CHAPTER II

REVIEW OF LITERATURE
Cognitive development may be viewed as the outcome of continuous interaction of the organism with his environment. There are several views about cognitive growth or development. Psychometrists emphasizes on unitary concept of intelligence as reflected in the single score I.Q. as indication of cognitive development. Hayhood pointed out there is no such things as intelligence. Factor analysists, who have studied the nature of intellect by examining its apparent structure across different age groups and different segments of the population have to great extent discredited the unitary concept of intelligence. A very promising approach to the nature of intelligence in recent years is the process of developmental approach. It focuses on cognitive processes used to receive, code and store information. Cognitive developmentalists are concerned with the interaction between individuals and environmental events and with the understanding of how such interactions lead to alternations in cognitive structure.

The last two or three decades have seen intensive research effort being directed towards understanding cognitive processes among infant, children and
adolescents. Much progress has been made in unravelling the developmental aspects of cognitive processes.

The study of cognitive development is the study of reality and its representation in the mind of the child. It is the scientific study of how mind processes the information, how human beings know about their world and how they put their knowledge to use. There has been an increasing awareness among the social scientists and educators (Vernon, 1960; Cattell, 1971) that a global concept of I.Q. no longer provides a useful approach to the study of group differences in cognitive functioning. As Biggs (1968, 1969) notes, I.Q. scores while providing a useful measures of general intelligence, confounds the possibility of identifying specific skills or qualitative differences, in coding information. Such a score is merely a power or quantitative measure giving now clue as to why differences in these measures occur. I.Q. tests do not begin to tap the many forms of cognitive variation present in the reportoir of all children. Das (1973) has also pointed out that the general ability measured by I.Q. score gives us no clue as to how such ability is manifested in scholastic performance. There is little to explain the relationship between intelligence and achievement. Therefore, a low I.Q. score hardly goes
beyond prediction of low achievement. This has resulted in a movement away from the traditional global view of intelligence to the study of individual and group differences in organization and pattern of abilities. Abilities are power measures; they concern variation in level of skills, or the more or less of performance. These abilities caused individual as well as group differences in the performance of cognitive tasks. This particularly relevant when groups are contrasted on socio-economic status (SES). Current research in cross-cultural psychology has revealed that there exist differences in ability structures and functions among different SES and for cultural groups, which can account for quantitative variation in cognitive functioning. A greater understanding of the nature of performance differences linked to SES is particularly useful for designing suitable instructional techniques which can potentially capitalize on the strength of children in a certain SES category. Thus from an educational perspective, such an approach seems quite essential for development of suitable educational techniques for socially disadvantaged children.

Jensen suggests that the traditional intelligence tests fall to differentiate intellectual skills of the
socially disadvantaged groups. One of the primary causes of the failure of compensatory educational programme according to Jensen (1969) is that, it is based on a unitary concept of intelligence. His theory is based on the motion of subcultural differences in the pattern of mental abilities as supposed to traditional view of I.Q. deficit among socially disadvantaged children. His theory suggests that the disadvantaged do have strength with regard to certain level of cognitive ability (Level-I); although they may be different from the advantaged in respect to level-II type of abilities.

The cognitive ability is affected by various environmental factors. The recent interest in compensatory education has focused on certain aspects of the child's environment which are instrumental in advancing or retarding his cognitive functioning. There are some theoretical grounds and relevant evidences that prolonged environmental deprivation includes retardation in intellectual development. It is assumed that whatever the individual's genetic potentials are, development of cognitive ability occurs largely in response to a variable range of stimulations requiring incorporation, accommodation, adjustment and reconciliation.
Environmental Approach

The surrounding of a child or an adolescent should be stimulating in order for him to discern anything out of it. Since the deprived child's perception of the environment is completely different from others, there is a great need to study his behaviour in dealing with the situation, as the style of life is mostly dependent upon the environment.

In recent times a growing number of educators and social scientists are not satisfied with the use of the status variables as environment indices. The reason is that social status characteristics have failed to explain much of the variability in children's performance in school or on cognitive or intelligence tests. In addition to that environmental variables refers to sociological and epidemiological measures, for example, the socio-economic status of the family, educational attainment of the parents and family milieu.

Similarly, the relationship between child's home environment and his cognitive development has been an ongoing issue of great significance to developmental psychologists. It is an empirical fact that environmental
Figure - 1

Heredity variables
(Hypothetical Construct)

Mental Capacity
(Hypothetical mediation, Casual construct)

Environmental variables
(Sociological Constructs, Socio-economic status, family milieu)

Intellectual behaviour
(per performance on test)

Stimuli - Cognitive responses

(Testitems Abilities and setting skilled factor) knowledge)

(Correlational Analysis of Intelligence)
variables within the home correlate significantly with cognitive development (La-Buda, DeFries Plomin and Fulker, 1986). The Coleman report and the various reanalysis of the original data (Jancks, 1972) have suggested that family must be involved in child's education. At the same time Hess and Shipman (1968) have shown in a famous series of studies that mothers who give clear instructions and are consistently positively reinforcing have children with higher I.Qs. than do mothers whose teaching strategies are less optimal. Beckwith (1971), Willerman and Stafford (1972) pointed out that mothers also seem to be more important than fathers in shaping the attitudes of their children. It may be that because children spend more time with their mothers than fathers in our culture. The mother is the most important factor in determining the intellectual level of home environment.

Theoretical Perspectives

It has been observed by various social scientists and educators that a number of crucial factors have been contributed to the cognitive development of children in the context of various social and cultural set up. The disadvantaged deprived child is characterised by his failure in the academic situation. There are three
different theoretical positions in regard to the poor performance of these socially disadvantaged children. (i) The genetic deficiency position, (ii) The cultural deficiency position, (iii) The cultural difference position.

The genetic deficiency position gives emphasis to genetic factors and its role in cognitive development. It gives emphasis to genetic differences favouring the socially disadvantaged population (Jensen, 1969a). According to Jensen (1969b), "The Children's I.Q., before he is born is predictable from the I.Q. of his parents, because of its heritability.

According to the cultural deficiency position with regard to intelligence, poor performance of socially disadvantaged children is due to certain deficits in cultural processes like, child rearing, its linguistic environment, "Child's mental functioning and development can only be as good as his culture". Cronin, James et al. (1975) and Jensen and Rechard (1975) studies support this viewpoint.

The cultural difference model given emphasis to variations in cultural processes and consequently mental
processes. According to this model, performance of socially disadvantaged children only appears to be deficient due to the drawback in our conceptualisation of intelligence and similar processes which involves cultural value judgement. Ramirez and Douglass (1974) supported this cultural difference approach.

