum or reasonable interference encourages the child to take his own decision. Again, complete lack of parental interference in child's activities may be the another name of parental rejection or ignorance. All these parental behaviour may have direct or indirect impact on creativity. In this regard the comment of Mackinnon (1965) is remarkable. Mackinnon (1965) considered that the parental behaviours like an extraordinary respect by the parent for the child, and an early granting to him of an unusual freedom in exploring his universe and in making decisions for himself; an expectation that the child would act independently but reasonably and responsibly; a lack of intense closeness between parent and child so that neither overdependence was fostered nor a feeling of rejection experienced are significant for realization of creative potentials. So too much parental interference may be harmful for creative development. Practically, child may be given freedom for satisfying curiosity, to release his own ideas in own way. Parents who always interfere with the activities of child perhaps restrict curiosity of the child and this may have an unfavourable impact on creative development of the child. According to Torrance (1961) the factors which affect the development and expression of creative thinking are restrictions on manipulativeness and curiosity and lack of resources for working out ideas.
Punishment And Reward

Perhaps punishment and reward are the most important weapons at the disposal of the parents, the use of which in dealing with children has pervasive and far-reaching effect on children. Nuttin and Greenwald (1968) comment:

"The roles of reward and punishment in shaping human and animal behaviour have long been subjects of study by psychologists as well as topics of interest to persons who are obliged to control or to modify the behaviour of others -- that is persons such as teachers, executives, prison officials, psychotherapists, and, most importantly, parents" (p. 5)

Parents want to know the effect of rewarding a response on subsequent behaviour of children. They also want to know whether punishment inhibits undesired activities of children. So the question of reward and punishment are very much important in relation to child's development. Parental punishment and reward have been included in our study with the assumption that these may be significantly related to creativity of the child.
Parke (1975) after reviewing many important literature reported that punishment was a complex process and its effects were varied and dependent on many factors like timing, intensity, consistency of the punishment and affecotional relationship between the agent and recipient of punishment. According to Parke (1975) punishment could be an effective means of controlling the behaviour of children.

Punishment may be of many types. Parental rejection or ignorance is one form of punishment. Some early investigators Sears, Maccoby and Levin (1957) observed that withdrawal of affection as a form of punishment was a strong reinforcer of dependency. Roe and Siegelman (1966) and Siegelman (1966) observed that introversion in children were related to punishing and low loving parental behaviour. Finney (1961), Maccoby and Masters (1970) and Crum (1975) reported that parental rejection is related to the development of dependency and aggressiveness in children.

Chakrabarti, Kundu and Mukhopadhyay (1985) observed that fluency, flexibility and originality were related negatively to physical punishment. Though they found that flexibility is positively related to social punishment, creativity as a whole was also found to be negatively related to physical punishment.
So in the light of above discussion it is observed that punishment is related to different aspects of child's development including creativity. In our study various types of punishment like physical, verbal, social, punishment in the form of deprivation of food, solitary confinement have been included. Frequency and degree of punishment given to the child by the parents have been considered. The effectiveness of punishment, child's reaction to punishment and causes of giving punishment also have been included in our study to find out the relationship with creativity.

Effect of reward on child's behaviour has been studied by many investigators. Considerable work has been done on incentives, generally defined as attractiveness or amount of reward. The effect of various kinds and qualities of incentives on children have been studied (Bijou and Sturges, 1959; Stevenson and Cruse, 1961).

Siegelman (1966) studied the relationship between loving and punishing parental behaviour and introversion tendencies in sons. It was found that parents of extroverted children were loving in their behaviour to children. Lamb, Easterbooks and Holden (1980) also observed the effect of reinforcement and punishment among preschoolers.
It is found from above that reward plays highly significant role in the development of child. The effect of reward on creativity also have been studied by many researchers. Researchers like Feld (1967) have reported that rewards and punishment in the family play important role in the development of creativity. For inculcation of creativity in school many experiments by quite a sizeable number of researchers have shown that the role of incentives and rewards is quite important (Cartridge and Krauser, 1963; Williams, 1965; Chung, 1979; Kagan and Morgan, 1969; Elkind, 1970; Turknett, 1971; Dili, 1971; Glover, 1973; Hutchinson, 1973; Johnson, 1979). But studies on the role of reward and punishment at home are relatively fewer in number. The reviews made by Jha (1978), Sharma (1979) and Passi (1982) also support this comment.

