

Chapter 2

A REVIEW OF RELATED RESEARCH

2.0.0 Introduction

The chapter preceeding was a contextual presentation of the 'child in transition', the class one child making her entry into the formal school system. The chapter was an elaboration of the various aspects of this child in transition - her innate developmental characteristics, the demands of the formal schooling, and the environmental influences that affect her developmental characteristics and school achievement. The present chapter is a review of studies that have sought to understand the relationship between one, the environmental variables and the developmental characteristics or environmental variables and school achievement. Two, studies studying the developmental characteristics and school achievement. The studies reviewed are presented in two broad sections: 1. studies conducted abroad, and 2. studies conducted in India. This categorisation becomes essential to understand the status of the concerned research field in other countries and in India.

2.1.0 Research conducted abroad

Numerous research efforts have been made by social scientists to understand the child's home environment. Educationists and child psychologists have been focusing their attention on the relationship between home, child's personality and school achievement. Research on home environment under these disciplines essentially comprised of two main components, the 'home' aspect of it and the 'individual' or the 'child' who is developing in this context.

Evolution in the area has been dependent, to a great extent, on the evolving concept of these two entities. Different psychologists, developmental theorists and sociologists through their theories have added to our understanding of the human being as also, of her context. Consequently, both the individual and the home environment have progressively acquired more complex definitions. Research endeavours have shown to make shifts in their research questions on the basis of these theories, and also, by newer developments in the research methodologies and psychometric testing. A third factor affecting the nature of these research has been the changing global scenario in terms of the socio-economic and political conditions. For instance in the west the post World War II gave rise to a newer set of issues to the home environment, till then issues like father absence, working mothers were not that predominant. The research efforts later began taking cognizance of these contemporary issues as well.

The research trajectory on home environment has progressed from viewing home environment as a mere conglomeration of the SES _ the socio-economic status variables such as, the income, occupation, education, living standard etc, to viewing home environment as a context comprising of a network of status and process variables, and as a microsystem which is a part of a large macro-system, the society. So also, different aspects of the child's personality have come into focus _ from the intransigent intelligence - IQ, to cognitive development and creativity, to other traits like aggression, cooperativeness, initiative, achievement motivation, introversion- extroversion so on and so forth. The review of home environment research showed that extensive research has been done in the last four decades taking the SES related variables. Although, these SES measures are found to be rather gross and undifferentiated they have consistently shown to contribute about 6 to 25 percent of the variance in IQ and academic achievement measures (Lavin, 1965; Miner 1957). The emphasis in home environment has therehence been

to explore the influence of the variables and processes that are operating in the child's home environ, her home environmental experiences.

The present review concentrates mainly on studies that explore into these home experiences, or a combination of both the SES and process variables. The present review is not exhaustive, it is essentially constructed to illustrate the nature of advances and the trends in this area. Review of the studies conducted abroad showed that research pertaining to home environment could be divided in two broad categories. The first category, essentially the initial efforts, emphasize the parenting styles in relation to certain child attributes. Parenting styles basically was the exposition of the different ways in which the parents disciplined the child and the effect of these on the child's characteristics. The second category of studies makes a shift from the the disciplining methods and its effects to taking a broader view of the home. The concept of home environment as a network of varied processes and status variables in relation to the child characteristics form the thesis of these attempts. The section - 2.1.1 Parental Disciplining and Child Characteristics is an elaboration of research endeavours falling in category one. Section - 2.1.2 cites research attempts falling in category two, studies with The Home Environment perspective.

2.1.1. Category 1: Parental Disciplining and Child Characteristics:

Radke (1946) investigated the effects of parental attitudes and practices on pre-school aged children's behaviour by a variety of research techniques. The parents of forty three nursery school and kindergarten children responded to extensive questionnaires, and were interviewed about their attitudes and practices in the area of child discipline and parental authority. Behavioural data on the pre-school children were obtained through teachers ratings, interviews with the children and several experimental and projective

situations. Radke found that the children from homes in which an autocratic discipline existed were rated by their teachers as more unpopular with associates, more quarrelsome, more unstable emotionally, more daring and uninhibited, more sensitive to praise and blame and less considerate of others than children from democratic homes.

On the basis of a careful review of the research literature on parent child relationships, Radke (1946) further summarized the kinds of child behaviour most commonly associated with different types of homes. Her findings revealed that more positive child characteristics (good adjustment, independent, co-operative, self-reliant, responsible, socially acceptable) are more associated with homes where child acceptance, consistent discipline, well adjusted parents, and parent-child companionship prevailed. On the other hand more negative characteristics (submissive, aggressive, adjustment difficulties, feelings of insecurity, nervousness, sadistic, shy, stubbornness, jealousy, disinterestedness etc.) were associated with rejection, over indulgence or 'babying', domination, poorly adjusted parents and inconsistent discipline.

Symonds (1949), after an extensive study of parent-child relationships, concluded that if one or both parents strongly reject a child she tends to become over aggressive or hostile and may resort to truancy, lying and stealing. If, on the other hand, the parents exercise over protection with a child, she tends to become overdependent, relatively helpless for her age and non-cooperative in situations requiring give and take. Different observers report different results relating to the reactions of children to over-strictness and overinhibitive treatment in the home. Some report that the child tends to become over-aggressive and rebellious; others that she becomes submissive and ^{stait} laced with an over-strong superego.

Abbe's (1958) research endeavour also corroborates the above finding, he found that both high maternal restrictiveness as well as maternal laxity and over indulgence are associated with emotional disturbance among children.

Baldwin, Kalhorn and Breese (1945) studied homes on the democracy in the home, acceptance of the child and indulgence dimensions. They further divided these three, dimensions on 'high', 'low' and 'middling' level. These investigators come out with interesting findings, they found that during the pre-school years children from democratic homes were retarded in overt sociability and friendliness whereas, children from indulgent homes were highly social in both friendly and quarrelsome ways. The rejectant group differed little from the norm, although they showed some resistance to adults. However, the picture was considerably different by the time the children reached school age. Children from democratic homes were extremely sociable and friendly; children from indulgent homes were shy and less sociable, children from rejectant homes were quarrelsome and resistant to adult guidance. It was further noted that by the time children from the democratic homes reached schoolage they were popular and dominant in an integrative way. They seemed generally to be secure and serene and adjusted easily to school life.

Pentony's (1956) study conducted in Australia corroborates the above findings. Highberger (1955) however failed to do so in his attempt, for he found no significant relationships between four of the Fels Scales and 80 behaviour items related to childrens early adjustments to nursery schools. Highberger however admitted that the adjustment scale was probably inadequate as a measure of children's behaviour.

In yet another of Baldwin's study (1948), he found that the democratic child rearing practices tend to produce an aggressive,

fearless and planful child who is likely to be a leader in pre-school group. However, democracy runs the risk of producing too little conformity to cultural demands. Many parents who find themselves unable to withstand their child's aggressiveness resort to authoritarian control procedures. This later home atmosphere tends to produce quiet, non-resistant children who are unaggressive and well behaved, but who are also restricted in originality, curiosity and fancifulness.

Authoritarian and highly punitive child-rearing practices are also found to be associated with many other childhood behaviours like stressful cardiovascular responses (King and Henry, 1955), aggressive and assertiveness (Mummery, 1954) and ethnocentrism (Lyle and Levitt, 1954).

Sears, Maccoby and Levin (1957) adopted a detailed interview schedule to study parental behaviour. Their pre-occupation was with the child rearing practices followed, concerning the feeding and the toilet training aspects and also matters of disciplining. In a comprehensive study of 379 mothers of five year old children, they found that: 1. there was a difference in child-rearing practices adopted for boys and girls, especially those related to aggressiveness; 2. maternal coldness (low degree of affectionate interaction, little time to play with the child, relative rejection of child's dependency, relative absence of reasoning as a method of training) was found to be associated with the development of feeding problems, bed wetting and high aggression; 3. punishment was found to be far less effective than reward for changing the child's habitual way of behaviour. Sears, et al. in their conclusions opined that it is the overall climate of home that is a major fact in the total development of children at any age.

One longitudinal study done by Fels Research Institute (Kagan and Moss, 1960, 1962) compared the effect of mother's restric

tiveness on children of different ages. It showed that early restrictiveness (age 1 to 3) on children tended to have lasting inhibiting effects. Later restrictiveness (age 3 to 6) had fewer consistent effects. Restrictiveness imposed on children of 6 to 10 years had the opposite effect; they reacted with hostility rather than submissiveness. The researchers also found that effect of restrictiveness was, more stable in girls than in boys. Most dependent passive girls remained this way as adults as well.

The preceding research attempts have mainly focused on parental behaviours, on dimensions like over-indulgent, autocratic, restrictive, over-strict, punitive, rejecting, or democratic, permissive, autonomous or accepting behaviours. The findings consistently show that positive parental behaviours had stronger relationship with positive characteristics among children and negative parental behaviours related more to negative child behaviours. However, this kind of categorisation had put parental behaviour on two very specific and opposing categories. Disagreeing with this, Becker (1964) put forth a model by which one could evaluate parental behaviour in a more flexible and scientific way.

Becker (1964) in his research on home environment made a departure from the line usually followed till then. He believed that the parental behaviour for one is not so easy to categorise, for parents are seldom consistent in their behaviour. Second, one cannot put parental behaviour in distinct categories, for parental behaviour functions more on a continuum than as a polarity. Becker therefore developed a model to understand parental behaviour in a more comprehensive and flexible way. He saw parental behaviour as having three key dimensions. In his view every parent's attitudes and actions fall somewhere along each of these three continuums: restrictiveness vs. permissiveness, warmth vs. hostility, and anxious emotional involvement vs. calm detachment. In its treatment

of parental behaviours as dimensions instead of specific acts, Becker's model encompasses not only extremes of behaviour exhibited by openly hostile parent but also the actions of the great majority of parents who are not at all excessive in their behaviour.

Becker's model also makes us aware of the ways these three dimensions can interact with one another. For example, if we were to look for only specific acts or attitudes, one might assume that two highly permissive mothers were raising their children in the same manner, both dealing with the children in the same calm manner. Yet, this assumption could be wrong if on the other dimension one mother is warm while the other is coldly hostile. This then makes one mother democratic while the other neglectful.

When studies are evaluated along this line, they give more insight into the parental behaviours and their effect on the growing child. For example, permissiveness which is the polar opposite of restrictiveness, does not necessarily produce independent children. In at least a few studies, permissiveness (defined as a non-controlling, undemanding climate) was related to active, outgoing creative and successfully aggressive behaviour in children (Baldwin, 1949; Watson, 1957). But the way the permissiveness interacts with other dimensions is of crucial importance. Permissiveness in a climate of detached warmth (Becker's democratic parent) seems very likely to produce fairly positive characteristics. But, when it is accompanied high hostility (the neglecting parent), permissiveness is more likely to result in non-compliance and aggressiveness. In fact, many studies of juvenile delinquents show that home environments of delinquents have exactly this combination of permissiveness and hostility (Bandura and Walters, 1959; Healy and Bronner, 1926; McLord and Zola, 1959).

