In order to build up an adequate theoretical foundation, the scanned literature is arranged in the following sections.

2.1 Infancy.
2.2 Fathers' involvement in baby care,
2.3 Behavioural profile of infants,
2.4 Attachment patterns of infants, and
2.5 Mothers' behaviour patterns

At the end of each section, an evaluation of literature and position of the present study is included.
2.1 Infancy

Infancy or the period of the new-born according to standard dictionaries is the beginning or the early period of existence as an individual rather than as a parasite on the mother's body. It is in some ways unfortunate that human growth begins with infancy for there is no area in psychology more bedevilled with controversy and dispute than the psychology of infants.

The behaviour of the babies is exceedingly unstructured and almost random. Their subjective experiences are correspondingly slurred fleeting and diffuse. Kagan (1979) is of the view that the period of infancy has a special symbolic meaning in all societies.

2.1.1 Definition

Chronological divisions have been used by child psychologists and educators to define developmental stages but only a few have attempted the psychological plus the chronological division. Infancy may be regarded as the first six months to first two years of life. Infancy becomes childhood as soon as the infant has picked up a vocal trick.

According to Nash (1976), the word infant means “without speech” and infancy therefore draws to a close sometimes early in the second year of life, when rudiments of language are acquired. Mussen et al. (1984) refer to infancy as the first 18–24 months. According to them infancy ends at about 1½–2 years of age because at this time, most children are beginning to treat the mortal symbolically to develop a conception of the self, to comprehend language, and even to speak a few meaningful words.

Kagan (1979) states that the words used to describe infants are seriously influenced by the preoccupation of the adults who do the describing.
The world of the baby, as he states is not a blooming, buzzing confusion as others would have projected because of the popular belief that infants were passive, helpless creatures with little power to deal with their environment.

Berk (1996) states that infancy refers to the period of the development that begins at birth and ends at about 18 months to two years of age with early language use.

2.1.2 Characteristics of infancy

Hurlock (1981) has given five important characteristics of the period of infancy. Infancy is the shortest of all developmental periods—though short infancy is subdivided into two periods—the period of the parturate and the period of the neonate. Infancy is a time of radical adjustments; there will never be such a sudden and complete change of locale as that of the period of infancy. Infancy is a plateau in development. The rapid growth and development which took place during prenatal life suddenly comes to a standstill during the period of infancy. Infancy is a preview of later development. Infant's behaviour provides a clue as to what to expect later in life. It is a hazardous period both physically and psychologically.

2.1.3 Adjustments of infancy

To become fully acclimated to the external world, the infant must pass successfully through different overlapping stages, if survival and normal development are to take place. The adjustments include, the one which occurs during birth, which represents the adjustment to the stimuli of uterine contractions, adaptation to foreign stimuli like sound, cold, light etc., change from the dependence of placental oxygen to independent breathing, numerous and massive biological changes that occur as the neonate begins to
fully utilize all of the body's organs and lastly balancing all of the physiological processes that take place throughout the first four weeks of life. Hurlock (1981) has given the adjustments of infancy temperature change, is the first among them. There is a constant temperature of 100°F in the uterine sac while temperature in the hospital or home may vary from 60°F to 70°F. Another adjustment is that of breathing. When the umbilical cord is cut, the infants must begin to breathe on their own. The infant must get nourishment by sucking and swallowing instead of receiving it through the umbilical cord.

Morgan et al. (1986) have given the adjustment problems of infancy. According to them quite common in the first year of life, are the infant feeding problems—especially a digestive discomfort known as coli—and vomiting. Constipation and diarrhoea, irregular sleep patterns, and mystifying bursts of crying. Near the end of the first year and well into the second, the problems most often involve a conflict between the baby's growing physical and mental processes and the parents' efforts to regulate behaviour that seemed to them to be aggressive or dangerous; the most common child behaviour problems the parents report at this age are 'stubbornness and temper'.

Berk (1996) states after being squeezed and pushed for many hours, the infant is forced to leave the warm, protective interior for a cold, brightly lit external world. The strong contractions expose the head to a great deal of pressure and they squeeze the placenta and umbilical cord repeatedly. Each time, the baby's supply of oxygen is reduced, the stress hormones arouse infants into alertness and they are born wide awake, ready to interact with the surrounding world.
2.1.4 Variations in the patterns of infant care over the different years

The concept of infant care has gone through dramatic changes over time. The years between 1910 and 1930 were the heydays of American behaviourism led by John B. Watson.

Child rearing experts (1910-1930) regarded the infant as an object for systematic shaping and conditioning. Little attention was paid to the needs and feelings of the child or the parent or possible variations in genetic predispositions or temperamental characteristics of the child.

In the following years from the early 1930s until the mid-1960s a more permissive attitude in which the parent was advised to be concerned with the feelings and capacities of the child emerged. Freud (1935, 1963) focused on the role of early deprivation and restrictions in the development of inhibitions which could serve as the foundation of many emotional problems.

Since the mid-1960s there has been a continued emphasis on the role of parental love in the socialization of the child which focuses on the parents to play a less permissive and more active role in shaping the child’s behaviour.

Seventies and eighties saw the view that the virtues of the authoritative versus the authoritarian parent are extolled. Baumarind (1971) brought into light the three prototypes of parental practices—the authoritarian, the permissive and the authoritative styles of parenting. Her studies on children with reference to their parents’ styles show that the children brought up under authoritative parents are the most self-reliant, self-controlled, self-assertive, exploratory and contented compared to those brought up under authoritarian and permissive styles of parenting. According to Hetherington and
Parke (1979), parents should set limits and be authoritative in making decisions in areas where the child is not capable of making a reasonable judgement.

They further state that the parents should listen and adapt to the child's point of view, should explain their restrictions and should never be authoritarian, thus they should never use their greater power to control the child in an unreasonable or hostilely punitive manner.

As a result of society's changing assumptions about the roles of men in the family and society, over the past two decades' social changes in the rearing experiences of children including increased involvement of fathers in childcare is seen.

Socialization researchers like Lamb, Pleck Chamov and Levine (1987) have begun to compensate for their historical neglect and de-emphasis of fathering and father-child relationships.

Luccie and Davis (1990) reveal that fathers influence their children's behaviours in a variety of direct and indirect ways. Fathers often worry more about the infant's welfare and the children acquire somewhat different skills and information from their parents. Kids learn from their mothers to be aware of their emotional side and from their dads, they learn how to live in a society.

Clinton (1994) has called for a greater investment in children aged zero to three. The parent-child experiences can determine whether children will grow up to be peaceful or violent citizens, focused or indisciplined workers, attentive or detached parents themselves.
Sophrisha (1999) is of the view that today's men are listening to the demands of the new era and share the view that care during and after pregnancy are not an all-woman affair.