Recently greater emphasis has been given to early intellectual stimulation. Psychologists have generally accepted the view that the children of the low SES group are, by virtue of poverty, deprived of stimulation. But by "Poverty" we should not mean economically poor, there is no "Poor" child as such. These "Socially Deprived" children may be economically rich, but they may suffer from insufficient adult guidance (Keller, 1963; Deutsch, 1964; Hess and Shipman, 1965) in making sense out of their rich environment. Thus the objective as well as effective environment is required for the proper development of intelligence.

As objective environment consists of stimulating objects and an effective environment consists of responsive persons (Mc Candless, 1964). Researchers have not given equal attention to both these types. For example
SES indices, have mainly taken into account parental education, occupation, family size, social caste and material possession of the home. However, the home-environment has also its emotional, motivational, interpersonal and intellectual climates. The proper understanding of the home environment's influences on the child's development will require an assessment of all these aspects.

In determining the causes of failure of disadvantaged child, several antecedents have been suggested. Lack of proper intellectual stimulation, as well as social and personality factors as poverty, broken home, absence of a male model and language disability are often balanced for the child's cognitive incompetence. Recent studies completed in England showed that material shortages in the home and poor environment conditions greatly affect parent child-rearing methods, which on the other hand affect cognitive development. Wilson Harviet, 1974; Cogorno and Maioli, 1972 evaluated the efforts of family conditions, economic status and social attitudes on mental development and found out family is the most important agent to improve the mental ability of the children. Spitz (1945), Goldberg (1955) and Dennis and Narjarian (1957) studies the effect of extreme poverty of
physical as well as social environments on infants in institutions. All of them observed retardation in motor, perceptual and intellectual development of children. Skeels (1966) made a long term follow up study of 24 seriously retarded children. Half of them were placed in a better care and environment and after 25 years nearly all of them appeared to be normal adults, self supporting in a wide variety of jobs, while the others, who had not been transformed from their environments, were all still institutionalized or in low grade jobs. In another study Leeds Dorald (1974) reviewed literature on reading as a process and as an experience. Familial influences, social class and social status have been reported as factors in the growth of child's ability to learn & to read. The effect of mother child relationship is also given importance in one of the study by Goldberg (1973). The environmental factors studied in India, the mothers and father's education and family income showed statistically significant relationship with accelerated mental development (Pathak, 1974). Chatterjee (1971) in an extensive study found that family background variables such as parental education, parental income, religion and caste were the most important factors for the prediction of educational and cognitive-perceptual functioning of children. Some studies done in India also indicates that
poverty alone, or in association with socio-cultural deprivations have adverse influences on cognitive and academic abilities of children (Das, 1973; Das and Sinha, 1974). Sinha and Sukla (1974) observed children from orphanages, suffering from familial deprivation and compared them with the normal children of comparable age and found that deprived children are significantly lower in some intellectual tasks.

Fraser (1959) selected a sample of 408, 12 years old in Aberdeen secondary schools and studied the effect of home environment on their intelligence and achievement. A large amount of home data was collected by interviewed and was correlated with I.Q. and Scholastic progress. Parent's education, newspaper, magazine reading in home, parental income, small family size, leaving space in home, parental encouragement and general family atmosphere of these children correlated significantly with their I.Q. and achievement. Parental encouragement correlated highest among all.

Bradley, R. and Caldwell, B. (1976) conducted one study to find out the relationship between early home environmental and cognitive development of the children. The family was observed and interviewed using
the Home Observation Measurement of the Environment (HOME), a measure of the quality of stimulation in the early environment. They observed material involvement with child and provision of appropriate play materials, these two factor are important for the increment of cognitive abilities. Decreases were related to inadequate organisation of physical and temporal environment. Results are in agreement with the findings of R.B. Mc-Call et al. Relationship between parent child communication and the development of categorisation styles in pre school children is given importance in one of the study by Davis, Albert, J.Lange, Garrett (1973). Chu, Chenny, Ping (1975) found out that positive parent-child relations (loving) and positively related to the child's cognitive abilities and the negative parent-child relations (neglecting, rejecting) are negatively related to the child's cognitive abilities. Cicirelli, Victor G. (1975) showed the effects of mother and older siblings on the problem solving behaviour of the younger child, interpreting the results in terms of family interaction patterns. Wolf (1964) in his study cited the influence of parent child interaction on cognitive development. Mehta, Perin, H. and Kumar, Usha A. (1974), they discussed theories regarding importance of parent, teacher and counsellor guidance in the cognitive, attitudinal and social development of pre-primary and
primary children in India. Wallber, Margaret, Inglis Susan et al. (1975) gave importance to mother child interactions as a factor to language delay. They used the Caldwell Inventory of Home Stimulation (CIHS). Low CISH scores are found through the socio-economic status, indicating the language delay has a stronger influence on mother child relationship than did socio-economic factors.

So far as the home environment and the development of verbal ability is concerned, Jones, Paulin A. (1972) cited an interesting observation. In this study, variables of the home environment were examined for two groups matched for general intelligence but discrepant with respect to verbal ability. Home environment measures were obtained by means of a 70 minute interview with the mothers of 50 boys of grade 5. High verbal boys compared with low verbal boys were found to be from home where parents (i) have a higher interaction index, (ii) have higher academic and vocational aspirations, (iii) have provided more opportunities for the use and development of language, (iv) and have higher occupational status. Thus it reveals early environment as the most important factor in determining the cognitive abilities of the children. According to Trotman (1977), IQ differences could very well be predicted by the intellectual home environment of the children.
Home is the first world to the child. Human being right from birth is in social environment which affects him just as much as his physical environment. Family relationship provides the child's primary socialization. Home-environment consists of the members in the family (whether over crowded), space available to each member of the family, toys, pictorial, cultural materials and reading materials in home. All these constitute the most visible "upper layer". However, these are matched again by the nature of schooling and facilities to which the individual child is exposed. The other factor constituting the visible layer is the nature of interactions and activities prevalent in his groups right from his childhood onwards.

A good home environment is pre-requisite for higher cognitive function. A majority of psychologists believe that the best place for learning is home, best teachers in the world are parents and best method of teaching is parenting (Bowlby, 1951; Frued, 1969). The adverse home conditions which are related to depressed intellectual and social functioning include such things as negative parental attitude towards the child, inadequate and
overcrowded housing, substandard nutrition, low-parental educational attainment, poor household management, social and economic deprivation (Miller, 1968). Hollingshead (1975) commenting on the pervasive and lasting influences of the family on children, concludes that the vast majority of a child's experiences during pre school years occurs in parental home and in the immediate neighbourhood. The essential aspects of the children which characterizes the family are transformed through the subtle process of informal learning. What the child learns at home is carried out to the neighbourhood with little or no awareness on his part of the connection between home influences and behaviour. Thus, family background goes with the child wherever he goes, or what he has learned in the home acts as a powerful influence on his behaviour in nonfamily social situations.