Chakrabarti, Kundu and Mukhopadhyay (1985) studied effect of reward and punishment on creative personality development. It was found that fluency, flexibility, originality and creativity as a whole were positively related to verbal rewards (like encouragement) and rewards in other forms e.g. taking children to a joytrip. It is also observed that reward in cash or kind did not produce any difference in creative development. But reward in the verbal form and some other forms are found to be effective in creative personality.
Therefore reward given by the parents may have significant impact on creative development of their children. In our study various aspects of reward have been included i.e. occasions of giving reward, frequency and kinds of reward given. We assume that these all may have important impact on creative development of the child.

3.3.2.5 PARENTS' ATTITUDES

Warren (1934)* writes in the Dictionary of Psychology that attitude is:

"the specific mental disposition toward an incoming (or arising) experience, whereby that experience is modified, or a condition or readiness for a certain type of activity"

Guilford (1965b) pointed out that attitude is a tendency towards something. The following is the comment of Guilford (1965b) regarding attitude:

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"our attitudes toward other things and other people are very complex dispositions to accept or to reject. We are favourable or unfavourable toward a person, an institution, a proposal, or a social issue. The positive or negative tendency is apparent in every attitude. We are for or against something. In a general sense, mere preference based upon pleasantness or unpleasantness, an aesthetic judgement or the expression of an interest, all may be called attitudes." (p. 214)

Smith (1968) found that the concept of attitude although variously defined is most commonly employed to designate inferred dispositions attributed to an individual, according to which his thoughts, feelings and perhaps action tendencies are organised with respect to a psychological object.

Park (Warren and Jahoda, 1973) suggests four criteria of an attitude -

1) it must have definite orientation in the world of objects (or values), and in this respect differ from simple and conditioned reflexes;
2) it must not be an altogether automatic and routine type of conduct, but must display some tension even when latent;

3) it varies in intensity, sometimes being regnant, sometimes relatively ineffective;

4) it is rooted in experience, and therefore is not simply a social instinct.

According to Allport (1973):

"an attitude is a mental and neural state of readiness, organized through experience, directive or dynamic influence upon the individual's response to all objects and situations with which it is related"

(P. 24)

On the basis of above mentioned definition and many others we may point out some important characteristics of attitude:

1) Attitude is a complex disposition
2) Attitude is a state of individual mind
3) It is directed toward an object or value
4) Attitude acts on definite object
5) Attitudes are evaluative or affective. It includes either positive or negative tendency.

6) It is a mental state of readiness for a certain type of activity.

7) Attitude is more or less permanent state of readiness though changeable.

Our concern, for the present purpose, is with parental attitude. The following definition of 'Parental Attitude' has been taken for granted for our research:

'Parental Attitude' means the relatively enduring state of mind of parents which is directed toward some definite value relating to home-environment and thus tends to perform certain type of activity related to the discharge of parental duties, functions and child rearing practices.

Now the basic question is how parental attitude may be related to creative development of the child. Our point of view for taking parental attitude in our study in relation to creative development is given below.
Parental attitude is significantly related to child's development. Wolman (1973) writes:

"Attitudes which parents exhibit towards their children have a great effect upon the shaping of the child's development from infancy and subsequent personality characteristics and behaviour, as for example, attitudes of rejection or lack of a meaningful relationship with the mother appear to be factors connected with psychopathetic personality pattern"

(P. 270)

It is found from Wolman's (1973) writing that attitude has great role to play in shaping the developmental pattern of the child. So creativity, one of the developmental aspects, may be influenced by parental attitude.

Parental attitude does not regulate the development of the child directly. Parental attitude determines child rearing practices of the parents and in turn regulates child's development. So parental attitude is one of the sources of parental behaviour proper.