Baumrind(1966) has done extensive research for more than a decade studying parent-child relations, focusing upon the effects of

parental authority on behaviour of pre-school children. Her main contribution has been an identifying varied patterns on parental behaviour and its association to behaviour patterns in children. She has categorised parental authority in three main categories; the authoritarian parent, the authoritative parent and the permissive parent. Baumrind summarises the features each categories as follows:

1) The authoritarian parent values obedience as a virtue and favours punitive, forceful measures to curb self-will at points where the child's actions or beliefs conflict with what the parents think is right. The authoritarian parent believes in keeping the child in a subordinate role and in restricting his autonomy and do not encourage verbal give and take, believing, that the child should accept a parent's word for what is right. Authoritarian parents may be very concerned and protective or they may be neglecting.

2) The permissive prototype of adult requires the parent to behave in an affirmative, acceptant and benign manner towards the child's impulses and actions. The permissive parent sees him or herself as a resource for the child to use as she wishes but not as an active agent responsible for shaping and altering the child's on going and future behaviour. The immediate aim of the ideologically aware permissive parent is to free the child from restraint as much as is consistent with survival. Some permissive parents are very protective and loving, while others are self involved and offer freedom as a way of evading responsibility of the child's development.

3) The authoritative parent attempts to direct the child's activities in a rational issue oriented manner. He or she encourages verbal give and take, shares with the child reasoning behind parental policy and solicits the child's objections when the child refuses to conform. Both autonomous self-will and disciplined con

formity are valued by the authoritative parent. Therefore, this parent exerts firm control when the child disobeys but does not ^{len} the child with restrictions. The authoritative parent enforces the adult perspective, but recognizes the child's individual interests and special ways. Such a parent affirms the child's present qualities, but also sets standard for future conduct, using reason as well as power and shaping by regimen and reinforcement to achieve parental objectives.

Baumrind conducted a number of studies attempting to understand the relationship between parent styles and child behaviour. Cited below are the findings of two separate but very much related studies. Data on children were obtained from three months of observation in nursery school and in a special testing situation; data on parents were obtained during two home observations, followed by an interview with each parent.

In the first study three groups of nursery school children were identified in order that the child-rearing practices of their parents could be contrasted. The main findings of this study (Baumrind, 1967) were:

1) Parents of the children who were the most self-reliant, self-controlled, explorative and content were themselves controlling and demanding; but they were also warm, rational and receptive to the child's communication. This combination of high control and positive encouragement of the child's autonomous and independent strivings was identified as authoritative parental behaviour.

2) Parents of children who relative to others were discontent, withdrawn and distrustful, were themselves detached and controlling and somewhat less warm than other parents. They were identified as the authoritarian parents.

3) Parents of the least self-reliant, explorative and self-controlled children were themselves non-controlling, non-demanding and relatively warm. These were the permissive parents.

A second study, of an additional 95 nursery school children and their parents also supported the position. that : authoritative style can achieve responsible conformity with group standards without loss of individual autonomy or self assertiveness (Baumrind, 1966)

In general Baumrind's work on parental authority and child behaviour has consistently shown that parents who were authoritative and relatively conforming, as compared with parents who were permissive or authoritarian, tended to have children who were more friendly, co-operative and achievement oriented. This was especially true for boys. Nonconformity in parents was not necessarily associated with resistant and hostile behaviour in children. Neither did firm control and high maturity demands produce rebelliousness. In fact, it has generally been found that close supervision, high demands for obedience and personal neatness, and pressure upon the child to share household responsibilities are associated with responsible behaviour rather than chronic rebelliousness. The condition most conducive to antisocial aggression, because it probably most effectively rewards such behaviour, is probably one in which the parent is punitive and arbitrary in his demands, but inconsistent in responding to child's disobedience.

Findings from several other studies (Pikas, (1961) Middleton and Snell (1963) Elder (1963)) affirm the above findings, that is, parental demands provoke rebelliousness only when the parent restricts autonomy of action and does not use rational methods of control. Relevant to the studies of parental behaviours are the following studies which show some interesting sex differences. Kagan and Moss (1962) reported that achieving adult women had

mothers who in early childhood were unaffectionate, "pushy", and not protective. Also, Baumrind and Black (1967) found parental punitiveness to be associated positively with independence in girls .

2.1.2 Category 2: Studies with the Home Environment Perspective:

The researches cited above, generally, have considered the parental behaviour and its relationship with the different aspects of child behaviour. Marjoribanks (1979) however, puts forth a different concept in viewing the influences that impinge on the child. He cites Bloom (1964) to explain this proposition. Accordingly environment is regarded as a "network of forces and factors which surround, engulf and play on the individual". This environment is viewed as composed of sub-environments which affect different human characteristics differently. For example a sub-environment of a set of social-psychological variables and processes may be related to the development of verbal ability, while another sub-environment may be related to the achievement motivation. The task of researchers investigating relations between family environments and a particular human characteristic involves isolating and then measuring the pertinent sub-environment from the total set of environmental variables (p.4). The effect of the environment is further viewed as possibly having a positive or a negative effect (Murray, 1938) this 'directional tendency' implied by Murray is the 'press' of the environment. According to Murray, alpha press of the environment is the press that actually exists while beta press is the subjects' own interpretation of the phenomena that he perceives' (in Marjoribanks, 1979). Most of the studies cited by Marjoribanks (1979) and hereunder are studies investigating the direct relationships between measures of the alphas press of family environments and the childrens' cognitive performance, affective characteristics and academic achievement.

An early study by Burk (1978) attempted to understand both the influence of heredity and environment simultaneously. This was done through a comparison of mental test resemblances obtained from parents and children on one hand, and those obtained between foster parents and their children. The sample included 214 children who were placed with foster parents before the age of 12 months and a control group of 105 children and their natural parents. Ages of children ranged from 5 to 14 years.

A comprehensive set of measures were adopted for the study, including intelligence tests, schedules to assess affective characteristics and family environment questionnaires.

Burks used path analysis as one of the mode for analysis, her findings show that close to 75 to 80 per cent of I.Q variance is due to innate and heritable causes. This estimate makes allowance for the 17 per cent which the data reveals as being due to measurable home environment, plus an additional 5 or 10 per cent due to the random somatic effect of environment. Of course, even today such findings are open to much controversy. Burk's other findings showed that, the parent intelligence and family environment scores have low concurrent validities in relation to the foster childrens' test scores but moderate to high associations for the control group scores. For the vocabulary measure, the patterns of associations with environment soeres show fewer significant differences between the two groups of children. When predictor variables were combined in regression models, Burks found that fathers' mental age, fathers' vocabulary, mothers' vocabulary and family income had a multiple corelation of 0.42 with foster childrens' intelligence test scores, while fathers' mental age, fathers' vocabulary, mothers' mental age and home environment index had a relation of 0.61 to the test scores of the control group children.

Kahl (1961) in his research attempt combined both the survey techniques as well as intensive investigations, of small sample families. The sample consisted of 4000 high school boys. Assessments were made of the boy's current educational plans, intelligence and family social status. Generally, boys who had high test scores or who came from high-status homes planned to go to college, while most boys with low intelligence scores or from low social-status families had no aspirations for higher education. But, although the prediction of college plans was high at the extremes of intelligence and social status scores, the same was not true of the middle of the distribution. One could not predict the aspirations of the boys with high intelligence scores, belonging to the lower middle section group Kahl pursued his analysis of the relations between intelligence scores and the aspirations of boys from lower middle-status families, using intensive interviews of 24 boys and their parents. All 24 boys had test scores in the top three deciles of their school. Half the sample was enrolled in college preparatory courses, had grades in the top half of their respective classes and planned to go to college, while the remaining 12 boys were not in college preparatory classes and had no aspirations for college. Intensive interviews with the boys and their parents revealed, that it is the values the family or parents hold regarding education and future job aspiration that are of importance Kahl in the study could identify two groups of families, one who believed in 'getting by' that is who were happy as they were and did not think it worth to achieve much. The other group believed in 'getting ahead'. The interviews showed that these two groups of parents created different learning environments for their children. In the 'getting by' families the atmosphere was much more relaxed, children were allowed^{to} choose their own curriculum and higher education was not considered important in life. By contrast, in the 'getting ahead' families parents started applying pressure on their sons from the beginning of the son's school career, they encouraged high marks, paid attention to what was happening at school, stressed good

performance, and gave alternative suggestions for different occupational choices. This differential value orientation was well reflected in the personality of the boys. Interviews of the boys revealed two separate groups, which Kahl also labelled as 'getting by' and 'getting ahead'. Boys who in just 'getting by' category were bored with school, anticipated a 'common man' type of occupation, and found peer group activity to be the most important in life. On the other hand the 'getting ahead' boys appeared to take school work more seriously than the recreational affairs, had more specific occupational goals, had educational aims to match the occupational aspirations, worked harder in school and thought a great deal about future goals as well. That is, boys learned to perceive the occupational and educational systems in relation to their parents' perspective. Thus by adopting an interview technique that was not overly structured Kahl was able to enrich his findings of the large statistical analysis.

Some of the major research endeavours under the home environment researches have been attempted by Caldwell and her associates, they have conducted a long and continuing series of studies revealing a strong relation between home environment and intellectual and language performance of infants and pre-school children. Investigations conducted by Bradley and Caldwell (1976a, 1976b, 1977, 1978, 1979, 1980, 1981) Bradley Caldwell and Elardo (1977, 1979) Caldwell (1968), Elardo, Bradley and Caldwell (1975) Elardo, Bradley and Caldwell (1977) and Freund and Elardo (1978) consistently revealed a strong relation between aspects of infants' home environments and their intellectual and language development during infancy and the pre-school years. The environmental measures used in these studies were based upon Caldwell's analysis of empirical and theoretical literature offering information on the nature of characteristics of environments that should serve to foster development. The measure, HOME - Home Observation for Measurement of the Environment developed by Caldwell is an observation cum interview



schedule that assesses the quality of stimulation available to the child in the home.

The HOME version to measure an infant's home environment consists of the following aspects: 1) emotional and verbal responsibility of mother 2) acceptance of child, 3) organisation of the environment, 4) provision of appropriate play materials, 5) material involvement with child and 6) variety in daily stimulation.

The pre-school version of HOME consisted of the following aspects 1) toys, games and reading materials, 2) language stimulation, 3) physical environment, 4) pride, affection and warmth, 5) stimulation of academic behaviour, 6) modeling and encouragement of social maturity, 7) variety of stimulation and 8) physical punishment.

Hereunder are elaborated a few of these studies:

A study by Elardo, Bradley and Caldwell (1975) used the HOME measure to study the relationship between infants and their home environments. The results indicate: home environment when measured at a time when infant is approximately 6 months of age, does not relate in any important fashion to the infants' performance on the Bayley Mental Development Index at 6 or 12 months of age; whereas the correlation between home environment as measured at 6 months and Binet performance at 3 years appears to be both significant and important, as do the correlations between home environment measured at 12 and 24 months of age and Binet performance at 3 years. According to the investigators, these results suggest that the Inventory Home is measuring complex environmental forces which are perhaps prerequisites to later performance on cognitive tasks, and is measuring those forces at a time in the infant's life prior to the period of development in which such environmental forces have affected the infant's measured development. During the first year of life, the

sub-scales dealing with organisation of the physical and temporal environment and to a lesser extent, opportunities for variety in daily stimulation seem most strongly related to mental test performance. Twelve months onwards provision of appropriate play materials and maternal involvement with the child seem to show the strongest relationship.