Fraser (1959) selected a sample of 12 years old children from secondary schools in Britain and studied the effect of home-environment in their intelligence and achievement. A large amount of home data was collected by interview and correlated with I.Q. and scholastic progress. Parents education, newspapers and magazine reading in home parental encouragement and generally
family atmosphere of these children correlated highest among all. Fraser further tried to see the combined effect of these variables on I.Q. and achievement of children using a multiple regression analysis and was found to 0.69 and 0.75 respectively.

B.S. Bloom (1964) reported a study by Wolf in which rating on 13 home variables were compared with I.Q. of the children. The following variables yielded a multiple correlation of 0.76 with child's intelligence as against with 0.40 for parental socio-economic status with intelligence. Parent's intellectual expectations of child, intellectual aspirations of the child, emphasis on the use of language, opportunities for enlarging vocabulary, emphasis on correct usage, quality of language, Models available, opportunity of learning in the home, opportunity for learning outside home, availability of books and periodicals and assistance in facilitating learning variables were taken into consideration in this study.

In one of the most comprehensive studies, Moore (1968) found that home situations at age 2½ years correlates significantly with the child's school performance and I.Q. at age eight. The emotional adjustment of the child and the presence of toys and books
were strong predictors of school success, but the factor having the most pervasive influence was the home's emotional atmosphere. Warm, concerned parents have more competent children. For young children, almost the entire social world consists of the family. Later, as the child enters the wider neighbourhood and school, other children and adults take more significant role. Nevertheless, throughout the school years, family influences continue to be strong.

So far as home environment and the development of verbal ability is concerned, Jones Poulin A. (1972) cited an interesting observation. In his study, variables of home-environment were examined for two groups matched for general intelligence but discrepant with respect of verbal ability. Home environment measures were obtained by means of 70 minute interview with mothers of 50 boys of grade 5. Boys with higher verbal abilities compared with boys having low verbal abilities were found to be from home where parents have a higher interaction index, higher academic and vocational aspirations, provided more opportunities for the development of language and higher occupational status. Thus, early home-environment is the most important factor in determining the cognitive abilities of the children. Reid (1964) in a study found
that occupational grading of parents, parental reading habits, parental interest in school, small family size, percent of children living with mother only had leading of 60, 76, 68, 12, 36 & 43 respectively on the general ability factor.

The Coleman report (1966) and the various reanalyses of the original data (Jencks, 1972, Mayeske et al. 1973; Mosteller and Moynichan, 1972) have suggested that family must be involved in the child's education. The data show that much of the outcome is associated with such characteristics as parental expectations for the child, encouragement of the learning efforts, and provisions of educational materials in the home. The Mayeske et al. (1973) reanalyses of the Coleman's data & reports that 48 percent achievement was associated with family background, 21 percent with school characteristics and 32 percent with both. The authors concluded that what is really important for parents is "the nature of their involvement in educational process".

While the school environment precipitates the surfacing of certain learning disabilities, the home-environment also places considerable demands for performance upon a child. A parent may very well notice
developmental lags and problems in motor, linguistic and social skills. Cogorne and Maichi (1972) evaluated the effects of family conditions, economic status and social attitudes on mental development and found that family is the most important agent to improve the mental ability of the children.

Trotman (1977) in his study, suggests that home-environment characteristics were better predictor of children's academic achievement than socio-economic status. His findings showed that black & white differences in I.Q. differences could very well be predicted by the intellectual home environment of the black & white children even when socio-economic status was controlled. This difference in home environment and other cultural variables conducive to development of intelligence.

Bradley, Robert H. Caldwell and Bettye (1976) conducted one study to find out the relationship between early home-environment and cognitive development of the children. The family was observed and interviewed using Home Observation for Measurement of the Environment (HOME), a measure of quality of stimulation in the early environment. They observed, material involvement with
child and provision of appropriate play material are two important factors for the increments of cognitive materials.

But in an investigation done by Dix, Theodore & et al. (1986) indicated that parent's assessment of children's behaviour are closely tied to the developmental level of the child. As children developed, parents thought children's behaviour was increasingly caused by personally dispositions and was increasingly intentional, under the child's control and for misconduct, understood to be wrong. Second, parent's affective reactions to misconduct were related to their assessments of its cause and third, became increasingly negative as children developed positive effect, in contrast, was unrelated to attributions for children's positive behaviour. Fourth, Parent's assessment of children's behaviour were affected by the behaviours desirability. Parents thought children's altruism was more intentional, dispositional and under the child's control than children's misconduct.

Parents are the most important agent of the society in the life of the child. Psychological research and current population writing (Boucock, 1975) have suggested
that the amount of time children spend in activities with parents contribute significantly to children's development and behaviours in general, and to cognitive development and academic achievement in particular. The findings of Egglesten and McFarland (1975), Steelman (1969) and Donachy (1976) suggest that parents play the main role in the social, cognitive and intellectual development of children. Gleason et al. (1977) viewed that parental sensitivity of children's abilities is an important factor in determining how parents interact with their children linguistically and other areas of their lives as well.

On the other hand Miller, Scott, A & et al. (1991) examined the accuracy with which parents can judge their children's cognitive abilities as well as the relation between parental accuracy and the level of the child's performance. They found out that parents proved moderately but far from perfectly accurate, the dominant error being to overestimate their own child's ability. Accuracy did not vary as the function of the age or sex of the child or the sex of the parent, it did vary across tasks, however, and was greater for children in general than for the parent's own child. As in the past research, accuracy was positively related to the child's performance more accurate parents tended to have more competent children.
Child parent relationship varies from one culture to the other. In a normal family life in Japan, there is an emphasis on interdependence and reliance on other, while in America the emphasis is on the interdependence & self-assertation. Japanese mother spend more time with their infants, emphasize physical contact over verbal interaction and then as objects to be interacted with. In contrast American mothers spend less time with their infants, encourage their physical activity and treat them as separate objects to be interacted with. Culture basis economy affects child rearing practices and also the attitude of parents towards the child.