2.1.5 Evaluation of literature and position of the present study

The above review of literature has focused on the definitions of infancy and its characteristics (Nash, 1976; Kagan, 1979; Mussen et al., 1979; Hurlock, 1981; Berk, 1996). Adjustments of infancy as given by Hurlock (1981), Morgan (1986) and Berk (1996) are also incorporated in the review.

The review also embodies the variation in the patterns of infant care over the years between 1910s and 1990s. The variation in childcare patterns as seen right from the heydays of American behaviourism led by Watson followed by Freud (1935, 1963) who focused on the early deprivation form a part of the review.

The review further takes into account the importance of a warm parent-child relationship and studies by Baumarind (1971) who emphasised on the role of styles of parenting on the development of children. The childcare patterns of eighties and nineties where Lamb et al. (1987), Luccie and Davis (1990), Clinton (1994) and Sophrisha (1999) emphasized on the changing roles of men and women and involvement of fathers in childcare form a part of the review.

From the review, it is evident that very few studies have been conducted in Indian context regarding the period of infancy and baby care. Hence an endeavour has been made to study infants and their care with respect to the changing roles of men and women. Period of infancy is thus seen from the perspective of fathers getting involved in childcare duties.
2.2 Fathers' Involvement in Baby Care

A great deal of research in child development has focused on the relationship between mother and child but has neglected the role played by the father in child rearing. According to Nash (1976), child rearing has been perceived by many psychologists and sociologists as being matriocentric. According to Pilling and Pringle (1978), in Western societies, no adequate substitute had been found for the one-to-one loving, mutually-enjoyable relationship, which was the essence of maternal care particularly during the first few years of a child's life. But later on the view was changed and attention has been focused on the role of the father in child rearing.

A number of researchers (Lynn and Sawrey, 1959; Hoffman, 1971; Carlsmith, 1964) have found that the presence of the father and the attention that he directs towards his children will have positive influence on the child's overall emotional, social and intellectual development.

Recent studies indicate that the picture of "mother as caregiver" and "father as playmate" is changing, as a result of the revised work status of women. Employed mothers tend to engage in more playful stimulation of their babies than do unemployed mothers; their husbands too are somewhat more involved in caregiving (Cox and Campbell, 1992).

Highly involved fathers, according to Lamb (1987), are less gender stereotyped in their beliefs, have sympathetic, friendly personalities and regard parenthood as an especially enriching experience.

Thus recent years have seen a growing number of books and articles about fathers and their importance to children. Earlier studies dealt with
father absence and what went wrong but now fathers are being appreciated for their presence.

2.2.1 Old and new concepts of parental roles

The women's liberation movement, according to Helen (1977) has led to a realigning of men's and women's roles. The result according to Rogers (1969) has been a more tolerant attitude toward affectionate relationships between father and child. Thus the increasing depolarization of sex roles has modified his function in the family.

Lamb (1976) states that there have been momentous changes in our society since 1965, which have included changing roles for women and an upsurge of interest in the role of the father in child rearing.

According to Schaffer (1977) with increasing unemployment, it is no longer uncommon to find families in which a complete role reversal has taken place, mothers having found a job, go out to work. There is no evidence to indicate that the biological make up of men make them unfit for bringing up of children or even necessarily inferior to women in this respect. Lamb (1981) also shares the view that there is no evidence that women are biologically-predisposed to be better parents than men are.

Goodman (1980) states that quietly without any great parade of complaints men are gradually waking up to all that they had been missing. Modern father as she states is no longer confined to be economic providers. Kiester (1986) also supports the view that most of the fathers today expect to take a full time role in childcare.

Applegate (1987) and Luccie and Davis (1990) share the view that as a result of society's changing assumptions about the roles of men in family and
society over the past two decades, an increased involvement of fathers in child care is seen.

2.2.2 Modern father

According to Papalia and Olds (1987), there has been a surge of research interest in father-child bonds. Many fathers are assuming a much larger role in the care of their children. Stoppard (1990) states that the modern father is active rather than passive. He comes home early from work and takes responsibility for the general care of the child. Kiester (1986) is of the view that the father often take an equal or even primary role in child care with the mother. Fewer fathers now-a-days are prepared to be strangers to their children. Johnson (1994) states that the concept of fatherhood has made great strides in recent years—many fathers have taken on a significant share of the nurturing responsibilities. Traditionally fathers had a supportive role and not a nurturing one but modern times have seen fathers being equally or even more involved than mothers in looking after their children (Venketaramiah, 1994).

The fathers have got a new look as they are willing to spend time with their children in any activity that can be tailored to the child’s developmental level which include praising them, enjoying each other’s company and collaborating. Sophrisha (1999) is of the view that modern times have seen the sex-based roles blurring in their outlines and the fathers’ role taking a quantum jump.

2.2.3 Fathers’ role during pregnancy

Fathers influence their children’s behaviour in a variety of direct and indirect ways. The fathers’ role in childcare can start very early even before
the baby’s birth (Stoppard, 1990). A father who has a high interest in pregnancy generally stays interested after the baby is born. This interest he states is positively related to how much he holds the baby in the first six weeks of life and also whether he goes to the baby when he or she cries.

According to Goodman (1980), fathers can and should help mothers during the last three months of pregnancy by taking on more of the household chores. The author also states that the father can look after the older child if there is already a child in the family so that the mother can relax on her own.

Munsinger (1997) says that ideally, involvement begins before the baby arrives. “Instructors of pre-parenting classes and medical staff are showing increasing sensitivity to the role of fathers’ in preparation for parenthood.”

Sophrisha (1999) states that the expectant father has come a long way from the man who was allowed to see the baby only after its birth. Tanwar (1999) is of the view that the husband can play a positive role during his wife’s pregnancy. He can monitor her diet, weight and medicines. The husband can also give a lot of emotional support to his wife throughout pregnancy. Thus the period of pregnancy draws the husband very close to his wife and the rapport will remain throughout their lives.

2.2.4 Fathers’ role in the birth process

Innovations in maternity care consider father as an integral part of labour and delivery process. Studies carried out by Parke and O’Leary (1973, 1976) have indicated that fathers who have become involved in the birth process show greater interest in their infants and are more comfortable in holding them and in expressing positive feelings about their attractiveness and
individuality. They also have more favourable attitude towards their children than those who do not share childbirth experiences with their wives.

Greenberg and Morris (1974) and Peterson et al. (1974) observed that fathers who are present at delivery or who have some other opportunity to hold and fondle the child, shortly after birth report strange feelings of attachment towards the baby. They also report that the fathers' participation in the baby's birth and his attitude toward the experience were the most important of several pre and perinatal variables in predicting the nature of his bond to the baby. Fathers often become attached to their babies within the first three days which has important implication for child's healthy development (Greenberg and Morris, 1974; Lynn, 1974; Lamb, 1979).