Another of Bradley and Caldwell's study (1984) attempted to follow upon their previous investigations. In their two earlier investigations (Bradley and Caldwell, 1976; Elardo et al, 1975) had found that scores on the HOME Inventory administered during the first two years of life were substantially correlated with intelligence test scores at ages three, and four and a half. The present investigation attempted to follow up these researches by examining the relation between the HOME scores and childrens' achievement test scores. Second, it examined the early environment/school achievement test relation in light of childrens' mental test performance at age three. Third, the study examined the relation between early environment and school achievement in light of the child's intervening home environment. The sample consisted of 37 normal first grade children and their families. (The children were from the group of 49 used in the Bradley and Caldwell (1976b) study and 77 in the Elardo et al. (1975) study). The major findings were as follows 1) There were several significant correlations between 12 month HOME scores and later achievement. The most notable finding involved the subscale "provision of appropriate play materials", correlations between play materials and achievement ranged from .58 for reading to .44 for math. Four of the HOME subscales showed significant correlations with at least one achievement area. None were noted for maternal responsivity and maternal involvement. Correlations between the HOME total score and later achievement were quite similar to those for provision of appropriate materials. 2) When 24 month HOME scores were correlated with first-grade achievement, many significant relations were observed. Four of the six HOME subscales

were moderately correlated with achievement (.4 to .5) only maternal responsivity showed negligible correlations, while organisation of the environment showed only a slight relation (.3). The 24 month total HOME score was correlated around $r = .6$, with all three achievement scores.

Findings from this study extend those previously reported (Bradley and Caldwell, 1976 and Elardo et al. 1975) despite the loss of subjects. While there are a few differences as a function of achievement area examined, the correlations between HOME scores and first grade achievement are quite similar to those between HOME and IQ (both at 36 and 54 months) reported earlier. This finding is not surprising, for the observed correlation between 3 year IQ and first grade achievement was $r = .6$. Also, the correlations were generally as high for achievement as for earlier IQ despite the nearly two and a half years lapse in time.

A significant attempt was also made by Bradley, Caldwell and Elardo (1979) to determine a causal link between the home variables and child's intellectual performance. Measures for both the variables were obtained at 6, 12 and 24 months of age of the children. The data was analysed within a cross-lagged panel correlational design to permit at least weak causal inferences about direction of effect to be drawn. The resulting configuration of relationships was very complex, but the investigators detected a general pattern in which it appeared that in the earlier stages of the age range under consideration, environmental variables were influenced by childrens' cognitive abilities. The analysis suggested that the more capable children influenced the mothers to provide more appropriate play materials and to interact at a higher level of involvement than did lower scoring children. During the second year of life however, the relationship, seemed to be more that childrens' mental performance was influenced by parental stimulation and involvement than that the parental responses were affected by child behaviour.

McGowan and Dale (1984) tested causal models incorporating observational assessments of mother-child interaction, home environment, maternal attitudes and demographic variables as antecedents of verbal and performance I.Q. The causal models were tested for 69 Mexican - American children by Path Analysis. Findings revealed that the number of years of mothers' education influenced the maternal attitudes, with higher educated mothers demonstrating less traditional attitudes. Also the more years of maternal education along with maternal attitudes encouraged independent child behaviour and the reciprocity in parent-child relations positively influenced the child's intellectual performance at 3 years of age and also contributed to maternal behaviours thought to promote child competence. The findings and performance could not give a definite trend for the verbal IQ measures.

In general then, "maternal responsivity", showed a weaker relation to achievement than I.Q. while the "variety of stimulation" scale showed a stronger relation. Of all the HOME subscales, "play materials" revealed the strongest correlation with first grade achievement.

The provision of toys and play materials at home seems to be of great importance in young child's development. The researches cited above as well as other researches {Bradley and Caldwell, 1979; Caldwell and Bradley (in press), Moore (1968), Wachs (1978) Tulkin and Covitz (1975); Ware and Garber (1972), Wulbert et al.(1975) Henderson, Bergan and Hurt (1972), Dave (1963)}emphasize the role of developmentally stimulating materials and experiences in the child's mental and achievement test performance.

Further researches by Elardo, Bradley and Caldwell (1977), (1979), (1981), (1980); Van Doorninck, et al.(1981) ; Bradley (1981) have, apart from school achievement, demonstrated significant relationship between the HOME environment and the various attributes

of the child's personality like the cognitive, social and language development.

While Caldwell and her associates have in their research endeavour attempted to study the relation between certain dimensions of home environment like maternal responsivity, environmental stimulation, availability of toys and play materials, pride, affection, warmth, etc. Dave and Wolf in their studies attempted to identify a different set of variables operating in the home, variables presumed to be forming the educational environment at home. The detail of their work is as follows.

Dave (1963) and Wolf (1964) examined relations between the family environment and measures of academic achievement and intelligence respectively. The sample for both the investigations was of 60, average 11 year olds, 32 girls and 28 boys. Wolf identified three press variables in the home environment, which he postulated as being related to intelligence. These were, press for achievement motivation, press for language development and provisions for general learning. The process characteristics for these variables were identified as:

1. Press for achievement: a) nature of intellectual expectations of child. b) nature of intellectual aspirations for child. c) amount of information about child's intellectual development. d) nature of rewards for intellectual development.
2. Press for language development: a) emphasis of use of language in a variety of situations, b) opportunities provided for enlarging vocabulary c) emphasised on correctness of usage, d) quality of language models available.
3. Provisions for general learning: a) opportunities provided for learning in the home, b) opportunities provided for learning outside the home (excluding school), c) availability and encouragement of use of supplies, d) availability and encouragement of use of books including reference works, periodicals and library facilities, e)

nature and amount of assistance provided to facilitate learning in a variety of situations.

A semi-structured home interview schedule was designed to measure the process characteristics and the press variables. Mothers were interviewed and their responses for each of the process was rated on seven point scales, scores for the three press variables were obtained by summing the ratings on the relevant process characteristics. The three press variables when combined into a predictor set, accounted for 49 per cent of the variance in the intelligence test scores.

In Dave's (1963) study the Metropolitan Achievement Tests were used to assess the academic achievement of the children. Out of the total set of conditions and processes that constitute the family environment, Dave identified a specific component which he labelled as the educational environment of the family. Six press variables defined the family environment: achievement press, language models, academic guidance, activeness of the family, intellectuality in the home, and work habits in the family. These variables are defined by the twenty one process characteristics shown in hereunder and a nine point rating scale was devised for each characteristic.

1. Achievement press: a) parental aspirations for the education of the child, b) parents' own aspirations, c) parents' own interest in academic achievement, d) social press for academic achievement, e) standards of reward for educational attainment, f) knowledge of the educational progress of the child, g) preparation and planning for the attainment of educational goals.
2. Language models: a) quality of the language usage of the parents b) opportunities for the enlargement and use of vocabulary and sentence patterns, c) keenness of the parents for correct and effective language usage.

3. Academic guidance a) availability of guidance on matters relating school work, b) quality of guidance on matters relating to school work, c) availability and use of materials and facilities related to school learning.
4. Activeness of the family: a) the extent and content of the indoor activities of the family, b) the extent and content of the outdoor activities during weekends and vacations, c) use of T.V. and such other media, d) use of books periodical literature, library and such other facilities.
5. Intellectuality in the home: a) nature and quality of toys, games, and hobbies made available to the child, b) opportunities for thinking and imagination in daily activities.
6. Work habits in the family : a) degree of structure and routine in the home management, b) preference for educational activities over other pleasurable things.

Scores on the six press variables were obtained by averaging the ratings on the relevant process characteristics. The results indicate that the press variables have differential relations with performance in the academic subjects. For example, the environment accounts for over 50 per cent of the variance in arithmetic problem solving, reading and word knowledge, but only 31 per cent of the variance in arithmetic computation scores. Also, the order of importance of the predictability of the six press variables was found to differ from subject to subject. In the case of word knowledge and reading, achievement press was the most important variable in a step-wise regression analysis, while for arithmetic problem solving the most important variable was intellectuality in the home.

Studies using the family environment measure as devised by Dave have been conducted in other cultural settings as well. Dyer (1967) examined the family environments of 60 eleven year old children from Port of Spain, Trinidad. The environment measure accounted for a large percentage of the variance in academic achieve-

ment scores, and generally had moderate relations to intelligence. In a study of 80 eight year old Irish children, from a socially disadvantaged area of Dublin, Kellaghan (1977) accounted for moderate to large percentages of the variance in arithmetic, Irish reading and English reading scores. He also found that the home environment had moderate relations to "crystallized" intelligence scores and smaller associations with "fluid" ability measures.

Research attempts in this direction have made further attempts in identifying more of press variables and their obvious process characteristics and attempted to relate it to the other abilities of the child than mere - global intelligence or academic achievement. Mosychuk (1969) examined the WISC scores of 100 ten year old boys from Edmonton in Western Canada. The schedule assessing the home environment comprised process characteristics like, academic and vocational aspirations and expectations of parents, knowledge of, and interest in, child's academic and intellectual development, material and organizational opportunities for the use and development of language, quality of language in the home; female dominance in child rearing; planfulness, purposefulness and harmony in the home; dependency fostering overprotection; authoritarian home; interaction with physical environment and opportunity and emphasis on initiating and carrying through tasks. Factor analysis of these 10 factors produced four press variables : a) aspirations-planfulness- harmony, b) authoritarian - overprotective, c) activity - environmental interaction, d) female language.

The first environmental factor had moderate concurrent validities with the WISC verbal performance and full intelligence scores; while the other press variables had low to negligible associations with the WISC scores. When the ten WISC sub-test scores were factor - analysed, four factors emerged, these were defined as : reasoning, general memory, verbal symbolic and perceptual - motor - spatial. A significant canonical correlation of 0.57 was obtained

between the four press variables and the four WISC factor scores.

Williams (1976 a) extended the Mosychuk study obtaining intelligence test scores from the childrens' parents, in order to investigate relations between parents' intellectual abilities, family environments and childrens' abilities. Using path analytic techniques, Williams found that high - ability fathers, provided more opportunities for their sons to interact with the environment, were more involved in child rearing, tended to use more non-physical means of sanctioning and had higher expectations for their son's performance. High ability mothers provided more opportunities for environmental interaction, tended to have a more active role in child rearing, but differed little from lower - ability mothers in the use of physical punishment as a sanction or in the expectations they had of their child's performance. Williams in his analysis found that by far the greatest part of the parent child ability correlation was explained by direct effects unmediated by the family environments.