Chu, Chery Ping (1975) found out that positive parents child relations (loving) are positively related to child's cognitive abilities and that negative parent child relations (neglecting or rejecting) are negatively related to child's cognitive abilities. Age, Sex, Culture also affected the relationship. Goldberg (1977) viewed that the influences of home environment variables on children's intellectual development and academic achievement have been extensively useful. Khandai (1980) in Orissa has conducted study in relation to home background of child, result showed that home environmental variables have great
impact on the development of cognitive abilities. It was observed that parental education occupation, salary, members of the family, location of the house, parental aspiration, parent child interaction, mass-media, nutrition, all the variables have some impact on the cognitive abilities of the children. She also suggests that, the richer the home environment, the warmer the parent-child relation, the higher the education and aspiration of the parent, the greater the frequency of outdoor activities, the more nutritional the food, the better the health, the higher is the cognitive abilities.

Papini, Dennies R. and et al. (1991) investigated on 133 female and 98 male 7th grade subjects regarding their attachment to mother and father, Pubertal status, family expressiveness and cohesion & feelings of depression and social anxiety. In this case, the emotional distancing hypothesis was supported in that subjects who perceived greater attachment to parents reported less depression and social anxiety as well as positive perceptions of family expressiveness and cohesion. However, Pubertal maturity did not appear to moderate the buffering effects of attachment.

Thus the home environment is at critical importance in psychological development of child. Every member of the
family naturally & spontaneously plays particular role and in so doing satisfies the vital, physical, emotional, intellectual and mental needs of the individual. It is taken for granted that the ideal environment for education is a home where the parents live together in harmony and create a stimulating atmosphere for the children, offering them opportunities to participate in life and earn expenditure and gradually wearing the children from dependence to independence. Even if both parents live together and join in the upbringing of the children, the parent child relationship is rarely undisturbed by other complications, such as the presence of an older generation in the home, the position of the children in the rank of brothers and sisters, contact with other relatives, the more or less part-time substitution of servants for parents and so forth. The very presence of parents in the home is limited by modern work demands to fragmentary intervals which often do not correspond to the children's needs. In nearly all Indian families the father vanishes during most of the working hours of the child, their life sectors meet only at morning and evening. This is not desirable from the educational point of view, but it is even less desirable for the mothers also to be employed full-time outside the home, as she frequently is today.
Role of Mother in Home Environment

The place of mother in home is supreme. No one has got the virtue and sense of dedication enough to supersede her. Mother is as important in home as the soul is in the human body. When the child enters the world, the critical person in his life is the mother. She not only nurses the child but also first supplies him with strong emotional stimuli when she cuddles him, plays with him, laugh at him. The ultimate goal for the mother is that she can be an effective teacher, care taker, advocate and source of support for her child. Ideally, specific goals differ from one mother to another since mothers differ in effectiveness in various areas.

In the study of Henderson (1972), the recurring theme is that child competence is enhanced when mothers (a) are warm and affectionate, (b) use positive reinforcement, (c) encourage verbalization, and (d) exert control that uses reasoning and is not too restrictive. The most commonly mentioned aspects were maternal warmth, affection and use of positive reinforcement or appropriate praise. This context provides a positive home base, from which the child can operate. Ainsworth (1971) found that even eleven month old babies were more obedient if the
mother was warm. Goldberg (1977) commented that in studies on effects of mother-child interaction variables on children's intellectual development and academic achievement, the degree to which children come into contact with their mothers and quality and quantity of children's everyday interactions have not been studied properly. In order to resolve some of these problems, he designed a study to investigate (i) amount of time mothers spend with Pre-Schoolers in specific activities related to cognitive development and the level of intensity of contact shared between mother and child during these activities, (ii) Socio-demographic variables which influence mother's time spent with children, and (iii) relation between mother's time spent with children and multiple measures of cognitive development and school-readiness skills in children measured independently. Results indicate that maternal variables including mother's education and the number of hours a mother works in a week proved to have most significant effects upon mother's allocation of time to children.

Jindal, S.K., & Gupta, S. (1991) studied the effect of family type (joint/nuclear) and parent's educational level on the interpersonal relations in the family as perceived by the grown up child. A sample of 100 students
studying in the undergraduate classes was administered Sangita Gupta's Family Orientation Schedule. Parental aspirations, sibling relations and parent child relations, as shown by 2x2 ANOVA, were found to be significantly affected by the type of family and educational level of parents.

Deschner (1972) worked with mothers and their three year olds and explored the relationship of each separate unit of mother child interaction to determine the extent to which certain kinds of maternal behaviour would be followed by competence of child. She found child competence was greatest when mothers encouraged autonomy, were warm and responsiveness, used praise, and provided structured stimulation to their children.

Kagan's (1972) study of natural effects of child co-operation and competition is relevant for the enquiry in the parental influence on child competence. Kagan and Madsen (1971) have published a series of experiments with Mexican, Mexican-American and Anglo American children. They found that Mexican mothers gave reward regardless of success or failure, while the American mothers rewarded success almost exclusively.
Wullber, Margaret, Inglish, Susan et al. (1975) gave importance to mother child interaction as a factor of language delay. They used the Caldwell Inventory of Home stimulation (CIHS). Low CIHS scenes are found through the socio-economic status indicating that language delay has a stronger influence on mother-child relationships than did socio-economic status. According to Carew (1975) amount of verbal interaction is the first consideration, children who frequently talk with their parents seem to be more linguistically competent.

The study of Bing (1963) of cognitive style in girls suggests that mothers may provide a more cognitively stimulating environment for sons than for daughters, but the study by Block, Block and Harrengton (1974) suggests that mothers are equally effective teachers with daughters as with sons even though fathers are not.

A large number of studies evaluating the effects of absence of mother during the early years have been summarised by Bowlby (1951), Casler (1961), and Yarrow (1961). It has been pointed out that the absence of the mother for more than three months during infancy (beginning after the first 6 months) has serious negative consequences for social and emotional development. Spitz (1945) claimed that the mothers absence was the serious
disturbance of the developing mother, child libidonal bond. Hunt (1961) points out that even if the mother is present through-out infancy, a child may be severely deprived if the opportunity to confront appropriate variations in circumstances is not provided. Since mothers are remaining absence during the most of working hours from the child, these days due to the nature of their employment out side the home it would be worthwhile to study the impact of maternal employment on the cognitive ability and academic achievement as well as home environment of the child.