In our study parental attitude toward parental responsibility and role in relation to child's development have been included. Parental attitude toward parental responsibility and role may be related to many factors which again may be related to creativity. A father, for example, who believes that father should be the sole authority in the family, possesses an authoritarian attitude. He does not believe in joint responsibility. In that case one spouse may be dominated by the other. It is also expected that child will not get sufficient autonomy from such a father. On the other hand a father who believes that father and mother both have the important role to play in relation to the rearing of child possesses liberal or permissive attitude. Naturally child rearing practices in these families will differ according to the attitude. All these factors may be related to creativity. Many investigators also examined that authoritative and permissive family environment, spousal relationship are related to creativity (Watson, 1957; Roe, 1960; Weisberg and Springer, 1961; Mackinnon, 1965; Dreyer and Wells, 1966).

So it seems very important to study parental attitude towards parental role and responsibility in relation to creative development of the child.
3.3.2.6 PARENTS' CONCEPT

It is not easy to define concept. Sometimes it is told that to have a concept of cat means the ability to define it. But a child knows what cat is, though he may not be able to define it. So having the concept of cat is not the same thing as being able to define the word cat. Again it is told that in order to have a concept we must first be acquainted with a word. But it is quite possible to have a concept of something when we do not know any word for it. Hurlock (1978) writes in this regard:

"Concepts are not always verbalized. A child may for example, have a clear and accurate concept of what 'generosity' means but not know the word that describes this quality" (P. 357)

Hospers (1975) discussing on concept comments that:

"we might say that to have a concept of X is similar to have some criterion in mind. It would consist in some kind of mental concept quite independent of words and quite independent of distinguishing X's from Y's and Z's" (P. 109)
Concept has been defined by Poppa (Eysenck, Arnold and Meili, 1975) in the following words. According to him the concept is the:

"Categorization of objects and events on the basis of features and relationships which are either common to the objects perceived or are judged to be so by the individual."

(P. 199)

Now for the present purpose our concern is regarding concepts developed by parents about parenthood. Parental concepts are supposed to be included in the important sources of parental treatment given to the child. So it may be said that concept of parenthood determines their rearing practice and in turn the development of the child. Hurlock (1978) writes:

"Concepts are important because they determine what one knows and believes and, to a large extent, what one does. If the concept includes a favourable attitude -- or if it is emotionally weighted with a pleasant emotion -- it will lead to positive actions in the form of acceptance and seeking. Concepts that are weighted with

unpleasant emotions, on the other hand, lead to negative actions in the form of antagonism and avoidance." (P. 357)

3.3.3 **Design of the Study**

There might be two broad types of possible research design in the present context -- correlational design and factorial design. But for our study it appears that correlational design will not be appropriate. Causes for not considering correlational design for our investigation are as follows.

Correlational design for any investigation demands basically two conditions. First, scores should be obtained from measures of continuous variables arising out of the same population. Second, for adopting correlational design normal distribution of the scores are essential, at least too much deviation from normality is not desirable.

But it was found from the plan of our study that though the dependent variables i.e. creativity variables are continuous, it was not possible to treat most of the independent variables as continuous variable.
Some of the independent variables like intelligence of the children, parental concept and attitude towards parental role and responsibility have been included in our study in the way that they may be called continuous variables. Except those variables all other independent variables had to be treated as ordinal variables, although many of them, as it will be apparent in the Chapter IV, were inherently continuous in nature, but most of these variables could be measured as continuous. As a result these were ultimately artificially dichotomised into ordinal categories, 5 or so in number and therefore those variables were not discrete variables in real sense of the term, rather they were treated as discrete variables. But now the question arises why those variables have been artificially dichotomized or in other words why those variables have not been taken in our study as continuous variables. The reasons for treating those variables as discrete variables have been given below.