Laosa's (1982) study on similar line, using path analysis, sought to study a combination of process and status variables operating in the home environment. This causal model hypothesized an inter-relationship between the background variables like the mother's education, the mother's occupation, amount of reading she does, mediated by variables like mothers' socio-educational values, the maternal modeling, also considered were, child's age, child's sex and amount of reading done with the child by family members other than the parents. These variables were seen to be as causal antecedents to child's intelligence as measured by the pre-school Inventory Performance. The sample comprised of 50 families, each with a child approximately 3 years of age (25 boys & 25 girls). Findings showed that the mother's socio-educational values exert a strong influence on their young childrens' intellectual development. Two, chronological age also influences the performance of the children on

the Inventory, with the performance level on the Preschool Inventory improving noticeably over the developmental period of 3 to 4 1/2 years of age. Three, the influence of sex was found to be significant with girls obtaining higher Preschool Inventory scores than boys. Four, the influence that people other than the parents have on the young child's intellectual development is significant. Specifically, the findings revealed that the amount of time that people in the household other than parents spent reading to the child has a significant influence on the child's intellectual development. Five, the findings revealed the positive influence of maternal modeling that is, the mother's use of physical demonstration as a teaching strategy on child's intellectual development.

In a study of 11 year old boys from Southern Ontario, Marjoribanks (1973) examined relations between the family environment and scores on tests of verbal, number, spatial and reasoning ability. The family environment schedule comprised of eight press variable, identified as press for: achievement, intellectuality, activeness, independence, English a second language, father dominance and mother dominance. The findings of the study revealed that, generally the press variables have moderate to high concurrent validities for verbal and number scores, low to moderate concurrent validity for reasoning and low to negligible relations to spatial ability. However, for a better understanding canonical correlations were computed between the two sets of measure by Marjoribanks. This analysis revealed that the social status indicators and peer variables related significantly to differentially developed abilities. High ratings on press for English, father occupation, press for second language and to a lesser extent press for activeness and father dominance are associated with high scores on verbal reasoning and spatial abilities; but associated with lower number ability scores. The two language press scale reflect, in particular, a measure of parent-son interaction in activities such as reading, conversations after school and at mealtimes, purposeful

teaching of vocabulary and correction of syntactical errors in language use . The press for activeness scale measures parent-son involvement in both academic and non-academic situations, while the father -dominance scale gauges the father's involvement in a son's activities. Marjoribank's study thus emphasizes the importance of father involvement in the son's activities.

Bing (1963) found that mothers of high verbal boys (boys who had high verbal scores in relation to their number and spatial scores), in comparison to mothers of low verbal boys provided more stimulation in early childhood, were more critical of poor academic achievement, provided more story books and let boys take greater part in meal time conversations. Honzik (1967) also found that a close mother-son relationship is related significantly to the development of boy's verbal ability, however later involvement of the father is a must for optimum verbal ability. Results of Honzik, Bing and other studies by Ferguson and Maccoby (1966) also show that, in general, over - involvement with parents may impede the relative development of divergent number ability, while it is fostered in homes which allow boys a considerable degree of uninterrupted free time and freedom to experiment on their own.

Many of researches cited above have been conducted on rather small samples. Marjoribanks (1977) attempted to study the relationship between home environmental measures and the child's cognitive abilities on a large sample. He studied about 900 Australian urban families belonging to different ethnic groups. Each family had an 11 year old child attending an elementary school. The survey showed that environment variables have low to moderate relations to the academic achievement scores and negligible to low associations with intelligence. Another of Marjoribanks' study (1979) examined the relations between family (parents' press for achievement, parent - child involvement) and school (intellectual orientation of the school, punitive nature of school) environments and measures of

intelligence, personality (contemplative-impatience, self-reliance-subduedness, adjustment-anxiety, extroversion-introversion) and school related affective characteristics (commitment to school, school self-confidence). The sample was approximately 550 twelve year old Australian Children. Relationships between the measures were investigated by plotting regression surfaces with the use of raw regression weights generated from multiple regression models which included terms to account for possible linear, curvilinear and interaction relationships. Analysis was carried out separately for boys and girls.

The results suggest that for boys, at each level of the school environment scores, increases in the favourableness of the family environment are associated with increases in intelligence test scores; secondly family and school environment are related to boys' commitment to school, while boys' school self-confidence is related only to perceptions of the punitive nature of the school environment at different family levels. For girls, it was found that the environment measures are not related to the intelligence test scores; secondly, at different family environment levels girls' perception of the school environment have linear and curvilinear relations with the school affective measures and thirdly, girls who are contemplative and subdued rather than impatient and self-reliant perceive the school environment as being non-punitive and intellectually oriented.

The family environment studies have been conducted in diverse settings on varied age groups. A few of such studies Fraser (1958), Wiseman (1967), Plowden (1967) and as also Marjoribanks (1976a) conducted in Britain and cited in Marjoribanks (1979) report that 'the family environment measures account for more of the variance in the achievement scores than in the intelligence test scores' (p.53). Further, environment accounted for a large per cent of variance for the aspiration scores of the children, but, is

unable to effectively account for the other personality and affective variables.

The studies reviewed so far have gone to demonstrate how the different aspects of the home environment are related to the various dimensions of the child's personality of various age groups ranging from infancy to preadolescence. Since, the concern of the present research endeavour is the child belonging to the pre-school and primary school age group, it becomes essential to focus the review on this age group as well. Cited hereunder are a few studies that solely explore into the relationship between the home and environment and different aspects of the young child.

Wehlry (1982) made an effort similar to the Caldwell studies; his sample was pre-schoolers belonging to disadvantaged groups. Using the home measure he attempted to find 1) whether a proximal measure (the HOME) of the environment was more highly related to social and cognitive development rather than the traditional SES variables 2) what particular aspects of the home environment were most highly related to the social and cognitive development and 3) if the proximal measure of the environment could be used to predict school and cognitive development. The findings revealed that the HOME proved to be a more useful instrument in predicting the social and cognitive development. Correlations between social development and home environment were somewhat higher than those between cognitive development and home environment. In the HOME scale for the cognitive development modeling and encouragement of social maturity and variety of stimulation available; and for social development, pride, affection, warmth and positive responsiveness, social maturity and restraint from punishment were the sub-scales that seemed to be better predictors.

Tedesco (1981) attempted to understand the configuration of association between different home and personality variables of the

three year olds. Tedesco postulated two major relationships - one, the association of social and cognitive home experience with classroom social competence; two, the association of classroom social competence and achievement. The study found that the overall association between classroom social competence and early home experience was not significant. However, further analysis showed that the quality of home experience is very much related to poor task orientation, and classroom behaviour problems. The study made some very pertinent observations: that the cognitive home experiences are related to the more cognitive (task oriented) aspect of the social behaviour while, the social emotional aspect of the social competence is ostensibly related to the social emotional dimension of the home environment. Two, that statistically significant associations exist between measures of academic achievement and social competence and between task orientation and academic achievement. These findings suggest that both the social and cognitive behaviours comprise academic competence. He also found that even if the broad finding did indicate not a very significant relationship between home experience, social competence and achievement, univariate results indicated significant associations for home experience and social class with each achievement measure, but not with any of the classroom social competence measure. In addition to the significant associations of home experience and achievement, social class was found to be associated with achievement beyond home experience. Tedesco observes that these findings suggest an economic basis for the provision of access to pre-school materials and experiences associated with academic achievement. He therefore, recommends that both status (social class) and process (home environment) assessments be included in research of environment and development relations.

Dolan (1980) tackled a significant problem through his study, the basic premise of the study was, that, given the intensity of evaluation that occurs in early schooling and the demands placed

on the students which parallel those in other life roles; the educative environment of the school, the home and the degree to which they are congruent should be considered as potent causal variables of students affective development. His study therefore attempted to discern the relationship between certain affective characteristics, the quality of instruction received, the amount of home concern and support and the achievement status of the student. These explanatory contexts were studied from a developmental perspective, utilizing students from the first six grades of the elementary school. The results suggest that, both, the quality of instruction and home concern and support are strong determinants of standardized achievement while they are weak determinants of relative achievement indices. When the separate contextual variables were related to the affective characteristics it was found, with a few exceptions, that all three were strong determinants of the students' affective characteristics. The final analysis which focussed on the combined impact of the contextual variables on the affection characteristics, (utilizing both structured multiple regression and the isolation of the students at extremes, most and least favourable conditions) showed that for academic self - concept and the mental health index the contextual variables account for approximately 25 per cent to 30 per cent of the variance, while for the teacher's rating of affective characteristics the variance accounted for about 50 per cent. The analysis greatly emphasized the interdependence among the contextual variables.

Robinson (1982) made an interesting effort in the direction of observing and understanding social behaviours of young children in context of their families and peers. He studied 79 five year olds from 2 parent families. His contention being that aspects of the family and neighbourhood environment reflect the quantity and quality of social experiences the child has and, that, the social behaviour of the child can be observed in these contexts. The specific features studied were household crowding, suitability of the

neighbourhood for childrens' outdoor play, the amount of time the child spends in substitute care and the extensiveness of the child's contact with peers. Some of the findings indicated that peer - related and adult related social interactions are distinct social processes, household crowding affected social relations with adults only, while, experience with peers exerted its effect only on peer relations.

A few studies have sought to study the relationship between the home environment and the reading skills of the young children. Probably, the emphasis on reading skill is because learning to decipher meaning from abstract symbols is an important ingredient of the formal learning system.

Studies by Moon and Well (1979) and Adams (1981) show that there is a positive relationship between the reading skills and the home environment or the home support. Moon and Well lay emphasis on the verbal interaction in the house and the parental interest in literacy; the same could not be however said of the status variables, like parental education or the parental income.

Guiang (1980) and Baumer - Mulloy (1977) measured the home environment on the basis of six process variables identified by Dave. Guiang found that the reading achievement of the 3rd and 5th graders had significant relationship with the home environmental index. Also that the home environmental index correlated more positively with the reading achievement than any of the demographic index.

Baumer-Mulloy's attempt was to study the difference between the home environments of the high achievers and low achievers in reading. He too found that status variables like father absence or presence, number of siblings present in the home, ordinal position of the child were not related to scores on a measure of reading

achievement; but the quality of the home (on Dave's six sub-environments) did make significant difference.

Courset (1979) studied the relationship between the 3rd graders reading skill and the personal reading habits of the parents as well as whether or not they read to the child in his pre-school years as well as currently. Significant relationship was found in parents' reading habits and the achievement of boys and girls. Father's reading habits had a strong relationship for boys. There was a very significant relationship between whether the father read to the child in pre-school years or not and the child's achievement. The same was true of the mothers.

Hewison and Tizard (1980) in their study found that the home background factor which emerged as most strongly related to reading achievement was whether or not the mother regularly heard the child read. This finding of Hewison was a part of a more extensive investigation wherein Hewison (1979) had attempted to find out the seven to eight year olds' success in school in relation to their home background variables. Sample from this age group was chosen because that is the age of transfer from infants to junior school. The aim of the study was to investigate whether differences in school achievement within a working class population could be related to difference in the home background of the children; demographic, cultural and attitudinal variables were taken into account but the main concern was with characterizing parental behaviour and day to day child rearing activities. The results indicated modest correlations between aspects of the child's behaviour and circumstances at home and his level of attainment.

About three studies could be traced which specifically tried to study the school achievement of the first graders in relation to their home environment.