Role of Maternal Employment on Cognitive Development

Maternal employment is not a new concept to explain today. Science and technology has already reached the extent to bring out the so called housewives to the actual work settings. It is not a surprise today to find a large number of mothers with occupational designations. The strong advocates of equal rights of women argue that women are as much for the field as for the kitchen. Present economy often compels both the parents of a family to take up employment. Maternal employment in now the model family style. Recently in our society, mothering has been devalued like "unpaid" worker. If a woman stays at home and taken care of her children and her household, that is
not considered as a work. But her job at outside is considered as work.

A glance on the cause of the increase of maternal employment reveals that upswing education provides both a motivation and an ability to obtain more satisfying employment (Hoffman and Nye, 1974). House hold appliance and modern food processing techniques have also diminished much of the necessary part of the house work.

The rate of employment in case of mothers those who have preschool children is increasing very steadily. According to available statistics it was 18%, 20%, 29% and 37% in the year 1948, 1960, 1970 and 1975 respectively. On the other hand 1981 census data shows that 34% mothes are employed in single parent families. But 1991 census has predicted that 29% of women force have been engaged in various activities beyond their normal household duties.

The increase of maternal employment is a natural outcome of several social changes, such as, technological development that have affected the nature of jobs, the streamlinging of household operation and increased economic efficiency of outside the home production. Besides this social changes such as the increased number
of female headed household and economic circumstances compels the housewives to be employed in order to maintain an acceptable standard of living. Hoffman (1979) has suggested that on account of various economic and psychological reasons the number of maternal employment is increasing day by day. It is a realistic response to present social conditions. Maternal employment creates the feeling of competence and contribution within the women mass. Whereas unemployed mothers may put more time, intensity and anxiety into the mothering role which are advantageous for the child.

Moreover, the impact of care provided by mother on her child's health and nutritional status, intellectual and other aspects of child's welfare are widely recognised. It is becoming increasingly clear that we need to understand the time constraints of women and the factors that affect the mother's time allocation, which in turn can affect the welfare of the family. Most women who play an active part in the household economic life and contribute to the well being of family were also expected to maintain major household responsibilities. When the women perform this dual role of mother/housewife and her involvement in market participation, family stands to gain between her household care and other responsibilities.
When the mother works outside the home, the child care responsibilities are mainly performed by the older siblings. Children in such households receive suboptimal care from their mother surrogate, who lacks proper training or motivation to fulfill mother's role. The type of mother surrogate and the quality of child care provided by these mother substitutes is an important factor associated with nutritional status of children.

A number of psychological and economic reasons are operating behind it. Nanda, P. (1991) studied the opinions of children regarding their mother's employment. He explored the opinions of 80 children (aged 10-12 years) concerning the employment of their mothers outside the home. Ss completed questionnaires pertaining to such employment and background information. It was seen that 78.7 percent of Ss had a favourable opinion about their mother's employment. Only 36.25 per cent expressed that they would have been happier if their mothers stayed home. In addition, 66.2 per cent of the Ss felt that more was expected of them since their mothers worked to add to the family income, and they noted an improvement in the standard of living due to this additional income. It may even be a pattern that in many ways better suited to effective childrearing practices. Moore (1975) in his
A longitudinal study has found out that continuous full-time mothering during the preschool years was related to boys, to their being as adolescents, more intellectually able but also more conforming, fearful and inhibited. Bringbaum's work (1975) suggested that the educated non-working mother may inadvertently encourage dependency. It may become a problem particularly largely as the child grows older and the mother fears that her major role is diminishing. She may feel a need to hang on when the child's maturation requires letting go. Secondly the work may be a boost to the mother's morale. A number of recent studies have indicated that the working mother is more satisfied with her life than the non-working mother and so is her husband, (Gold and Andres, 1978a; Gold & Andres, 1978b; Dizard, 1968; Hoffman, 1974).

On the contrary, employment of mothers may pose a number of problems in family life and childrearing practices. At the outset, it is observed that the pattern and system of community, Government, and institutional services, the occupational structure and the family pattern with its traditional sex-role division of labour have not changed adequately to accommodate to the prevalence of maternal employment.
The father may help more when the mother is employed, but not enough more to equalize the task when there is no father, the economic & Psychological need for employment is greater. A few jobs are conveniently coordinated with school schedules. So even when the children are all in school there may be a need for after school care that the working mother herself can not provide. Thus maternal employment under adverse circumstances can put the mother on heavy stress. Instead of positive effect of maternal employment that can be mediated by the mother's higher morale, negative effects are mediated by the strain of filling two very demanding roles (Woods, 1972, Hoffman, 1974).

So emphasis should be given on the effect of maternal employment to see in what ways and what condition it operates as a positive influence on child development and in what ways and what condition it operates as a positive influence on child development and in what ways and under what circumstances it operates as a negative influence. It would have considerable significances for social policy and individual coping. Since maternal employment implies a change in family structure and function including child-rearing pattern, it is reasonable
to assume that it also has significance academic orientation and cognitive functioning of the children.

Etaugh, 1974; Nye & Hoffman, 1963; Hoffman and Nye, 1974; found that maternal employment relates to income, maternal educational status, presence of husband, number of children in family, age of children, ordinal position of the child and parental attitude, all of which also relate to academic abilities. It was predicted that both sons and daughters of employed mothers would have broader, less differentiated concept of sex roles. In addition it was predicted that sons of employed mothers would have lower cognitive performance and more adjustment problems than sons with unemployed mothers, although the effects would not be as great as those found with younger children. Cherry & Eaton (1977) observed that the relationship between maternal employment and cognitive indices may be different for double and single parent families. Most of the studies include one parent families and this remains a basically unstudied group despite its growing size.

The Cherry & Eaton's data also suggests that the effects are not the same in different size families. It is also reasonable that effects may be different for the
various education groups, kind of jobs, ethnic group, level of socio-economic status, family attitudes, kinds of support systems and an endless list of other variables. Hoffman (1974) studied that the relationship between maternal employment and cognitive performance of daughters have been inconsistent. There is no specific prediction regarding the daughters performance was made.

Gold, Dolores & Andres, D. (1980) conducted a study on the effect of maternal employment and development of 10 years old Canadian Francophone Children. They found differences in pattern of family functioning and parental role satisfaction between families with employed and unemployed mothers. However, maternal employment was not highly related to development of children. Some psychologists have opined that maternal employment has different meaning to the children of stable and unstable home. In the former it appears only to equalise status between sexes and make sex role adjustment more difficult in the later it may be interpreted by the child as rejection.

But the studies of Schubert, Jan Bason, Bradley, Johnson, Shoron & Nuffal Jamy (1980) indicated that the mother infant relationship is not affected by maternal
employment. Whereas Cassidy and Jude (1988) found that the child parent attachment is important in the child's representation of self. In their study they examined the child's representation of self in connection with child mother attachment in a sample of 52 white middle class 6 year olds.