Greenberg and Morris (1979) in their observations and interviews with fathers reveal that fathers respond to the arrival of their baby in much the same way as mothers. Most of them describe a feeling of state called engrossment, a term that captures the involvement and interest fathers display toward their new-born child.

Craig (1979) points out that fathers can take a prominent role in pregnancy and delivery process. Babies form early strong attachment to fathers as well as to mothers, particularly when there is regular and frequent contact right from birth. Bernath (1983) also supports the view and states that the father who is there to share the drama of his baby's birth has a headstart in his attachment over the father who first sees his baby hours later.

Kiester (1983) have found high self esteem and closer tie to the new-borns in fathers who have participated in the birth process. The author notes that both the parents should be encouraged to hold and nuzzle the new-born
within minutes of birth. This according to the author is the first step in tying the lifetime knot that unites the child to mother and father. Goodman (1980) states that the father's presence in the delivery room will prevent the mother from feeling lonely and frightened.

2.2.5 Fathers' role in baby care

Foster and English (1953) reveal that the father can hold his baby, talk to him, bathe him and change his diaper. Parke and O'Leary (1973) state that fathers who take care of their babies do just as good a job as mothers. They look at, touch, talk to, rock and kiss their children as much as mothers do, respond equally well to the babies and are just as effective as in feeding them.

Parke and Sawin (1976) investigated the degree to which fathers are sensitive to their new-borns' cues in the feeding context when the infant coughed or spat, the conditional probability of either parent was to stop their feeding of the child.

According to Kiester (1986), if the baby is formula-fed, fathers automatically take part. Mothers as well as fathers can alternate feedings depending on who is available. The amount of milk consumed by the bottle-fed infants when fed by fathers and mothers were compared. The results showed that both the parents were nearly identical 13 ounces for mothers and 12 ounces for fathers in their ability to feed their baby (Park and Sawin, 1976).

Parke (1981) thus found that the babies drank just as much formula, emerged from the bath just as clean, and seemed just as content with the caregiving of fathers as with the caregiving of mothers. Lamb (1987) states
that there is no evidence that women are biologically predisposed to be better parents than men are.

Zaslow et al. (1991) have found a modest increase in fathers' involvement in child care and household duties which facilitate a variety of aspects of children's development. Bailey (1991) assessed fathers' relative participation in staying home with a sick child and taking the child to the doctor or dentist. It was found that fathers' participation was more when mothers were employed, regardless of the child's sex.

Hoffman (1974) in a longitudinal study of maternal employment found that early involvement of fathers in childcare was positively related to intelligence, academic achievement and mature social behaviour for both sons and daughters. Jaisree (1991) has conducted a study to assess the effect of fathers' involvement in baby care on baby's behavioural profile. The results reveal that intensely involved fathers had babies with easy temperament.

2.2.6 Fathers' role in the process of socialization

The fathers' behaviour and attitudes are just as important as the mothers in fostering patterns of social adjustment in the child. Sears et al. (1957) conducted a study of the effects of father separation in children's behaviour and observed the projective doll play of children. The doll play aggression of these children were recorded during 20 minutes session. It was found that boys from father present homes demonstrated much more aggression than boys from father alien homes. They also shared more self-aggression. Authors also note that it had little effect on the girls' aggression. There was some indication that their self-aggression was greater in father absent group, indicating a greater degree of male domination and control.
The effect of father absence on girls showed that the personal and social developments of the daughters were severely affected (Biller and Balm, 1970; Hetherington, 1972).

Parton (1981) notes that the influence of fathers in the early socialization of the child is of great importance. Hodapp and Mueller (1982) are also of the opinion that the role of the father in the infants' life is new material for the field of early social development. They state that while fathers like siblings, peers and other adults have been acknowledged as being physically present in infancy—their importance as socially interactive beings has only recently been appreciated.

2.2.7 Fathers' role in cognitive development and creativity

Lynn (1974) and Lamb (1978) are of the view that warm accepting fathers who listen to and who are involved in their children's activities have brighter, more creative and more imaginative sons. Paternal destructiveness, domination, rejection and tyrannical behaviours seem to hinder cognitive development in sons. The data are less convincing for daughters.

It seems likely that children whose variety of experiences are greater because of frequent interactions with fathers benefit in their intellectual development (Pilling and Pringle, 1978).

2.2.8 Fathers' role in achievement motivation

Lynn (1974) and Lamb (1978) state that paternal nurturance and encouragement for achievement enhance achievement motivation in both boys and girls. In each case a combination of warmth, acceptance and involvement seems important to paternal influence.
Radin (1982) notes that in homes where fathers are extremely authoritarian, low achievement results. Such restrictiveness may inhibit early exploration and curiosity in children. In addition to parental expectations, a supportive warm home environment that encourages exploration, curiosity and self-reliance leads to high achievement.

2.2.9 Fathers' role in sex role development

English and Pearson (1942) point out that father is important because the boy needs a male person to imitate and he needs a masculine foil in relationship to whom he can learn how to balance his feelings of aggression and love for the adult males, chief difficulties of adjustment are said to lie in his relationships with others of the same sex.

In Fenichel's (1945) research comparing united homes with those in which the father is absent and in psychological and psycho-analytic theory concerning parental absence attention has been particularly centred around three areas of personality development. The extent to which the child develops feminine as opposed to a masculine image, the intensity and type of anxiety which he experiences and the probability of him engaging in anti-social behaviours. In girls, father absence is associated with difficulties in interacting with males in future life.

According to Barclay (1959), at every developmental stage, the children need the father as an object of love, security or identification or even as a figure against whom one can rebel safely. Pilling and Pringle (1978) believe that the father's part in fostering the child's development is to provide the child with a second adult model so that a boy can identify with a member of his own sex and a girl can also learn at first hand about the behaviour and
attitudes of the opposite sex. Studies carried out by Lynn (1974) and Lamb (1978) show that regardless of the fathers' own masculinity when fathers are present warm, accepting and involved in child rearing their children generally show sex appropriate identification.

Goodman (1980) states that an important aspect of parenting is serving as a model for the developing child. By observing his father, a boy comes to realize what will be expected of him as a man. It is from the parents, the author concludes that the child first learns social roles and behaviour.

Fathers' role in fostering sex roles according to Hodapp and Mueller (1982) is seen especially in boys. While this sex role function of father-child interaction seem to heighten after infancy, its origin seems to occur in the first two-year period.