Alvarez's (1983) sample were 98 Puerto Rican (56 boys and 42 girls) first graders this study explored the relation between academic achievement and several person, home and school variables. Achievement was represented by measures of English Reading, English Spelling, Spanish Reading, Spanish Spelling and Mathematics. Major predictors were - age, sex, school attendance, school and program attended, plus household factors like - Household Quality, Household Density; Well Child (a child's general health and learning skills) and Pull towards English (a measure of individual and language dominance). Predictors were grouped in 3 sets: person, Home and School. Multiple regression analysis yielded the following findings: One, that the school set exerted the largest contribution to achievement for all criterion measures except Spanish Spelling. Two, within the school set, school attended was the best predictor of achievement both in English and Spanish. Three, within the domestic set there were trends by which exposure to English at home was the best predictor of English reading and, conversely, exposure to Spanish was the best predictor of Spanish Reading.

The primary concern of White's study was the relationship of home environmental experiences to the kindergarten childrens' readiness for formal instruction. Home Environment was surveyed through the survey of Home Based Activities of the Kindergarten child. The instrument, a self-reporting questionnaire contained items pertaining to living conditions, social and emotional experiences, psychomotor and cognitive experiences of the child during first five years of life. The Metropolitan Readiness Tests are a battery of six tests designed to measure the extent to which school beginners have developed in skills and abilities that contribute to formal schooling. On the basis of the readiness test children were divided into two groups - normal and above were those who were ready for formal instruction and low, were those who were not. The results showed that the home environmental experiences for the two performance groups were significantly different at the .01 level of

confidence. The specific environmental experiences that were significant at .05 level pertained to dimensions like the places the child had visited, whether the child asked many questions, knew nursery rhymes, could handle scissors and had books of his own, whether he watched T.V., did some one teach him nursery rhymes and if he had stayed with anybody else other than the present family members. These dimensions were said to make difference for the two groups.

Watson's (1981) major pre^eoccupation was - what is the effect of the home and neighbourhood environments on the achievement of children entering first grade? The study was carried out on 362 first graders belonging to different public schools. Parents were given a questionnaire designed to measure the parents' perception of home and neighbourhood support. The responses were then compared to scores received by their children on the cognitive Skills Assessment Battery (CSAB); correlations, Analysis of Variance, Analysis of Covariance and Path Analysis were the statistical methods employed in the study. The findings suggest that the home is very helpful in providing the basic tools needed by the child to begin and to be successful in school. The findings also suggest that pre-school or Kindergarten is helpful in providing the child with academic orientations necessary for first grade work. The main conclusion was that the school cannot successfully remediate a child from a home that does not provide the basic, and that the best home cannot fully take the place of the school.

2.1.3. Developmental Characteristics and Achievement:

The review of the studies so far has strengthened the theoretical contention that, diverse aspects of the home environment influence the various aspects of the child's development, albeit these aspects may vary in their direction and magnitude of

influence. The second contention, as mentioned in the theoretical exposition of the previous chapter, was that the child's various developmental characteristics are related to her school achievement. The emphasis had particularly been on cognitive and psych^o-social characteristics. Efforts to locate studies that take into account these developmental characteristics and academic achievement, especially for the younger age group have given scant results; especially where the psycho-social aspect is concerned. This section intends citing studies that study the relationship between cognitive development (Piagetian Perspective) or the psycho-social development (Eriksonian perspective) and the academic achievement of young children. Academic achievement here is inclusive of school adjustment as well. A few studies pertaining the cognitive development and academic achievement could be traced, but none could be found taking into consideration the psycho-social development and school achievement

Conservation and achievement:

Cannellas (1979) attempt with 112 first grade students proved that the group seriation and mental imagery subtests made significant positive contributions to the multiple correlations with each of the achievement areas, arithmetic, reading and language. The variance in achievement explained by the various combinations of group cognitive tasks were 13 per cent in reading, 20 per cent in language and 33 per cent in arithmetic. Taloumis (1979) through his research found that scores on conservation tasks could be used as predictors of achievement from first through third grades.

Studies relating conservation abilities to the reading and number abilities revealed a very definite pattern. A study by Linneman (1975) with 96 first grade children (5 1/2 to 6 1/2 year olds) as the sample came out with certain pertinent findings - one there was a significant relationship between measure of conservation and

the measure of achievement in first and second grades. Although both conservers and non-conservers achieved at high levels in first grade, there was a tendency for more non-conservers than conservers to score below average in reading. The kindergarten conserver seemed better able to sustain their high achievement than non-conservers; two, children of varying socio-economic backgrounds made progress toward conservation between kindergarten and first grade.

Canter (1975) who worked with the kindergarten children and followed them through the third grade found that conservation was a significant predictor of achievement at the kindergarten and first grade levels. A finding corroborated by Matthews (1975) Caballero (1975) and Tadlock (1976). Canter's study further revealed that the importance of cognitive task performance in relation to reading skill seemed to increase with age, possibly reflecting the developmental change in the task of reading from more perceptual decoding to more cognitive processes of comprehension and grammatical rule application. Further it also appeared in the first grade sample that the instability of cognitive thought represented by the transitional phase of conservation may interfere with the general academic achievement. The last point emphatically pointed out in a study by Stanfill (1975) who worked with 160 second grade beginners made the following observations: conservation tasks seem to be an appropriate measure to use in diagnosing a student's readiness to read if used in conjunction with other data. However, because of the relationship between the ability to conserve and reading achievement it would appear that the formal teaching of reading should not precede the child's ability to conserve. Therefore, formal reading instruction in kindergarten is inappropriate for most, if not all, of the children as the ability to conserve is not attained at that stage. Lastly, students of lower SES, who have difficulty in conservation at this stage tend to be unsuccessful in formal reading experiences.

The ability to conserve and achievement in arithmetic also seem to be closely related. Dodwell (1961) found the scores of 34 kindergarten children on Piagetian standardized tests (constructed by the researcher) and their achievement in arithmetic in grade one, (6 months after the administration of the test) to be ^{correlated at} $r = 0.59$. Hood (1962) too found a strong correspondence between the 4 to 8 year old childrens' arithmetic skill (as rated by the teacher) and their performance on the Piagetian tasks. Woodward (1977) found that amongst the first grade students, conservation of number is a significant variable in predicting arithmetic performance of first grade students, while conservation of substance is not; nor is the Piaget's general concept of reversibility significantly related. Kingma (1983) found that for children of standard one and two performance on conservation and seriation were better predictors for the achievement on the addition and subtraction tasks than the intelligence sub-tests. Dimitriovskey and Almy (1980) however found that for the same age group, conservation of number was a better predictor for girls but not for the boys. A finding not corroborated for the Nigerian eight year olds wherein Piagetian tasks of conservation, seriation and classification predicted mathematics achievement better for boys than girls (Omotoso, 1975). Omotoso also found that, there existed a strong relationship between mathematics achievement and conservation, seriation and classification abilities. In fact seriation yielded the strongest individual relationship across all groups - the correlation reported on mathematics achievement and seriation ranged from .652 and .798 which was higher than that recorded for classification (.456 - .552) and conservation (.309 - .535) for both sexes. The study also showed that among Nigerian children the operational stage is attained around the age of eight years, and that eight year old boys performed significantly (.05 level) better than the eight year old girls in conservation of length and volume. Their performance on seriation, classification and conservation of number showed no sex differences.

A substantial degree of positive relationship was found between Piagetian reasoning test scores and achievement in mathematics problem solving for the sixth grade Saudi Arabian male pupils (Al - Dokheal, 1983).

Thus, the few studies cited above, do illustrate the positive relationship between conservation and academic achievement in early years of formal schooling.

2.2.0 The Indian Studies

The review of studies conducted abroad on home environment shows a sustained and directed effort by researchers in this area. The home environment has been explored and investigated into from different perspectives. The progress of the research being from studying the status variables such as occupation of the parents, income, number of family members etc., of the home environment and finding their relationship to the child's personality variables or academic achievement, to approaching home environment as a combination of process and status variables. In the latter approach, the emphasis has been on the processes actually occurring at home like the child rearing practices, the parent - child interaction pattern, the language patterns, the academic guidance and stimulation provided etc. The studies under this approach sought to find the relationship of processes identified and child's personality or academic achievement. The third approach has been to identify a sub-environment from the entire home environment. This sub-environment, comprises of both the status and process variables, these variables are so identified that they are argued to be affecting a particular personality characteristic more than the other variables operating in the home environment.

Research in India in this field does not however reflect similar sustained efforts. First and foremost the number of

researches investigating into the relationship between the home environment and the child's personality attributes and academic achievement are few, too few to reflect any trend or progress. Amongst these few studies, majority of them have taken into consideration the status or the demographic variables, SES, caste, religion, religion etc. Studies exploring into the other aspects of the family are very few. In the preceding section the review of studies have been restricted to the process variables of the home environment or a combination of process and status variables, the same format could not be adhered to in this section because of the above reasons. Therefore, the review of Indian studies has taken into account all the studies that could be identified under home environmental research, under the perview of educational research. Similarly, studies tracing the relationship between the child's cognitive affective development and school achievement could not be traced. As such, this section for Indian researches is not presented.

2.2.1 Studies Involving SES:

Jain (1965) sought to investigate into the relationship between home environment and scholastic achievement. The home environment was assessed using a questionnaire, with three sections, viz, physical and topographical, emotional and socio-economic. All the items were related on a five point scale. The questionnaire was administered to the children of thirteen plus to fifteen plus. The study revealed that, the influence of home environment on achievement was found to be positive and significant, and that out of the three factors of home environment, the effect of physical and topographical factor was the greatest on school achievement followed by the emotional tone when no statistical control was applied; but when controls were applied, the effect of emotional tone of the home became the greatest followed by the physical conditions. Socio-economic conditions seemed to have no relationship with school

achievement. Also, the influence of intelligence on school achievement was found to be the greatest and that it had higher relationship with achievement of boys as compared to that of girls.

As mentioned earlier, a number of studies under the home environmental research have taken up socio-economic status as the variable for study. The studies cited hereunder are such attempts that study the relationship between SES and academic achievement.

Barial (1966) attempted to explore the relationship between the social class background, achievement motivation and achievement of class tenth students. The social class background was studied in terms of the Socio Economic Status scale by Kuppuswamy. The investigation revealed that: there existed no significant difference in the educational achievement, achievement motivation and intelligence of students belonging to various social classes.

Dhami (1974) too found that although the relationship between academic achievement and SES was statistically significant it was not high, and that intelligence had a more positive and significant relationship with the academic achievement. In fact, the study reveals that SES had a positive effect on emotional maturity, especially factors such as parental education, family income, cultural level of the family, type of housing etc.

Studies by Chopra (1964) and Chopra (1982) explored the relationship between certain socio-economic factors and achievement. The findings revealed that children whose fathers were professionals were certain of continuing their education, while majority of children whose fathers were skilled and unskilled laborers were uncertain of their future education (Chopra, 1964). So also, the percentage of failures was more from the second group while conversely the percentage of students securing first class was more from the first group. It was also found that children

belonging to the higher qualitative group (on the basis of father's education and occupation, family income, type of lodging, size of the family, cultural level of the home) showed significantly higher mean achievement than the students coming from the lower category (Chopra, 1964; Chopra, 1982). Further, it was also found that parents from higher SES class gave a greater help and encouragement to their children for studies.