Firstly, for continuous measurement of a particular trait of child, each specific behaviour of the child through which that trait manifests has to be measured. In our investigation if we were to demand a continuous measurement of parental evaluation of his child's trait, then parents had to evaluate or give judgement against each specific behaviour of the child which were many in
number. It has already been stated earlier in this chapter that such specific behaviour events have not yet been classified appropriately so as to claim confidently that certain behaviour X has a specific reference to certain other trait Y. Again the same behaviour event may be the manifestation of a complex composition of many traits. In that case parents would have been confused to give a valid and reliable response. Therefore, continuous measurement of parental perception regarding their child's development appeared to be unwarranted, at least under present circumstances. For the difficulty mentioned above it was deemed reasonable to measure gross parental evaluation on the basis of some common aspects of child's life. For example, we did not try to measure parental evaluation of child's anger through hundreds of specific activities in which the child's anger might be manifested. Rather we attempted to measure parental evaluation of child's anger on the whole in terms of perceived frequency and intensity. But the objectivity of the parental rating was not ignored as the parents were to cite specific instances of angry expression.

Secondly, plenty of tests would have been essential for continuous measurement of each specific area of parental perception. But these kinds of tests
to measure parental perception of child's specific behaviours are not available. And it is almost impossible for an individual researcher to prepare so many tests and administer those tests in practical field.

Thirdly, parental evaluation of child's behaviour has been the focus of our attention. Therefore, no attempt was made to measure child's specific behaviour. So for our purpose it is sufficient to get information regarding parental frame of reference through these discrete variables. In other words, to know parental evaluative judgement in the form of continuous measurement of child's specific behaviour was not considered essential.

Therefore, keeping in view the purpose of investigation most of the independent variables have been artificially dichotomized and treated as discrete variables.

Since continuous measurement of variables were not considered and as scores from the measures of continuous variable are essential for correlational design, it did not appear to be appropriate for our investigation. Again for adopting correlational design it is normally essential to get scores from measures of continuous variable arising out of the same population. But
in the case of our investigation we have got creativity scores from children, in one hand, and scores on the independent variables from their parents on the other. So the population were different and obviously correlational design appeared not to be appropriate for our investigation.

It seems from the above explanation and also as it will be evident from the objectives and research questions given below that factorial design is suitable for our study.

After lengthy discussion of the variables let us state the major objectives of the study briefly in the following lines.

1. To study the relationship between parental perception of child's emotion, activities and behaviour and creativity, if there is any.

2. To study the degree of agreement between father and mother in respect of their evaluation of child's behaviour and activities and if it is related to creativity.

3. To study whether creativity of children are connected with some of their parental characteristics.
4. To study whether there is any relationship between child's certain own characteristics and creativity.

5. To study some parental behaviour proper in relation to the creativity of children.

These objectives of our study may be put more specifically or explicitly in the following manner in the form of research questions:

1. Is there any difference regarding perception of parents, as mentioned in the objectives, between high creative and low creative?

2. Do the parents of high creative and low creative children differ in respect of their degree of agreement regarding perception or evaluation of child's behaviour and activities?

3. Is there any difference between parental characteristics of high creative children and low creative children?

4. Do the high creative and low creative children differ in respect of their own characteristics?
5. Do the parents of high creative children differ from the parents of low creative children in respect of the treatment to their respective children?

Now it seems clear from our research questions that we have to consider two creativity groups in one hand and two groups in relation to parental sex on the other hand. So far creativity of children is concerned we have two groups:

1. High creative group
2. Low creative group

So far parental sex is concerned we have two categories:

1. Father and
2. Mother

Therefore we have four groups in all:

1. Fathers of high creative children
2. Fathers of low creative children
3. Mothers of high creative children and
4. Mothers of low creative children.
The exact mode of selection of these groups will be discussed in the following chapter.

So it is obvious from the plan of investigation that factorial design is appropriate.

3.3.4 Hypotheses

On the basis of the design mentioned above the following hypotheses are set for the present investigation.

1. It is hypothesized that there is no difference regarding the perception of parents as mentioned in the objectives and research questions, between two extreme creative groups;

2. There is no difference between high and low creative children in relation to parental agreement regarding child's behaviour and activities;

3. There is no difference between parental characteristics of high and low creative children;

4. High and low creative children do not differ in respect of their characteristics;

5. Parental treatment of high creative children do not differ from that of low creative childr.