2.2.10 Differential treatment of fathers and mothers towards boys and girls during infancy

Goldberg and Lewis (1969) report that parents behave differently toward girls and boys thus reinforcing sex appropriate behaviours. Moss (1967) states that mothers of daughters enter into more quiet play and engage in more face-to-face talking and imitations than mothers of sons. If a four month girl smiles or babble, the American mother is more likely to bend towards the infant and respond in the same mode than if her son shows the same action. In a comparative observation of mother-infant interaction in poor rural Indian villagers in eastern Guatemala, he found that boys receive slightly more vocal interaction from mothers than girls. Indian male infants are fed more than females.
Minton et al. (1971) found that the American mother tend to be more concerned with potential physical harm to her daughter than to her son. Rothbart (1971) states that the middle class American mother is the most critical of her first-born daughter, setting higher standards for her, criticizing her for a less than perfect performance and prenurturing her success. Parke and Sawin (1976) note that fathers really do prefer boys especially first-born boys. According to Kotelchuck (1976), there are two important differences between mother-child and father-child systems. At first the father-infant interaction is physically playful and exciting as opposed to the slightly more task oriented verbal nature of mother-infant interaction. The second difference is that the father-infant interaction is more playful in nature whereas the mother-infant interaction cluster around caretaking activities.

Yogman et al. (1981) state that the quality of play is different in that mothers stimulate their infants verbally while fathers treat them more physically. These differences according to them are evident during the first months of life and continue throughout infancy. The authors further state that even when the infants were two or three months old, fathers were more likely to engage in physical tapping games with the infants (14% of the time in father-infant interaction and 0% in mother-infant interaction) whereas mothers were more likely to engage in vocal games with the baby (27% mother-infant and 1% father-infant interaction).

The difference in the quality of father-infant interaction according to Lamb (1977) is that at 7-13 months mothers were more likely to engage in conventional play (peek-a-boo and pat-a-cake games) whereas fathers showed more physical play (rough and tumble game) with their infants. He
further states that fathers are more likely to hold babies to play with them while mothers are far more likely to hold them for caretaking purposes.

Clarke-Stewart (1978) observed mothers, fathers and children interacting when the children were 15-20 and 30 months old. Mother-child and father-child interactions were judged to be equally stimulating, affectionate, responsive and effective at all age levels. Father-child play was found to be briefer in duration than mother-child play but was more physically involved and not toy-mediated. At 15 months, mothers chose non-social and intellectual activities when playing with their children and fathers chose activities that were more social and physical. Infants' reactions to fathers' play seem to be more positive than to mothers' play. In one study by the same authors, when given a choice of play partners, 18-month-old infants chose their fathers more than their mothers.

Kagan (1979) states that the mothers engage in more muscular rough and tumble play with their sons than with their daughters. The mothers tickle them, throw them in the air, rub their tummies and stress their musculature with greater vigour than they do with their daughters. He has also given similar review that difference in parental behaviour toward sons and daughters are partly determined by different reactive styles displayed by the infant. An active child involves more vigorous reciprocal play whereas a quiet infant provokes tender handling. The inborn temperament is the base on which everything must be built. The way a child is treated is influenced by the temperament. Cranky difficult children elicit different responses from their parents than do more placid, sociable children (Cox and Campbell, 1992).
Another important determinant of differential treatment given by Kagan (1979) derives from the parents' representation of the ideal boy or girl, which is an idea of perfect set of traits for males and females.

Bright and Stockdale (1984) examined the influence of sex on mothers' and fathers' behaviour. According to them, fathers controlled and directed their children more than mothers and mothers were more quiet than fathers during play with their children. Children controlled and directed their fathers more than their mothers and engaged in more lead taking with their fathers than with their mothers. Boys displayed more physical warmth to mothers than did girls and boys praised their fathers more than did girls.

McDonald and Parke (1986) while comparing the mothers' play and fathers' play found that fathers' play is noisier, more boisterous and idiosyncratic as fathers make up active and exciting games on the spur of the moment. Thus the father's ratings or treatment of boys and girls differed significantly. Difference for mothers were comparatively few in many of the studies. The pattern of father-specific effects was most evident in the area of discipline and physical involvement and was weak in the areas of affection and everyday speech with infants and toddlers.

According to Papalia and Olds (1987), mothers' and fathers' relationship with their children differ first in that mothers spend more time with them and they tend to hold their babies to take care of them—feeding, bathing or changing clothes. While fathers pick up their babies to play with them usually boisterously than the play the mother initiates.
2.2.11 Bidirectionality

Research reports of Allan (1977), Bell (1977), Essman (1977), Thomas and Chess (1977) view family relationships as dynamic and mutually interactive, individuals are not viewed in isolation, the children and parents influence each other and their sphere of influence extends beyond the parent child dyad.

According to Nash (1976) the focus had always been on the parents’ influences on their children. The reverse flow of influences, the effects of children on their parents has received relatively little attention. The child according to the author is not merely a passive recipient of parental actions but is also a provider of stimuli to the parent and right from the beginning there is an active two way reciprocation of stimuli and responses. The author further states that the social interactions within the family are thus a two way phenomenon and the origin of some of these patterns may lie in the child elicited responses of the parents as well as in parent elicited responses of children.

Clarke-Stewart (1978) in one of the few triadic interactive and longitudinal studies found that the direction of causality is not so simple. Using cross-lagged correlation, she found that mothers’ verbal stimulation of play at 15 months was closely related to children’s intellectual performance (as measured by Minnesota Scale) at 18 months for fathers the opposite was true. Children’s intellectual performance at 15 months correlated with paternal talk and play at 30 months. The amount that the father talked and played at one age was associated with mothers talking and playing at later ages. Her findings suggest that the most plausible causal direction if such can be inferred is mother-influencing child, child influencing father and father influencing
mother. She found that the mothers' influence on the child is usually direct while that of fathers' is often indirect through the mother.

Mussen et al. (1984) state that the reciprocal influence of parental behaviour and infant temperament form the basis for the very important principle of bidirectionality in development. The principle states that the parent-child relationship goes both ways. Parents influence children and children influence parental behaviours. Jaisree (1991) has found a significantly high positive relationship between fathers' involvement in baby care and baby's behavioural profile.

2.2.12 Evaluation of literature and position of the present study

The above review of literature has focussed on the old and new concepts of parental roles (Lamb, 1976; Helen, 1977; Schaffer, 1977; Goodman, 1980; Kiester, 1986; Applegate, 1987). Luccie and Davis (1990) share the view that as a result of society's changing assumptions about the roles of men in family and society an increased involvement of fathers in childcare is seen.

The review also includes the great strides made by the modern father in recent years (Kiester. 1986; Papalia and Olds, 1987; Stoppard, 1990; Johnson, 1994; Venkataramiah, 1994; Sophrisha, 1999). Fathers' role during pregnancy has been reviewed and the studies carried out by Goodman (1980), Stoppard (1990), Munsinger (1997), Sophrisha (1999) and Tanwar (1999) show that the husband can play a positive role during this wife's pregnancy. His role in the birth process has been given by Parke and O'Leary (1973, 1976), Greenberg and Morris (1974), Lynn (1974), Craig (1979), Lamb (1979), Parke (1979), Goodman (1980), Bernath (1983) and
Kiester (1986). All the above-said authors share the view that father has been regarded as an integral part of labour and delivery process.