Infact there is no study that has properly investigated the connection between maternal employment and Child's cognitive functioning. There are some scattered studies that have examined the statistical difference between working and non-working mothers' children with respect to certain academic indices, but paid little attention to why differences are not found. It may be due to the fact that working mothers have made a special effort to compensate the children for the time they spend at work.

The finding favouring the children of nonworking mothers was that, for women with six or more children, maternal employment was associated with lower I.Q. (Weschler Preschool Scale of Intelligence) at age 4. The study by Cherry and Eaton (1977) examined in a longitudinal design, the relationship between maternal employment during the first three years of the child's
life and various indices of cognitive and physical development at 4, 7 & 8 years of age, in a sample of 200 lower-class black families. A definite advantage of this study is that the relationship between maternal employment and child outcome variables were examined separately for each of several different situations. For example, where the husband was present, working mother's children had higher scores than nonworking mother's children on the Illinois Test of Psycholinguistic Ability at the age eight, but this relationship was not found for families where there were no husband. Kriesberg (1970) however, with a comparable sample, reported the opposite pattern maternal employment was related to higher grades in school but only when no husband was present. In other words in general family with husband and wife maternal employment was related to lower grades.

Lewis, Marc D. (1993) studied the early socio-emotional predictors of Cognitive Competency at 4 years. This follow up study extended this prediction to overall Cognitive Competency at 4 years, with most of the predicted and examined its relation to early maternal predictors of competency. He found that early negative emotional and maternal responsiveness were independent but equally strong predictors, suggesting different casual
mechanisms or different developmental paths.

Similarly, Bala, P., & Upadhaya, K. (1992) examined whether (a) 80 employed and 80 unemployed mothers (aged 25-40 years) would differ significantly in their child rearing attitudes and (b) the child rearing attitudes of employed mothers would vary with the level of the organisation in which they were employed. Ss were given a Hindi version of the Maryland parent Attitude Survey, which yields Separate Scores on 4 Child rearing attitudes, Disciplinarian (D), Protecting (P), Rejecting (R) and Indulgent (I). Employed and unemployed subjects did not differ significantly higher on D. The 4 groups (Primary School, Middle School, High School and College level teachers) of employed Ss did not differ significantly on any one of the attitudes.

Hoffman & Nye, 1974; Kappel & Lambert, 1972; stated that part-time employment in the middle class has usually shown more positive effects than either full time or non-employment status of the mother.

From all these findings it is clear that the Psychologists are still in dark regarding the effect of employment status of mother on the cognitive development.
of children. It is obvious that the full-time housewife in the middle class family, particularly with the current small size family norms and time saving facilities, has a great deal of time for the child. Furthermore, the relative exclusiveness of mother child relationship intensifies her salience and effectiveness as a socialising agent. For this reason she may effectively teach the child skills thus increasing their cognitive ability.

A number of studies have indicated that particularly in the middle-class the working mother tries to compensate for the absence by spending extra time in direct interaction with the child (Jones, Lundsteen & Michael, 1967; Polona, 1972; Rapoport and Rapoport, 1972). Hill and Stafford in reporting results of a time diary survey indicated that less educated women reduced the amount of child care as they increased their time in labour, force, but more educated women maintained closer to the same levels of child care with increased labour force participation. Goldberg (1978) in a study of middle-class preschool children enrolled in nursery school, found no difference in the amount of direct one to one interaction between the mother and child although the full time employed mothers did have less "Available" time with the child.
It has also been observed by Joan Mc Cord and et al. (1963) that the effect of maternal employment on lower class boys regarding the personality development seemed largely dependent on the family milieu: (a) In stable homes, maternal employment appears to decrease the father's status and sibling rivalry while increasing dependency and criminality. The authors concluded that maternal employment has different meanings to the child in stable as compared to unstable homes: in the former it appears only to equalise status between the sexes and make sex role adjustment more difficult, in the latter, it may be interpreted by the child as rejection.

Shinha & et al. (1979) investigated the relationship between the absence of father and the children's cognitive development. They observed that financial hardship, high levels of anxiety and in particular low levels of parent child interaction are causes of poor performance among children in single parent families; sex role identification, however does not play an important role. An alternative hypothesis concerns the representativeness of father absent families. The mother's ability to compensate for loss of the father is also considered.

Maternal employment may involve less supervision or
more independence training or more autonomy for the child. This might result in lower cognitive performance for boys but not girls for two reasons: Prevailing child rearing pattern in the United States may over control girls and inadequately train them for independence but boys may receive optimum balance or too much. Thus, if maternal employment lessens supervision and increases independence training for children, it may improve the condition for the achievement of daughters but leave boys with too little supervision, or too much or too early independence training, maternal employment may lead to greater reduction in the supervision of boys than girls.

Studies carried out in Canada (Gold & Andres, 1978a; Gold & Andres, 1978b; Gold & Andres, 1978c; Gold, Andres & Glorieux, 1979); examined relationship between maternal employment and various indices of academic ability and performance for daughters and sons separately. Although the daughters in all studies showed significantly better social adjustment when their mothers were employed, they did not show significant differences on any academic variable. The direction of the differences generally favoured the daughter of employed mothers but did not attain statistical significance.
Studies have found out that the sons of employed mothers have more difficulties than do the daughters (Hoffman, 1974). A series of studies by Gold & et al. (1979) adds further to the picture. In a study of four year old, middle class, English Speaking Canadian Children (Gold & Andres, 1978c), these investigations found out although the children whose mothers have been employed since birth showed better social adjustment than children from non-working mother homes, the sons of these working mothers had lower I.Q. scores (Weschler Preschool and Primary scale of Intelligence). An identical study of four-years-olds from French speaking families also showed the better social adjustment of the working mother children. But these were no I.Q. differences (Gold, Andres & Glorieux, 1979).

Jensen (1971) suggested because of genetic factors the boys may be more vulnerable to environmental effects particularly with respect to I.Q. An important work supporting this view is the study Bayley and Schaefer (1964). However, Kamin (1978) has analysed the Bayley-Schaefer data and this reanalysis suggests that there is no sex difference in the susceptibility of I.Q. to environmental factors.
Role of Maternal Employment on Academic Performance

It has been found out that when the mother is employed and the division of labour between the husband and wife is less traditional (Hoffman, 1977). Though the woman maintains a large share, the husband of working woman participate more in house work and child care. School aged children are more likely to have household responsibilities and to participate in task (Hoffman, 1974). But working mothers encourage independence in children (Hoffman, 1974). Studies of lowers socio-economic population and one parent families have found that working mothers are more likely to have structured rules for their children and consistency between theory and practice. Psychological differences were also reflected in case of the differences between working and non-working mothers in independence training.