Anand (1973) found that socio-economic environment influences the mental abilities and academic achievement. The study revealed that children from the three SES group differed significantly from one another in their nonverbal and verbal intelligence. The high SES group achieved higher mean score than pupils in both low SES and middle SES group; whereas the mean score difference between middle and low SES groups was not significant. The relationship between SES and academic achievement was found to exist even when the influence of intelligence was partialled out.

Sutradhar (1982) in his research attempted to enquire into the relative academic achievements of the socially advantaged and disadvantaged children and to find out the socio-psychological factors associated with their relative academic achievements. Sample was drawn from urban and rural areas, schools belonging to both advantaged and disadvantaged categories were taken. The final sample was of 200 students. The major findings showed, although they do not differ in respect to intelligence the advantaged children were always superior to the disadvantaged children in respect to their academic achievement. The advantaged families were characterized with more child centeredness, and positive self-concept of the father and the child, the reverse was found to be true for the disadvantaged group. The academic achievement for both the groups had significant association with the environmental and biographic factors. Also, irrespective of the rural-urban or advantaged-disadvantaged status academic achievement had significant association with

intelligence, self-concept, self-concept of father, child centredness of parents and father's occupation, education and income. The advantaged and disadvantaged group in both urban and rural setting differed in terms of personality characteristics and the biographic and environmental factors. Findings of studies by Khanna (1980) Ojha (1979) and Satyanandam (1969) corroborate with the findings of Chopra (1964), Chopra (1982) and Anand (1973) - that SES is positively and significantly related to academic achievement, with children from the higher strata achieving better than the children from the lower strata. Consequently variables like parental education, parental occupation and income were to be found significant contributors.

A research attempt by Chatterji, Mukherjee and Banerjee (1971) sought to investigate into the effect of some important aspects of social class such as income, parents education, family size, general condition of home, etc, upon the scholastic achievement. Interestingly, they found that the economic conditions of the family seemed to have no effect upon the scholastic achievement in all the intellectual ability groups. Similarly, possession of a study room had no favourable effect in increasing the achievement score in almost all the cases. The other aspects showed that, the family size and the number of siblings were inversely related to the scholastic achievement specially in the low intellectual level. In some cases, parents' help had significant positive contribution towards higher achievement; parents' educational level was directly related to the achievement of their children; however father's occupation was not found to be consistently related to children's achievement. Srinivasa Rao and Subrahmanyam (1982) sought to study the factors influencing the reading attainment of primary school children. Three set of variables pertaining to home, school and personal characteristics were taken into consideration. The sample comprised of 600 school students from various school of Andhra Pradesh. Data was analysed by using correlation matrices and

stepwise multiple regression. The findings were: one, home conditions, school conditions and personal attributes of children collectively affect the reading attainment. Among these three broad categories personal characteristics had greater influence than the other two variables. Between home and school variables, the influence of school condition was greater on the reading attainment than the home condition. Furthermore it was also found that among the personal characteristics general mental ability, visual discrimination of words, auditory discrimination of sounds, clarity of speech, reading habits and interest in reading influenced their reading attainment positively. Where home was concerned type of house, home reading facilities, educational level of parents, occupation of parent, income of the family and social participation of the family members influenced the reading attainment positively.

Another approach in studying the SES and academic achievement relationship has been to study what differentiates the over and under achievers, specifically in terms of their background variables. Such research attempts exploring into the causes of academic over and under achievement have come out with consistent findings in these respective studies (Mathur, 1963; Srivastava, 1967; Menon, 1973; Tandon, 1978; Dave and Dave, 1971; Agarwal, 1975; Chaudhri and Jain, 1975). The findings of these studies show that one, there is a high correlation between SES and achievement, wherein more percentage of underachievers were found to be from the lower SES and conversely more percentage of high achievers came from the higher SES. Two, it was also found that the high achievers usually had parents with higher level of education, specially mothers (Chaudhri and Jain, 1975) and fathers generally were professionals by their occupation; conversely under achievers had parents with low level of education and generally belonged to professions which were less remunerative and also that they had larger families. Three, parents of overachievers gave more importance to education and provided their children with the required guidance. Apart from the above

mentioned general findings, these studies also showed some more pertinent observations. Mathur (1963) found a high correlation between the SES and achievement as well as between SES and conduct of the students. In determining the causes of under achievement Srivastava (1967) found that among other factors under achievement was related to problems concerning the family and to background and personal factors like age, socio-economic status, father's profession, size of family, number of siblings, birth order, reading interests, failures in school examination and participation in games and sports. A study of under-achievers by Tandon (1978) showed that the physical, emotional and socio-economic conditions of the male group of under-achievers were not wholesome. Their parents were academically less qualified, had professions which were less remunerative and had large families. However, the home environment was not found to be a relevant factor in under-achievement of female under-achievers.

Dave and Dave (1971) concluded that one, the non-verbal intelligence of the rank students was superior to that of failed students, next there existed significant differences in the intelligence of students coming from homes having differential parental income and occupations. It was also found that the higher percentage of failed students belonged to homes having lower parental income, education and occupation. Also, like in other research findings parents of rank students showed more academic concern about their ward than those of failed students.

A few studies could be located which consider the relationship between the background variables and aspects of cognitive development. They were by Das, Jachuck and Panda (1966), Jachuck and Mohanty (1974), Rath (1972), Pushpavathamma (1980), Nalinidevi (1976), Narian (1969) and Pandey (1980). However, these studies focus on different aspects of cognitive development.

Das, Jachuck and Panda (1966) focused on certain cognitive functions as short term recall and cross modal coding in reference to the cultural milieu of the children. Cultural milieu of the children was the caste to which the children belonged. The children's SES was also taken into consideration. The sample included 96 children between ages nine and twelve, belonging to various caste groups and socio-economic strata. The subjects were administered four tests, viz., Raven's Progressive Matrices, the Stroop Test, a test for short term memory and a recognition test. Information about their occupation, caste and income was got through personal interview. The findings of the study show that in addition to the economic status caste was an important factor in cultural deprivation in the Hindu society. The other finding of the study were quite revealing too: on the culture fair test of intelligence, i.e. the Raven's Progressive Matrices, the poor Harijan children obtained the lowest scores, and the means for the four cultural samples fell into a meaningful pattern, next, Harijans, rich and poor, were found to be backward in word reading speed, committed a large number of errors in writing auditory material and were also found to have relatively less facility with cross modal coding than the unimodal coding. The last finding was something the Harijan children shared with the poor Brahmin children, otherwise the Brahmin children even when of comparable economic level did better than the Harijan children in short term recall.

The study by Rath (1972) was conducted on similar lines, with a larger sample of 330 primary school children belonging to different caste groups. The study examined different aspects of cognitive functioning, using various tests, the child's academic achievement as well as certain of the home environment factors like the motivational and aspirational problems of the parent and their wards, the educational attainment of the family were taken into account. Other factors like the school attendance, stagnation, teacher ratings were a part of the study. The study showed that the Brahmin

children were younger by 9 - 10 months and were the most intelligent, closely followed by the scheduled tribe children. The tribal children were found to be very ambitious and vigilant. The Brahmin children were consistently better in verbal abilities and concept formation.

Jachuck and Mohanty (1974) made a significant hypothesis in their research attempt. The study aimed at finding out the effect of low SES belongingness upon non-verbal reasoning and verbal ability as two forms of basic cognitive skills, it was hypothesized that the rate of intellectual and language development of the socially disadvantaged class would progressively decline. The sample consisted of 100 boys (50 were between 8 -10 years and the rest were between 14-16 years) From each group equal number of high and low SES subjects were chosen. The tools administered were the Raven's Standard Progressive matrices and the Stroop Test. Subjects from the higher SES were found to be doing consistently better than the subjects from lower SES. The study made a significant revelation that the disadvantaged lower class children did not compensate for their handicap even when they came out of the limited home environment and grew in a wider urban structure and school environment. The cognitive growth of the disadvantaged children was at a slower rate than that of the advantaged, and hence, the disadvantaged children showed a cumulative deficit in cognitive skills as they grew older.

A research attempt by Pushpavathamma (1980) sought to look into the impact of social deprivation on the primary school children (age range 5 + to 13+). The instruments employed here were on an adapted version of prolonged deprivation scale developed by Tripathi and Mishra, Draw a man test, childrens' Embedded Figure Test and Lorge Thorndike Test - II. The findings were that residential accommodation, home environment, economic sufficiency, food, clothing, parental characteristics, interaction with the parents and

recreational experiences were found to be the most significant factors, each of which would make the child socially deprived. It was also found that the school, father's education and income were highly related to the above factors. In fact, the study shows that the children of college educated fathers were less deprived than the high school educated fathers or illiterate fathers in terms of varied environmental factors. As regards to the cognitive styles it was found that children were less field independent at the early ages and it gradually increased with age. The children of executives were more field independent than all other children. The children of professionals, semi-skilled workers and business people were highly field independent. The children of manual labour and clerks were less field independent than those of executives and unemployed. The children of Hindu religion were more field independent than Muslims and Christians. No significant difference was found among boys and girls.

Narians (1969) study attempted to understand the various aspects of the mental development of the children from 2 to 5 years of age. The various aspects considered were, the child's ability to recognize figures, forms and shapes, his memory and his language development in terms of the accuracy and fluency in speech, his vocabulary etc, The tests used were the Action - Agent Test, Comprehension, Following the Instruction, Picture Cards, Missing Parts, Naming, Identification and use of objects, and Recognizing the use of objects. For measuring adoptive behaviour. Form Discrimination, Number Concept, Immediate Memory Span, Spontaneous Drawing, Draw-A-Man Test, Imitative Drawing, Incomplete man etc; These tests were originally developed by Gesell and were adapted by the National Council of Educational ^{Research and} Training to suit Indian Conditions. The other dimensions included in the study were the SES and the family background, the sex of the child, effect of schooling and age. The findings revealed that age as a whole, influenced the development of creative activity and was found associated with intellectuality.

Secondly, girls showed greater adjustability than boys as measured by the measure of spontaneous drawing. They were again found to be superior to boys in drawing a man and completing a man. Girls were found to be slightly better adoptive in the totality of their performance than the boys. The study also revealed that between the schoolers and non-schoolers, the schoolers did better on practically all the tests administered. So also it was found that children from the higher SES did consistently better on most of the tests than children from the lower SES. In fact, children from more prosperous homes and enriched environment were marked with greater advancement than those with the feeling of deprivation caused by poverty.

Nalinidevi (1976) in her study sought to study the development of the number concept in young children in relation to age, schooling, mental ability and the socio-economic and educational background of the family. A significant feature of this study was that it considered the cognitive development of both schoolers and non-schoolers, 288 school going and 288 non-school going children in the age of 4 - 7 years comprised the sample. The cognitive operations studied were discrimination, seriation and numeration. Also, administered were a numerosity test, a number conservation test and Draw - a - man test. The findings showed, that in general discrimination, seriation and numeration among children appeared in that order. Children were able to discriminate successfully by the time they were four years of age. Seriation was mastered between five and six years and numeration was seldom attained before seven years of age. The other findings revealed that there was a significant differences between the school going and non-school going subjects, the non-school going subjects performed poorly on numeration. However, there was not significant difference between the two regarding discrimination. Mental ability was found to be playing a significant role in the acquisition of number concept, with children of higher mental ability performing better on seriation and

numeration. As regards to the socio-economic background and other background variables, they were found to significantly affect the seriation and numeration operations. However Pandey's findings do not corroborate with the above findings. His study explored the classificatory ability of 6 to 10 year old Rajasthani rural children. He found that classificatory ability of children was independent of SES and sex, instead it was dependent on the intellectual level of the children. Children of higher intellectual level were found to be significantly better than those of lower intellectual ability on classificatory tasks. Also, children of higher age and in higher grade did better than the children of younger age and lower grade respectively.