Lynn (1974), Lamb (1978) and Radin (1982) are of the opinion that paternal nurturance and encouragement enhance achievement motivation in children. Fathers’ role in sex role development has been given by English and Pearson (1924), Fenichel (1945), Barclay (1959), Lynn (1974), Lamb (1978), Pilling and Pringle (1978), Goodman (1980) and Hodapp and Mueller (1982). The authors have noted that by observing his father, a boy comes to realize what will be expected of him as a man. It is from the parents, the authors conclude that the child first learns social roles and behaviour.


From the review it was evident that the studies carried out in Indian context regarding fathers' involvement in baby care are meagre. Hence an attempt has been made to study the influence of fathers involvement in baby care.

2.3 Behavioural Profile or Temperament

Temperament has become one of the 'hottest' concepts in developmental psychology in the past five or ten years and certainly represents the dominant biological approach to personality. Researchers have become increasingly interested in temperamental differences among infants and children, since the child's style of emotional responding is believed to form the cornerstone of the adult personality.

The New York Longitudinal Study initiated by Thomas et al. (1963) is the most comprehensive and durable study of temperament to date. The researchers interviewed parents of new-born infants repeatedly and extensively, noting in detail various aspects of infants' behaviour and taking measures to reduce the possibility of parental bias. The findings of the study stimulated a growing body of research on temperament including its stability, its biological roots, and its interaction with child rearing experiences.

2.3.1 Definitions

The Latin word 'temperate' means "to regulate," to restrain one's self or "to soften." Temperament is similar to mood but it is even longer lived.
Thus temperament can be summed up as those biological aspects of functioning that show little change with developments.

Guilford (1958) has defined temperament as the functional aspect of his constitutional nature and consisting of peculiar combination of behavioural and effective predispositions mediated by his structural make-up. Temperament, according to Gardner (1964), is the more or less characteristic persistent emotional disposition of an individual probably having a constitutional basis.

Thomas et al. (1963, 1968) defined temperament as the characteristic tempo, energy expenditure, mood and rhythmicity, typifying the behaviour of the individual infant. Lansdown (1984) defines temperament as the child’s persistent prevailing mood which determines the characteristic adjustment to life. Temper, are those dispositions that are closely linked to biological or physiological determinants and that consequently show relatively little modification with development (Hall and Lindzey, 1985). According to Hetherington and Parke (1986), temperament is the biologically based differences among individuals in reaction to stimuli, in the expression of emotions in arousal and in self-regulation. Carlson (1987) defines temperament as a person’s general disposition or typical pattern of affective reaction to various situations.

Sroufe (1985) has regarded temperament as one of the elements of personality, a synonym of personality, a phenomenon with its own specificity not belonging to the structure of personality. Goldsmith (1987) has defined temperament as stable individual differences in quality and intensity of emotional reaction. Goldsmith et al. (1986) has defined temperament as
relatively consistent, basic dispositions inherent in the person that underlie and modulate the expression of activity, reactivity, emotionality and sociability.

2.3.2 Characteristics of personality

Murray (1938) has given the main attributes of personality. "An individual's personality is an abstraction formulated by the theorist and not merely a description of the individual's behaviour. An individual's personality refers to a series of events that ideally span the person's lifetime. A definition of personality should reflect the enduring and recurring elements of behaviour as well as the novel and the unique. Personality is the organizing or governing agent of the individual, its functions are to integrate the conflicts and constraints to which the individual is exposed to, satisfy the individual's needs and to make plans for the attainment of future goals. Personality is located in the brain-'no brain, no personality'."

Bhatia (1969) states the following characteristics of personality. The chief character of personality is 'self-consciousness'. Personality is judged as a social character. It is only in relation to others that we are usually judged and our consciousness of ourselves arises only in our interactions with other members of society. Personality is continually making adjustments to environment and to inner life. Personality is always striving for goals. Personality functions as a whole.

The characteristics of personality as given by Chaube (1986) include all pervasiveness, which includes all physical, mental, social and emotional traits. An organised unit of pattern that has its attributes and reactions so interwoven
that specific personality of the individual comes up which can at once be recognized. Permanence in which a person's personality takes a permanent form and on its basis the future models of behaviour and reaction of the person may be presumed. There is also a possibility of change in personality according to changes in physical or environmental conditions.

2.3.3 Models of temperament

Some of the earlier observations of temperament or behavioural profile in infants were made by Fries (Fries and Lewi, 1938; Fries, 1944 and Fries and Wolf, 1953). Studying infants from birth to ten days of age under controlled conditions, she differentiated three activity types of infants in terms of amount of activity, differences in characteristic muscle tones and crying within the normal range. She labelled these types as active, moderately active and the quiet. Extremes beyond either end of the normal range were considered pathological.

A contemporary approach to the question of individual differences is found in the series of studies of various combinations of authors like Thomas, Chess and Birch: Thomas, Chess, Birch and Hertzing (1960), Thomas, Birch, Chess and Robbins (1961), Thomas, Chess, Birch, Hertzing and Korn (1964) and Thomas, Chess and Birch (1971).

The authors were involved in a longitudinal study of 110 middle-class children who had been followed systematically from the age of two or three months through interview and observations. They were able to identify nine categories of temperament which include activity level, rhythmicity of functioning, adaptability, approach withdrawal, intensity of reaction, threshold
of responsiveness, quality of mood, distractibility, attention span and persistence, served as the first influential model inspiring all others that followed. When detailed descriptions of infants' and children's behaviour obtained from parental interviews were rated in these dimensions, certain characteristics clustered together, yielding three types of children that described the majority of their sample.

Forty percentage of children studied could be described as easy children who quickly establish regular routine in infancy, who are generally cheerful and adapt easily to new experiences. About 10% include the difficult children who have irregular daily routines, are slow to accept new experiences and tend to react negatively and intensely. And 15% are slow to warm-up group in which children are inactive, show mild reactions to environmental stimuli, are negative in mood and adjust slowly to new experiences. About 35 per cent of the children did not fit in any of these categories instead they showed unique blends of temperamental characteristics.