Research findings of Hoffman, 1974; Gold & Amdres, 1978b; indicated that low morale on the part of the nonworking mother with school aged children and particularly when there are only two children the non-working mother may over invest in the mother role because it is the only one from which she derives a sense of competence, contribution and self-worth generally. The pattern of mothering that encourages dependency, even when
that is not the intended goal, enhances and provides justification for the role of the full-time mother.

There are a number of personality variables in girls that have been found to be related to maternal employment, are consistent with these family patterns and might be expected to affect academic performance. Maternal employment has been found in daughters to be associated with independence and a broader and more positive definition of the female role (Douvan, 1963; Hartley, 1960; Miller, 1975; Marantz and Mansfield, 1977). It is also found out that the daughters of working mothers have higher social and personality adjustment scores in comparison to non-working mothers (Hoffman, 1974; Gold and Andres, 1978a; 1978b; 1978c; Gold, Andres and Glorieux, 1979). Girls of both socio-economic classes perceive that females are competent, a perception not shared with many of the daughters of non-working women (Baruch, 1972a). Daughters of working women and sons of non-working women at least in the middle class, are more likely to see men as warm, not warmer than women, but work also. That is, the positive traits stereotypically associated with one sex are perceived in the other also without devaluing either sex. Bern's work (1975) suggests generally that sex stereotyping may be dysfunctional to mental health, and
the specific significance of this particular pattern for self concept is apparent. In addition, the greater part is played by working mother children in household tasks and responsibilities has also been shown to relate to higher self esteem (Smokler, 1975).

Delgade, H.; Maria and Mill, Scott, A.(1993). Studied the relationship between Mother's accuracy in predicting their children's I.Q., mother's academic achievement demands and children's achievement. They administered the Wechsler Intelligence Scale for children Revised (WISC-R) to 70 children (aged 6 years 3 months to 12 years 6 months); their mothers were asked to estimate their children's I.Q.s. to determine accuracy of their estimation. They observed that 80% of the mothers gave estimates within 1 standard deviation of their children's I.Q.s. Most mothers over estimated their children's I.Q.s. Accuracy did not predict the children's achievement or school grades, but the mother's demands were positively related to their briefs about their children's ability and to the children's level of achievement.

Similarly, Das & Mathur, (1992) examined the need achievement as related to Type A/B behaviour patterns among working and nonworking women. A 2x2 factorial design
was used to study the effect of n-achievement (n-ach) of working and nonworking women on their Type A Behaviour Pattern (TABP). A stratified random sample of 100-women (50 working and 50 nonworking) participated as Ss. Results indicated that women high on n-ach manifest significantly greater TABP. No significant difference was noted between TABP of working and nonworking women. There was, however, a significant interaction effect indicating that working women low on n-ach manifested lower TABP in comparison to the nonworking group. It was also found that working women have a significantly higher level of n-achievement.

There is a great deal in the working mother family to increase the academic-occupational competence of daughters and to contribute to positive adjustment generally. Their mothers provide models more consistent with occupational roles and achievement. Career orientations, they hold the female role in higher esteem particularly with respect to competence. High achieving women often have a background that includes a close relationship with warm and encouraging father (Ginzberg, 1971; Hoffman, 1973). The father in working mother families is more likely to approve of and encourage competence in females (Hoffman, 1974). Even the fact that having household responsibilities contributes to
self-esteem works in this direction. So it seems reasonable to expect that daughters of working mothers will be cognitively advantaged and higher achievers.

Almquist and Angrist (1971) found that career-oriented college women were more likely to be the daughters of employed women and Tangri (1969) found that college women who aspired to careers in less conventionally feminine areas were more likely to be daughters of employed women. Baruch (1972a) found a career aspiration combining marriage and motherhood were more common among college women whose mothers worked but only when they also perceived that their mothers' combining of these two roles did not involve excessive stress. Kappel and Lambert's work (1972) also suggested that stress can mitigate the positive effects of maternal employment.

Hess Robert D & et al. (1984) observed that maternal measures taken during preschool years significantly predicted both school readiness and performance at grade 6. The association was stronger with school readiness.

A few studies examined the relationship between maternal employment and daughters' academic performance.
Studies by Gold and Andres, 1978a, 1978b, 1978c; Gold, Andres, & Glorieux, 1979, showed significantly better social adjustment when their mothers were employed, they did not show significant differences on any academic variables. The direction of the differences generally favoured the daughters of employed mother, but did not attain statistical significance. Middle class daughters of employed mothers obtained the highest scores of any of the groups on the language part of the Canadian test of Basic Skills, but they did not differ significantly from middle-class daughters of non-employed women. These indices included language and Mathematics score on the Canadian Tests of Basic Skills, self-reported grades and attitude towards school. Reese & Palmer (1970) using mother's employment status as the independent variable when the child was fifteen, found daughters of working mothers had higher - I.Q.'s at ages six and fifteen although there was no relationship at age twelve.

Studies for daughters show that maternal employment relates to many of the intervening variable that can be expected to lead to high achievement. Most of these studies found no significant differences but the direction of the relationship generally was toward the daughter's of employed mothers obtaining higher academic scores.
It has been found out, in the middle class sons of working mothers have lower scores on various cognitive tests. Brown (1970) found lower scores on the California Achievement Test for middle class eighth and ninth grade sons of working mothers. Banducci (1967) found that the high-school-aged sons of working mothers in the middle class had significantly lower grades than the sons of non working mothers, although opposite relationship was found for blue-collar classes with sons of working mothers obtaining higher grades (skilled-blue) or higher test scores (unskilled blue) that comparable nonworking mother's son. Sons of employed women had lower I.Q. scores at ages 6 and around 15.

In a study of four year old, middle-class, English speaking Canadian children, Gold and Adres, 1978c, found that although the children, whose mothers had been employed since birth showed better social adjustment than children from non-working mother homes, the sons of these working mothers had lower I.Q. scores. An identical study of four year olds from French speaking families also showed better social adjustment of the working mother children but there are no, I.Q. differences (Gold, Andres & Glorieux, 1979).
In another study by this team (Gold & Andres, 1978b), ten year old children whose mothers had been employed at least since they entered school were compared to children of mothers who had not worked since the Child's birth. Academic data included the Canadian test of Basic Skills, self reported grades and attitudes toward school. Middle class sons of working mothers scored significantly lower on both the language and mathematics tests than did middle class sons of nonworking mothers. Maternal employment status was related to boys' greater dislike of school and lower self-reported grades.