2.2.2 The Home Environmental Studies:

Under the pervue of educational research, studies pertaining to the home environment and its interacting variables have been very few. These limited studies could be categorized into two, one as those which primarily undertake to understand the child rearing practices of a given segment in the Indian Society. The segment could well be based on the existing stratification like the caste, religion, sub-castes, income etc. The second type of studies are those wherein an attempt is made to understand the relationship between certain child rearing practices, mainly parental behaviours, and the personality development of the child. A few studies under the type two, view home environment in a more comprehensive manner taking into consideration a number of status and process variables, seeking to establish their relationship with certain personality and achievement variables of the child.

2.2.2.1 The Type one Studies:

To gain understanding of the child-rearing practices amongst

the Maharashtrian Hindu family was the main aim of Aphole's study (1962). It was found that, "there was no uniformity in the child-rearing practices on the basis on caste and religion. There was a distinct difference in the child rearing practices of the rich and educated upper and middle class and the uneducated and slightly poorer class. It was observed that amongst the rich and educated, children and carrying mothers were given special attention. Children were given orientation towards schooling and were admitted to school at the right time. Also, attention was paid to the children's extra curricular and recreational facilities. Child care in these families was shared by the male parents and by other family members in case of joint families. In matters of disciplining normally milder forms of punishments were used by the parents while, severe punishments were resorted to only in case of severe offences.

The children in the lower strata families were brought up in all sorts of difficulties arising out of poor economic condition and cultural backwardness in these families. In these families, carrying mothers did not take special care of their health, limited space for living, inadequate facilities for personal hygiene and health; meagre facilities for recreation for the children, unavailability of newspaper and books were some characteristic features of child-rearing in these families. It was also found that children were breast fed even into later childhood, proper toilet training and rudiments of personal hygiene were not installed in the young children. So also, their ordinary illnesses were ignored by the parents. In matters of education, no pre-school education was given to the children and even the progress of school going children was hardly given any attention, children hardly got any help from their parents in studies. The parents did not appreciate the value of play activity in the physical and mental development of children. Older children specially girls were engaged to take care of younger ones even at the cost of their study and play. In matters of disciplining, threatening and beating the children were commonly

resorted to, with no consistent care to make children observe the prescribed behaviour. However the child was rarely neglected as regards its feeding time. Also, fathers too participated in looking after the children.

Goswami (1977) studied the child - rearing patterns of the Jaintia Community, a matriarchal community. The study also wanted to see if the modern education and general progress had affected the child rearing practices of this community. The findings revealed that, the majority of the parents were following the outdated methods of child-rearing which were based on superstitious beliefs and customs. Unlike the patriarchal communities in India, the Jaintia's considered girls as assets while the boys were considered as liabilities. Child rearing was more a mother's job than father's. Children did not normally have a very close contact and attachment with fathers. Children were not trained in habits of cleanliness in infancy and childhood. Children however were trained from early childhood to work at home; in later childhood working at home or field became compulsory. Jaintias being a matriarchal community, the girls were trained more to shoulder responsibilities. Boys felt neglected and inferior, and did not develop the confidence to make independent decisions. However changes were also apparent due to western values and foreign missionaries. Christian families had started adopting some modern methods of child rearing, they were now trying to deal equally with both the male and female children, also, they were trying to get rid of their superstitious beliefs and customs. However, the over riding poverty made parents ignore the education of their children.

2.2.2.2 The Type Two Studies:

As mentioned earlier studies under this type have attempted to understand the relationship between certain home environmental factors and the personality traits or achievement of the children.

A longitudinal study titled Indian Urban Families: Child-rearing Practices and Child growth was conducted during the period 1964 to 1967 as an NCERT sponsored project. The purpose of the study was to study the early development of a child, the family environment attitudes and methods of child rearing and her subsequent development.

The sample comprised 20 children belonging to the upper middle class, Gujarati-Hindu families (except one), in that the sample was homogeneous. Also, all the children had attended the same school from early childhood. It was found that despite this homogeneity, the children differed in their problems, behaviour and personality. The sample size made it possible for the researchers to come out with detailed and pertinent observations. The study observed significant differences in the interaction patterns of the educated and uneducated mothers, only a few relevant observations are presented here.

One, interesting pattern was observed in the value systems of mothers: the highly educated mothers (those with graduate and post-graduate education) tended to attach greater importance to correct methods of child-rearing, cultivation of individuality, the provision of environmental freedom and permissiveness; mothers who were relatively less educated (the undergraduates) emphasised 'virtues' such as obedience, conformity, respect, communal feelings and so forth; personal cleanliness and taboos against 'jutha' (impure, used) were important considerations.

Two, the less educated mothers tolerated more of their children's aggressive behaviours directed against themselves, while the highly educated mothers, who usually advocated freedom and individual expression, tended to control their children's aggressive behaviour directed towards themselves;

Three, in terms of their occupational aspirations for the child, most mothers expressed definite occupational goals: doctors, scientists and engineers. Working mothers and mothers of the only child appeared to place greater emphasis on the child's achievements in school.

In matters of the child rearing practices it was found that, the families were generally more permissive regarding weaning (especially from the bottle) and toilet training. With regard to the choice of disciplining methods, it was found that negative methods, like spanking, scolding, threatening, etc, are used more frequently than positive methods like praise, rewards, modelling etc. It was also found that mothers in joint families tend to be more restrictive and disciplinarian about routine matters such as noisy behaviour and tinkering with valuable objects, and in regard to this it was conjectured that these mothers are subject to criticism from in-laws if their children get out of hand. Also, punishment for overtly aggressive behaviour was more severe than for passive kind of resistance. Negativism and obstinacy, temper tantrums, food fads, specific phobias, aggressive behaviour, abusive and loudly spoken language were observed in more than half of the sample children. The researchers feel that these sorts of behaviour, within limits, ought to be considered part of the normal developmental process, they may be said to be part of a passing phase.

Sengupta (1977) investigated into the relationship between the childrens' perception of their parents' socialization process, their own intelligence score and certain personality characteristics like aggression, anxiety and dependency. The findings showed that all the three determinants considered, affected the personality characteristics positively in most cases.

Tiwari (1976) sought to find out the socio-economic differences in child-rearing practices and the effect of these practices on the personality development of the children. Information regarding feeding habits, toilet training, auto-erotic play, disciplining techniques was got from families of 303 male children, in the age group of two to five. As in Aphole's study the findings showed that there existed significant differences in the three socio-economic classes. In matters of disciplining, the middle class mothers used techniques like reward and praise, while the lower class mothers used more punitive methods. The upper class mothers gave more importance to neatness, orderliness, time schedules and restricted aggressiveness and physical mobility in their children. Mothers of all the three classes were found to favour sex role differences in their child-rearing. Middle class father's were found to be more participative in the childrearing processes. Children, of all the three strata were evaluated for their conscientious behaviour, it was found that the upper class children were more conscientious than the lower class children but less conscientious than the middle class children.

An investigation by Barlinge (1977) aimed at studying the relationship between certain personality characteristics of mothers and those of their children. The sample consisted of 370 students studying in Class VIII the age range being from 10 to 12 years. The findings revealed that: children of emotionally balanced mothers tended to be less hostile, children of duly involved mothers appeared to be less hostile than those of unduly hostile mothers; children of prudent mothers were less negativistic and hostile to parents than those of least prudent mothers. So also children of anxiously possessive mothers tended to be negativistic and hostile towards parents. Children of sanguine mothers appeared to be relaxed whereas, those of less sanguine mothers tended to be tense. In general it was found that mothers of children with high undesirable reaction tendencies tended to be uncontrolled, neglectful

rejectant, indulgent, dependence - encouraging and strict, and that negativism and hostility to patterns, were always found in children if their mothers had as unhealthy personality and if they followed undesirable child - rearing practices. In fact, the study revealed that the actual childrearing followed by the mother are more important than the personality traits possessed by them.

An investigation by Shah (1976) was primarily concerned with studying parental authoritarianism in relation to the personality of the children. Some of the pertinent findings of the study showed that children of low authoritarian mothers seemed to be more mature, emotionally accepting, trustful, warm, radical and independent minded than the children of high authoritarian mothers. Also, children where both the parents were low in their authoritarian attitudes, were good natured ready to cooperate, attentive to people, soft-hearted, kindly and adjusting in comparison with the children whose parents were quite high in authoritarian tendencies.

Mahale (1975) attempted to investigate into the parent-adolescent relationship in different sized families and relate it to the social development of the adolescents. The other aspects taken to consideration were one, the impact of educational level of the parents on the interests of both parents and the adolescents in school education. Two, to analyse the relative importance of the economic status of the family to the educational and vocational aspirations of the adolescents and their parents and lastly, to study the academic achievement of the adolescents and relate it to the family situation created by the above mentioned factors. Mahale found that parental behaviour varied in accordance to the size of the family and sex of the child. For example parents in larger family, favoured going out with their adolescent children to a movie or a drama; so also there was sex difference in the household and social responsibilities shared by the adolescent children. Similarly, children in smaller families were close to both their parents.

Where the sex of the child was concerned girls had more restrictions than the boys. The socio-economic status of the family too affected the family relationships, parents in the higher income group and who were more educated more often kept themselves informed about their child's school progress and were the ones who motivated their children for higher studies.

In educational research are a few studies which although do not strictly fall into the category of the home environmental research, concern themselves with the pre-primary and primary age group children. Also, these researches in some way do explore the environmental conditions of the children. These researches are cited hereunder.

A study by Puranik and Kundley (1969) probed into the reasons of educational backwardness in the children of 8-12 age group. The findings showed that apart from variables like intelligence, vocabulary and arithmetic ability, the variables which significantly affected the backwardness were poor socio-economic conditions, health problems, inferiority complex, brooding and lack of security. The educationally backward children had adjustment problems related to studies, teachers and examinations, however the study showed that these children were very well adjusted with their families.

A study by Khandekar (1973) presents a comprehensive picture of a disadvantaged pre-schooler in greater Bombay, data was collected in terms of the disadvantaged pre-schoolers demographic and physical environment, conditions constituting health hazards and their nutritional level, pattern of care and treatment during illness, community resources and the parents' understanding of the pre-schoolers' problems and needs. The data revealed that there existed some differences between the proper city and sub-urban areas, nevertheless the environ of the disadvantaged pre-schooler was quite

similar. The housing situation was bad, unemployment amongst youth was quite common. Families in both the areas cited lack of knowledge of pre-school facilities, inability to pay for education and the distance between the school and the residence as some of the reasons for not sending their children to pre-school. Welfare services too were under utilized; community influentials however felt the need of regular medical checkups, parent education in child care, immunisation, nutrition programmes; so also there was a need of recreational services and paediatric centres.