A second model of temperament is devised by Rothbart and Derryberry (1981). Rothbart's system has fewer dimensions because it combines those of Thomas and Chess that overlap. The dimensions like distractibility, attention span and persistence are merged into undisturbed persistence. It also includes characteristics not represented by Thomas and Chess that place special emphasis on emotional regulation such as soothability and distress to limitations.
Table 2.1 Models of temperament as given by Thomas, Chess and Birch (1971) and Rothbart and Derryberry (1981)

<table>
<thead>
<tr>
<th>Thomas, Chess and Birch</th>
<th>Rothbart and Derryberry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Activity level</td>
<td>Proportion of active periods to inactive ones</td>
</tr>
<tr>
<td>Rhythmicity</td>
<td>Regularity of functions such as hunger, excretion, sleep and wakefulness</td>
</tr>
<tr>
<td>Distractibility</td>
<td>Degree to which stimuli in the environment alter behaviour</td>
</tr>
<tr>
<td>Approach/withdrawal</td>
<td>Response to new object or person in terms of whether the child accepts the new experience or withdraws from it</td>
</tr>
<tr>
<td>Adaptability</td>
<td>Ease with which the child adapts to changes in the environment</td>
</tr>
<tr>
<td>Attention span and persistence</td>
<td>Amount of time devoted to an activity and the effect of distraction on the activity</td>
</tr>
<tr>
<td>Intensity of reaction</td>
<td>Intensity or energy level of response</td>
</tr>
<tr>
<td>Threshold of responsiveness</td>
<td>Intensity of stimulation required to evoke a response</td>
</tr>
<tr>
<td>Quality of mood</td>
<td>Amount of friendly, pleasant, joyful behaviour as contrasted with unpleasant unfriendly behaviour</td>
</tr>
</tbody>
</table>
Buss and Plomin (1975) have offered a somewhat simpler list of temperament dimensions.

Table 2.2 Temperamental dimension as given by Buss and Plomin (1975)

<table>
<thead>
<tr>
<th>Temperament</th>
<th>Extremes of the dimensions</th>
<th>Aspect of behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Active-lethargic</td>
<td>How much behaviour does the person show</td>
</tr>
<tr>
<td>Emotionality</td>
<td>Emotional-impassive</td>
<td>How intense is the behaviour</td>
</tr>
<tr>
<td>Sociability</td>
<td>Gregarious-detached</td>
<td>How close to others does the person seek to be</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>Impulsive-deliberate</td>
<td>How quickly does the person react or how inhibited is the person's behaviour</td>
</tr>
</tbody>
</table>

2.3.4 Studies in early temperamental differences

An early example of a study is that of Bridger, who observed hundreds of babies and found that they showed widely differing responses to stimuli, one would flinch at a loud noise, another would respond in an entirely different way to the same stimulus.

Many researchers, Thomas and Chess (1977), Buss and Plomin (1975) have argued that infants, children and adults are characterized by fundamental inborn differences in styles of responding. The largest body of work in this area is that of Thomas and Chess who have been studying the development of temperament since 1956. They have classified children as having easy, difficult and slow to warm-up temperamental characteristics.
Craig (1979) states that widely different personality styles are apparent in children even at birth and that these differences increase over the first few months of life. According to Mussen et al. (1984), three kinds of behavioural differences among infants that parents usually notice are spontaneous motor activity, irritability and passivity. The authors in another study found that the infants vary in a large number of physiological and psychological characteristics like irritability, average duration of naps, vigour, duration of smiles etc.

Rothbart and Derryberry (1981) found that although very active new-borns tend to be more active than most other children during the first year, there is little preservation of this quality into later childhood.

According to Thomas and Chess (1977) and Rothbart and Derryberry (1981), differences among infants in crying, fussiness and general irritability during the first six months are not enduring. But extreme irritability in infants, older than seven months, tends to be modestly preserved for the next year or two.

A study by Brazelton (1969) compared the amount of time spent in deep sleep and light sleep or in periods of waking activity and inactivity, postulating a relationship between states of activity and quietness in babies and the amount of time spent in each state. Using broad descriptions the authors identified three general temperamental types the average baby, the active baby and the quiet baby. In 1973, Brazelton developed the Neonatal Behavioural Assessment Scale in an attempt to assess the future personality and social development of infants.
Study carried out by Indulekha (1977) dealt with the effect of age, sex and environments of infants on their visual and attachment behaviour, behavioural profile and mothers’ behaviour patterns.

2.3.5 Factors influencing temperament

In the view of Hilgard and Atkinson (1975), genetic and environmental factors play a balancing role on the personality development of children. According to Hetherington and Parke (1986), personality characteristics are the result of complex interaction between the genetic and environmental factors.

2.3.5.1 Genetic influences on temperament

Komer (1974), Thomas and Chess (1977), Clarke-Stewart (1978), Hetherington and Parke (1986) and Papalia and Olds (1987) all have proved that the new-born babies may look alike but they differ greatly in their temperament.

To Thomas et al. (1971), the observed differences in temperament are due to heredity. According to them, genetic and pre-natal environmental origins that interact with caretaking differences in infancy produce differences in child personality. According to Sostek and Wyatt (1981), biological differences may be at the root of temperamental diversity. In the words of Fontana (1986) temperamental differences are far more likely to be due to inheritance than to learning.

Chess (1967) found no evidence that the temperamental types are influenced by parental behaviour. On the contrary, a child’s temperament seemed to be as much a part of him as the inherited colour of his eyes.
Studies of the genetic element in temperament have previously been used in the twin study strategy. Greater similarities were found between identical than non-identical twins on all the temperamental traits. One of the largest groups of twins studied was part of an investigation called, the Collaborative Perinatal Project in which 350 pairs of twins were observed at birth, eight months, four years and seven years of age. Half the twins were identical and half were fraternal. Analysis of the findings showed a moderate genetic contribution to activity level at eight months but not at later ages. Identical twins were more similar to one another in activity level at eight months than were the non-identical twins but not at four or seven years (Goldsmith et al., 1986).

One major personality dimension that appears to be under at least partial genetic control is that of social introversion-extroversion (Cattell, 1957). Guilford (1958), in his study made sets of adolescent twins in Boston and Minneapolis take standardized personality tests and the results revealed that identical twins were more alike on social intervention than were fraternals. The ethnic background of the Minneapolis test population was predominantly Scandinavian while that of the Boston population was predominantly Italian, Irish and Jewish. Thus both the genetic pool and environmental experiences of the two population were different. The fact that the degree of social introversion was more similar for identical twins than for fraternal twins in both the cities suggest that their personality may be genetically controlled.

Freedman (1979), in his infant studies, reveal that identical twins are more alike than fraternal twins in their tendency to smile and show fear of strangers. Identical twin babies also appear more alike in the frequency displays of temper, demands for attention and crying.
Findings of Emde and Harmon (1992) reveal that identical twins are more similar than fraternal twins across a wide range of temperamental traits like activity level, sociability, shyness, distress to limitations, intensity of emotional reaction, attention span, persistence and personality measures like introversion, extroversion, anxiety and impulsivity.

Buss and Plomin (1990), Braungart and Stifler (1992) and Emde and Harmon (1992) show that siblings growing up in the same family show little or no resemblance in temperament and personality, thus suggesting that shared environmental factors such as the overall climate of the home do not make an important contribution to personality and temperament.