Gold & Andres (1978a) also studied adolescent children, comparing children whose mothers had been employed full time for at least four consecutive years, with children whose mothers were not employed. In this investigation no differences were found between the two groups on any one of the academic indices - the Canadian tests of Basic Skills, the Otis Lennon Mental Ability Test, self reported grades, liking for school or occupational and educational aspirations for either sex or either social class.

Similarly, Piotrkowski Chayas and Katz Mitchell H. (1982) studied the effects of mother's jobs on academic
behaviour of children. Results of their study indicated that mother's job autonomy and skill utilisation at work were significantly associated with academic behaviours in the predicated directions. The patterns of findings indicated that relatively specific relationships may exist between the employment conditions of parents and aspects of children's school behaviours.

Finally, Krouse and Krouse (1981) noted, academic underachievement should best be viewed as a complex interaction of various factors and can not simply be understood or conceptualised as resulting from one component alone. Hence the various aetiological factors have to seen from a developmental perspective with the nature of difficulties being age and gender-specific occurring in a particular context.

Maternal Employment and Low Income Families

In the studies of low SES groups which were largely black and included single parent families, full-time maternal employment was generally associated with better academic performance. Rieber & Womark (1967) studied 568 preschool children whose incomes were in the lowest 20% for their community in Harris country, Texas. The sample included blacks, Lations and Anglos, 75% of the children
lived with two parents. The study compared the children in the lowest quartile on the Peabody picture vocabulary test with those in the highest. The latter group included twice as many children of working mothers (51.2% versus 25.2%). It was also reported that full-time maternal employment was associated with better school and social adjustment as measured by the California test of mental maturity and the California test of personality. In this study no attention was paid to the role of other variable such as ethencity or maternal education and boys and girls were combined in the analysis.

Greg J. Duncan & et al. (1994) observed that family income and poverty status are powerful coorelates of the cognitive development and behaviour of children, even after accounting for other differences - in particular family structure and maternal schooling - between low and high income families. While the duration of poverty matters, its timing in early childhood does not. Age 5 I.Qs. are found to be higher in neighbourhoods with greater concentrations of affluent neighbours, while the prevalence of low income neighbours appears to increase the incidence of externalising behaviour problems.

In a study by Kapur (1993) of 481 Primary School
Children in an urban area in a population from low socio-economic strata, 41 percent had psychological disturbance and 17 percent had scholastic backwardness when screened on Ruter Proformas (Rutter, 1967). Shenoy (1992) also studied a population of 1,549 children in the age range of five to eight years from middle SES and reported scholastic backwardness in 11 percent boys and 8 percent girls.

Woods (1972) in her study of fifth grade children attending school in a black ghetto area in the East, also found full-time maternal employment was related to higher scores on the California test of mental maturity. In this study all of the mothers were employed and so the comparison group was part time and irregular employment, the results, showing full time, steady employment to be positively related to the child's scores on this test and various measures of social adjustment as well, are consistent with the finding of much earlier study by Gleuck and Gleuck (1957) of delinquency in lower class boys and different from the pattern generally found in the middle class. It was also found out by Hoffman & Nye, 1974; Kappel and Lambert, 1972, that part-time employment in the middle class has naturally shown more positive effects than either full time or non-employment in case of
the child outcome variables. Woods suggests that, in the sample she studied, full time employment is a requirement of family well-being, considering their economic circumstances and, as such, is respected and appreciated. It is possible that the correlation between full time employment and the child's adjustment and academic performance is not because of the employment but because of the selective factors favouring the fully employed women. The Wood's analysis does suggest both some limiting conditions to the generally positive influence of full time employment as well as some of the intervening links that might be involved. For example, if the daughters were left unsupervised for long periods, effects were negative and not positive. As an example of possible linkage variable, though it might also be a selective factor, the full time working mother were more likely to have rule governed households maternal attitudes and child care arrangements also influenced the outcome variables.

Cherry and Eton (1977) examined the relationship between maternal employment during the first three years of the child's life and various indices of cognitive and physical development at four, seven and eight years of age in a sample of 200 lower class black families. In this study the relationship between maternal employment and
child outcome variables were examined separately for each of the several different situations. For example where the husband was present working mother's children had higher scores than non-working mother's children on the Illinois test of psycholinguistic ability at age of eight, but this relationship was not found for families where there were no husband.

In most of the cases Cherry and Eaton examined that children of the employed mothers higher on the cognitive measures. The only finding favouring the children of non-working mothers was that for women with six or more children, maternal employment was associated with lower I.Q. scores (Wechsler preschool and primary scale of Intelligence) at age of four. It was also confirmed that possible factors for the link between maternal employment and cognitive ability like family size and number of adults per child which might facilitate employment and also affect the child's cognitive ability without necessarily involving any casualty between employment and the child's ability. Other related variables like per-capita income, for example, is increased because of maternal employment and itself related to cognitive performance. Highest per capita income was found in the working couple families, lowest in the separated workers
were better off than couples with non-working wives. Thus maternal employment might increase per capita income and increased per capita income at least in this sample with limited resources might improve the child's cognitive ability.

Frances, A. Campbell and Craig, T. Ramey (1994) studied effects of early intervention on intellectual and academic achievement in a follow up study of children from low income families. Positive effects of preschool treatment on intellectual development and academic achievement were maintained through age 12 school-age treatment alone was less effective. Results generally supported an intensity hypothesis in that scores on cognitive and academic achievement measures increased as duration of treatment increased.

Douvan (1963) also found that maternal employment was associated with more problems for lower class than middle class adolescents. Parks, Peggy L. & Bradley, Robert, H. (1991) examined the relation between features of home environment and domains of development in 6 month olds of 155 families with diverse demographic characteristics. They observed that infants who had high exposure to appropriate play materials, social and
hearing-speech-development was optimal with higher material involvement. The interaction effects between availability of play materials and material involvement were partially replicated in 55 families of middle/high SES, but not in 87 families of low SES. But Pederson and et al. (1990) found that maternal sensitivity was unrelated to maternal age, income or SES but correlated positively with maternal education. Mothers of more difficult children were less sensitive. A strong relation was found between infant attachment and maternal sensitivity as measured by the maternal behaviour Q-sort and by the Ainsworth scales.

These studies provide study evidence that maternal employment is a complex combination of many different factors which must be taken into account while examining the relationship between maternal employment, cognitive abilities and academic performance of children.