A study by Reddy (1971) attempted to find out the role of family, locality and other factors in determining the nature of some of the scientific ideas among Elementary School Children in grades I to V. The sample of the study comprised of 2250 primary school going children belonging to, urban, semi-urban and rural areas. Reddy found that age was significantly related to the nature of concepts acquired, while sex or higher mental ability was not. Urban children were found to be distinctly superior to the rural children in acquisition of the concepts. As regards to the home environ, the educational background of the family was found to have significant relationship with the nature of concepts of causal relation acquired by the children, on the other hand socio-economic background of the family was found to be not significantly related to the nature of concept.

A singular study was found which tried to probe into the mother-child relationship of working mothers. The other factors considered were the family size and the socio-economic status. Sharma (1981) studied the pattern of the mother-child relations in and respect of the following eight dimensions: acceptance-rejection, dominance-submission, encouragement-discouragement, love-hate, democracy-autocracy, trust-distrust, reward-punishment and tolerance-hostility. The Mother-Child Relationship Scale by Tiwari was used. The findings showed that the working mothers had a posi

tive relationship with their primary school going children on the acceptance-rejection, encouragement-discouragement, democratic-autocratic, trust-distrust and the tolerance-hostility dimensions. SES however was found to play a significant role in these interaction patterns, the high SES significantly promoted more acceptance, dominance, encouragement, love, democracy, trust and reward; but, it had significantly less trust than the other two SES groups. Although the high SES working mothers played a very significant role in the seven dimensions of the mother-child relationship, it seemed to work in an inappropriate manner; the undue pampering and over-protection significantly contributed to several problems in their children. In this aspect, a working mother with low or middle SES seemed to be better because of a positive but balanced relationship between her and her children. It was also found that the low SES family mothers sometimes showed hate, autocratic attitudes and distrust towards their children.

An extensive research was conducted by the Child Study Unit of the NCERT during 1970-78. The attempt was to investigate the relationship between a number of home and school variables, some intervening variables and academic achievement, as well as cognitive development of primary school students. The data were analysed in two parts: In the first part, the relationship between home environment variables, intervening variables and academic achievement was analysed. In the second, cognitive development was treated as the criterion variable, academic achievement being treated as one of the predictor variables. In all, the variables taken up for study were, parental behaviour (dominance-submission), parent-child interaction, parental aspirations, attitude towards play of parents and teachers, facilities for play at home, teachers' attitudes towards children and teaching profession, school facilities, socio-economic status (education, occupation and income of parents), gender and age of children, and general standard of living. The intervening variables taken into consideration were self-concept, ethical discrimination,

social distance, social acceptance and intelligence. The dependent variables were school achievement and cognitive development.

Analysis in part one revealed that amongst the home variables, the SES variables, i.e., father's education, occupation and income, mother's education, general standard of living, nutritional level, and per capita income emerged as the most significant variables. Apart from the SES related variables, other variables at home found to be significant were language facility at home, facility for play at home (this variable was found to be more significant for boys than girls), and parental aspiration (which on the other hand was found to be more significant for girls than for boys). The data also revealed that the school related variables do not show any significant relationship with school achievement.

Amongst the intervening variables, the most crucial factor affecting school achievement was intelligence. Apart from this, ethical discrimination emerges as one of the significant variables in relation to school achievement. In addition, it was also found that social acceptance is important in the case of girls, and self-concept was of significance to children of the youngest age group.

Two very interesting and significant findings of the study were the following. One, while girls scored higher than boys in achievement tests, the trend was reversed in intelligence tests. Two, for home environment variables such as dominant-submissive behaviour of mothers; parental attitudes towards play, nutritional level of the child and self-concept of the child, no age or gender differences were noticed. In fact, it was most encouraging that in most of the home variables, no gender differences emerged, signifying the role of urbanisation which has brought in a change in the traditional child-rearing practices.

The study also revealed that none of the parental variables showed any definite relational trend. They did not seem to be directly responsible for the cognitive development of the child. The play facility available seemed to have a significant bearing on the child's cognitive development at the lower age levels. However, as age advances facilities for play seemed less important.

Where the intervening variables were concerned, it was found that intelligence as well as arithmetic and language achievement was highly correlated with cognitive development at all age levels for both boys and girls. There was some marginal difference, however. It was found that at lower age levels it was language development which was the major predictor, while at the higher age group it was the arithmetic achievement.

A few more studies could be traced which attempted to understand the home environment of the pre-school children. Boman Patell (1983) and Iyer (1981) conducted research on home environment by developing and using an adapted version of Caldwell's home inventory. Results showed significant relationship between the HOME scores and the pre-schoolers' achievement. Desai (1985) found that the HOME inventory scores for a group with learning difficulties and another without learning difficulties differed significantly. It was also revealed that language stimulation, stimulation through toys, games and reading material, pride, affection, warmth and stimulation of academic behaviour were the significant factors in the home environment.

2.3.0 Conclusion

Home or the family environment is an extremely complex phenomenon. It is an interplay of a number of variables, both extraneous as well as intraneous. Any scientific attempt in understanding this phenomenon, therefore, has its own problems. However,

as seen in this chapter, attempts have been made in this direction by various researchers. As mentioned earlier in this chapter, the research trajectory on home environment has progressed from viewing home environment as a mere conglomeration of SES variables to viewing it as a context comprising a network of status and process variables, and as a micro-system which is a part of a larger macro-system in the society. The studies reviewed in the chapter, especially those conducted abroad, are essentially attempts that try to gain an insight into this network of status and process variables operating in home. The studies cited showed two distinct endeavour to understand home. The first is wherein the research focus is on a crucial aspect of home - the parent-child relationship. Studies of this kind attempted to identify and understand specific aspects of the parent-child interaction such as the child rearing practices, the disciplining techniques used, the type of parental practices followed, etc. Studies by Sears and Maccoby, Bandura, Baumrind, Becker and others fall in this category. The contribution of these research endeavours have been in that they have succeeded in defining and identifying a broad range of parental behaviours and tracing their effect on the child behaviour. In the second approach, the researchers have attempted to identify and study a set of both process and status variables operating in the home environment in relation to child characteristics. The theoretical assumption here was that these set of variables form a sub-environment at home. This very theoretical assumption was the major contribution of the second approach, in that researchers here on the basis of theoretical knowledge and observations identified constructs from the home environment. This identification process was essentially based on the personality trait and the age of the child under study. For example, if one was correlating home environment variables with achievement motivation, the variables identified might differ from those identified when one is studying aggression in the child. This approach was reflected in studies conducted by Caldwell and associates, Dave, Wolf, and Marjoriebanks. Apart from the advantages mentioned for the

two approaches, these studies in general have put forth a number of home dimensions by identifying them, defining them, by constructing instruments to measure these dimensions, and by studying their role in the child's development. However, but for a very few studies, most of the studies follow a uni-directional pattern, that is they concentrate only on very selected (and consequently limited) dimensions of home environment. Mostly, these dimensions are then correlated to the child's personality traits or achievements. Such approaches have therefore given only a partial understanding of the home environment. They fail to identify and understand those elusive and subtle variables that operate at home and which cannot be apprehended by the instruments used in these approaches. To overcome these drawbacks, an approach like Kahl's should be more used by researchers, wherein the researcher combines both qualitative and quantitative methods.

On the Indian scene, the picture is different. To begin with there is an absolute paucity of educational researches exploring home environment or the background of the child. Furthermore, most of the studies confined their investigations to exploring the relationship between SES variables and the school achievement; the studies conducted are replications of one another. The importance of SES as an all-pervasive influence is undisputed; it has time and again been taken as a gross index under which a number of varied life-style variables are subsumed. These variables could range from the type of housing, type of neighbourhood, value placed on education, leisure time activities, etc., to income, occupation and education of the parents. SES is thus used as a single index representing all these varied parameters. Undoubtedly, therefore, SES as a variable acquires a strong predictive value for most personality traits. Even as one appreciates the importance of SES in home environment research, it has its limitation as an explanatory variable. For one, since phenomenologically, SES is a loose conglomerate of a number of varied parameters, generalisations made by treating

it as a unitary variable are, if not erroneous, only partially understood. Secondly, although SES in its influence is all pervasive, its relationship with the development of the child is not always direct, it also influences a number of mediating variables which in turn affect the development of the child. In taking only SES as a complete and self-explanatory variable, these mediating variables are ignored leaving the entire phenomenon of home unexplored, and thereby limiting the understanding of home environment at a very simplistic level. In fact, the entire functioning of the family as a social institution is reduced to the level of the SES variables alone ignoring the very rich and complex interface of the socio-historical, cultural, and the psychological aspects in the family environment. Panda (1984) in his critique strongly felt that it is this approach of concentrating only on the SES variables that has affected the growth of an organised body of Indian research in this field, the research trajectory stagnating at given point without progressing in a logical vertical dimension.

Further the SES variable is divided into broad categories (middle class, lower class, etc.); such categorization may go well in large surveys or as an descriptive demographic index. But in describing the home environment it does not say much beyond denoting a category. These broad categories may in fact conceal a number of subtle variations existing within the same class.

In view of these drawbacks home environmental research in India should proceed beyond the SES factor. Future research attempts need to avoid the mechanical use of the SES tools and to complement the SES variable by incorporating the study of existing social and cultural norms in the family (Menon and Ojha, 1987).

Yet, another major drawback of the Indian researches in this area is the selection of the sample. Of the few studies in this area, most have secondary school children as their sample, very few

have attempted to study pre-school and early primary age group. The pre-school and the early primary age group is grossly neglected, limiting our understanding of this group to a minimum.

Apart from these two major limitations of the Indian researches, two other specific drawbacks common to both categories of research, viz., those conducted abroad and in India, were identified. One, if one is to comment on this gamut of research as a whole, one realizes that it does not give a comprehensive picture of the child's development; that is the selection of the child characteristics is rather trunkated, with majority of the studies undertaking the study of academic achievement, intelligence and to a lesser extent cognitive development. The other aspect of the child's development like psychomotor, psycho-social or affective development are very rarely taken up. Similarly, academic achievement has very limited connotation - achievement scores in various school subjects. Other aspects like school adjustment, peer group adjustment, performance in co-curricular activities are broadly ignored.

Two, this refers to the general approach assumed by the researchers to the problems in this area. Barring a few, most studies make an atomistic approach in understanding the relationship between home environment and child characteristics; that is, they take up 'n' number of variables from the home environment and correlate it with academic achievement, intelligence or some other child characteristic. As such, the findings derived from this correlational approach look collectively impressive, but as Willerman (1979) observes, the environmental correlates identified by such studies are causally ambiguous with regard to the direction of effects. It could also be noted that this correlational approach leaves the complex network of variables existing in the home unexplored. For studying this complex network of interactions among the social and psychological variables, analytical techniques involving structural models of inter causal relationships like the path analysis could be

useful. Also multivariate techniques like multiple regression, canonical correlation, etc., may be more fruitful (Menon and Ojha, 1987). The present study takes into account some of these conceptual and methodological aspects in framing its research questions and methodology. The research questions of the present study, its design in terms of the variables selected, the type of data desired and the scheme of analysis will be discussed in the next chapter.

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