Finally, consistent, racial and ethnic differences in infant temperament exist, implying a role for heredity. Freedman (1979) shows that Chinese and Japanese babies are calmer, more easily soothed when upset and better at quieting themselves than are Caucasian infants.

2.3.5.2 Environmental influences on temperament

Salient environmental influences on temperament were reported by many authors. According to White (1972), the family forms a social system within which the growth of personality takes place. The family has a crucial guiding influence on the child's personality development. Children from violent families have more behaviour problems and difficult temperament and those from rigid families are field-dependent while children from flexible family environment are field-independent.

The temperament of many children change over the course of pre-school years and this seems in part to be attributable to the responses of
parents (Beckwith, 1979). Hoffman (1985) has found that family stress and child rearing styles have a powerful impact on children’s personalities.

Jaisree (1991) carried out a study on “fathers’ involvement in baby care and baby’s behavioural profile,” Varghese (1994), in her study on “inter-relationship between the infants’ behavioural profile and their caregivers’ behaviour patterns”, study conducted by Indulekha (1977) on the effect of age, sex and environments of infants on their visual and attachment behaviour, behavioural profile and mothers’ behaviour patterns and Gopinath (1994) who has carried out a study on inter-relationship between attachment behaviour of infants and their mothers’ behaviour patterns have all noted the influence of environmental factors on temperament.

2.3.5.3 Other influencing factors on temperament

A few other influencing factors on temperament have also been noted. The child himself is a factor influencing his own temperament. The child’s body build (Mc Connel, 1977; Mussen, 1983; Chaube, 1986), language skills (Brobery, 1990), conscious thinking (Bronsen, 1974), the child’s expectations about others (Harris, 1990) and the child’s achievement all influence his or her personality. Korner (1974) finds female infants to be more orally sensitive and male infants to be endowed with greater physical strength and muscular vigour.

2.3.6 Stability of temperament

Landsdown (1984) states that temperamental traits have been found to be reasonably stable overtime. Some aspects of temperament like attentiveness, activity level and irritability are quite stable.
In one study by Kagan (1979) reveals that hundreds of infants tested when they were four-month-old were classified as being high reactive or low reactive. The babies were showing more or less the same results at 21 months of age. Four-month-old infants who showed fretting, crying and high level of motor activity when exposed to unfamiliar events (high reactive infants) were much more likely to show a high level of fear when tested again in unfamiliar situations at 14 months when compared to low reactive infants who did not fret or cry, thus suggesting that some aspects of temperament are stable over time.

Findings of many studies provide support for the long term stability of temperament. An infant who scores low or high on attention span, activity level, irritability, sociability or shyness is likely to respond in a similar way when assessed again in childhood and occasionally even into the adult years (Goldsmith et al., 1986; Komer, 1974).

Fox et al. (1991) have found stability of infant reactivity to frustrating stimulus situation across the first year of life. Thus there is good evidence for the existence of stable individual differences in reactivity during the first year of life.

2.3.7 Temperament as a predictor of children's behaviour

2.3.7.1 Temperament and cognitive performance

Temperamental characteristics of interest and persistence are related to learning and cognitive performance. Two to three months old rated high in persistence show faster operant-conditioning than their less persistent counterparts. Persistence during the first year also correlates with infant mental test scores and pre-school IQ (Goldsmith et al., 1986).
2.3.7.2 Temperament and language development

Temperament is also linked to individual differences in language development. Children who are friendly and outgoing at age two are slightly advanced in language states and remain so, over the pre-school and early school years. Researchers like Bates et al. (1987) are of the view that extroverted children elicit more conversation from parents relating a richer verbal environment for themselves that spurs language forward. They are also of the view that uninhibited children approved the task of language learning uniquely. The study carried out by the authors found that extroverted toddlers tended to use a holistic/imitative style of picking up new expressions in which they freely mimicked other people—a method that led to rapid early advances in vocabulary and grammar.

2.3.7.3 Temperament and social behaviour

Temperament also predicts important variations in social behaviour, highly active pre-schoolers are very sociable with peers but they also become involved in more conflict than their less active age-mates. Emotionally sensitive, excitable pre-schoolers tend to interact physically by hitting, touching and grabbing objects from peers. Shy withdrawn children, do more watching of classmates and engage in behaviours that discourage interaction such as pushing other children away and speaking to them less often (Brobery, 1990).

Active children are often targets of negative interaction, which leads to conflict. Research on sibling relationships show that arguments between siblings increase when one member of a sibling peer is emotionally intense or highly active (Bronsen, 1974).
Berk (1996) notes that the temperamental styles often stimulate consistent reactions from other people which in turn mould the child's social development.

2.3.7.4 Temperament and development of attachment

Crockenberg (1981) studied a group of 46 mothers and infants over the first year of the child's life. The child's irritability, an aspect of temperament was measured when the baby was five to ten days old and the security of the child's attachment to the mother was measured when the child was 12 month old. The results of the study showed that when the mother had both an irritable baby and low levels of support from family members in dealing with the strains of a new child, the infant was likely to be insecurely attached.

Kagan (1982) notes that temperament is largely responsible for the way babies respond in the strange situation. According to the author, babies who are irritable and fearful may simply react to brief separations with intense anxiety regardless of the parent's sensitivity to the baby.

Although a few studies report relationship between proneness to distress in early infancy and later insecure attachment, overall the relationship is weak and inconsistent (Thompson et al., 1988; Mangelsdorf et al., 1990; Izard, 1991; Vaughn et al., 1992).

Mangeslsdorf et al. (1990) found that distress prone infants who became insecurely attached were especially likely to have mothers with rigid controlling personalities, who probably had difficulty altering their immediate plans to comfort a baby who often cried.
2.3.8 Temperament and child rearing – The goodness of fit model

Thomas and Chess (1977) proposed a goodness of fit model to describe how temperament and environmental pressures combine to affect the course of development. It states that when the child’s style of responding and environmental demands are in harmony, or achieve a “good fit” then development is optimal. When dissonance, or a “poor fit” between temperament and environment exists, then the outcome is maladjustment and distorted development. According to the authors to ensure goodness of fit—adults must create child-rearing environments that recognize each child’s temperament while encouraging more adaptive functioning.

Crockenberg (1981) states that children in American middle-class society frequently experience parenting that fits poorly with their dispositions. As infants, they are far less likely to receive sensitive caregiving. By the second year parents of difficult children often resort to angry, punitive discipline and the child reacts with defiance and disobedience. Parents of difficult children often behave inconsistently rewarding the child’s non-compliant behaviour by giving into it although they resisted at first.

Studies show that the difficult child’s temperament combined with harsh, inconsistent child rearing forms a poor fit that maintains and even increases the child’s irritable, conflict ridden style. In contrast when parents are positive and involved with their babies, and establish a happy, stable home life despite their child’s negative, unpredictable behaviour, infant’s difficultness declines with age (Yoyman. 1981; Belsky et al., 1984).

In the goodness of fit model, caregiving is not just responsive to the child’s temperament. It also depends on parental characteristics and cultural
context. Thomas and Chess (1977) found that both difficult and slow to warm-up children benefit from warm accepting, parenting that makes firm but reasonable demands for mastering new experiences found that in the case of activity level, unique temperament child rearing combinations affect toddler’s exploration of the environment, which is crucial for cognitive mastery. Highly stimulating maternal behaviour fostered exploration in less active 15 month olds.

2.3.9 Measuring temperament

Bates (1987) states that temperament is most often assessed through interviews or questionnaires given to parents. Although behaviour ratings by paediatricians, teachers and others familiar with the child as well as direct observations by researchers have also been used. According to the author, parental reports have been emphasised, since parents have a depth of knowledge about the child’s behaviour that cannot be matched by any other source.

Despite some subjectivity, parental reports are moderately related to observational measures of children’s temperament. Lemer et al. (1982) state that most of the measures whether parental or observational can assess temperament across only a narrow age range, because the way, a child’s emotional style is expressed changes with development.

Indulekha (1977) has formulated an interview schedule for mothers to assess baby’s behavioural profile. The nine dimensions of infant’s behaviour under two categories namely, intensity of reaction, reaction pattern, describe infants behaviour as positive or negative and intense or mild.
In recent years researchers have begun to explore the biological substitute of temperament, searching for physiological measures that underlie the same aspect of temperament at different ages. In an effort Kagan et al. (1972) followed several samples of infants over the first two years of life, focusing on two temperamental styles, inhibited and uninhibited.

Kagan et al. (1972) found that at four months uninhibited children reacted with high rates of motor activity and crying to new sights and sounds such as moving mobile decorated with colourful toys. Observed again between one and two years about half of these children were extremely shy and fearful when faced with unfamiliar rooms, toys and people.

Kagan et al. (1972) believes that individual differences in the arousal of the limbic system contribute to these contrasting temperamental styles. Fox (1984) and Stifter and Fox (1990) have focused on vagal tone, a measure of heart rate variability that taps responsiveness of the central nervous system to novel stimuli. In infancy high vagal tone predicts friendliness towards unfamiliar adults and exploration of the environment.

2.3.10 Theories of personality

The two major theoretical versions of how personality comes about are the behaviouristic theory and psychoanalytic theory.

2.3.10.1 Behaviourist theory

According to the behaviourist perspective, personality is moulded as parents reinforce or punish their child's various spontaneous behaviours.

Watson (1924), the leading behaviourist of the time, cautioned the failure to bring up a happy child or a well-adjusted child, falls squarely upon the parents' shoulders.
Behaviourists proposed that if the parents smile and pick up their baby at every glimmer of an infant grin, the baby will become a child, and later an adult, with a sunny disposition. Similarly if parents continually tease the child by, say, removing the nipple as the child is contently sucking or by pretending to take away a favourite toy that a toddler is clutching, that child will be likely to develop a suspicious possessive nature.

Once conditioned, claimed the behaviourists, early habits of personality tend to be self-reinforcing and thus persist unless something disrupts them. This means that the personality traits first developed in the nursery but then altered by later experiences might reappear in a situation that evokes the old circumstances.

Watson (1928) even claimed that he could train any healthy baby to be "any type of specialist—doctor, lawyer, artist, merchant, chief, even beggar or a thief regardless of his talents, penchants, tendencies, abilities, vocations and race of his ancestors."

Later theorists in the behaviourist tradition incorporated the role of social learning, finding that infants tend to imitate personality traits of their parents, even if they are not directly reinforced for doing so. Miller (1993) states that the guiding belief of social learning theorists was that personality is learned.

The most recent formulations of learning theory recognise two additional constraints on the pure conditioning process innate biological and maturational limits and the wider social context (Bandura, 1986; Bijou, 1989). Given this wider social perspective, few learning theorists today would agree with Watson, but most continue to emphasize the importance of early
experience. As one of the leading social learning theorists, Bandura (1977) has explained, human nature is characterized as a vast potentiality that can be fashioned by direct and vicarious experience into a variety of forms. Thus according to the learning theorists, in infancy, the mother traditionally is in charge of most of the experiences the infant might have, and her moment by moment responses are primarily responsible for whatever personality traits might emerge.

2.3.10.2 Psychoanalytic theory

Psychoanalytic theorists who had a different set of assumptions about human nature reached at similar conclusions about the early and permanent formation of the individual's personality.

Freud (1935, 1964) who established the framework felt that the experiences of the first four years of life play a decisive part in determining whether and at what point the individual shall fail to master the real problems of life. He also thought that the child's relationship with the mother was unique without parallel, established unalterably for a whole lifetime as the first and strongest love object and as the prototype of all later love relations.

Freud viewed human development in terms of psychosexual stages that occur at specific ages. According to Freud (1935), personality development begins with the oral stage, so named because in the first year of life the mouth is the infants' prime source of gratification. It is also the main source of pleasure. Sucking is a joyous, sensual activity for babies partly because the mouth, tongue and cheeks are so sensitive to stimulation.

In the second year, Freud maintained the infant's prime focus of gratification shifts to the anus, particularly the sensual pleasure taken in
stimulation of the bowels and eventually the psychological pleasure in controlling them. Accordingly, Freud referred to the period as the anal stage. There is a shift in the mode of interaction from the passive dependent mode of orality to the more active controlling mode of anality. Parents at this time are striving to foster the toddlers' self-control in many ways in addition to toileting, a goal that can lead to power struggle between adult and the child.

According to Freud (1964), both these stages are taught with potential conflict for the infant, conflict that can have long-term consequences. If a mother frustrates her infant's urge to suck—by making nursing a hurried, tensed event, or by weaning the infant from the nipple too early, or by continually preventing the child from sucking on fingers, toes and other objects—the child may be made distressed and anxious.

Moreover, the child may become an adult, who is 'fixated' or 'stuck' at the oral stage excessively eating, drinking, chewing, biting, smoking or talking in quest of the oral satisfaction denied in infancy. Similarly if toilet training is overly strict or premature, parent-child interaction may become locked into conflict over the toddlers' resistance or inability to comply.

Although Freud's ideas concerning orality and anality have been extremely influential, research has failed to support the linking of specific conflicts during these stages to later personality traits. Maccoby et al. (1983) have shown that the parents' overall pattern of warmth and sensitivity or strict domination is much more important to the child's emotional development than the particulars of either feeding and weaning or toilet training.

Erikson (1963) believed that development occurs through a series of basic crises or issues throughout lifespan. The first crisis of infancy in Erikson's
view is one of trust versus mistrust in which the infant learns, whether the world is essentially a secure place where basic needs will be met. Erikson contended that babies begin to develop a sense of security when their mothers sensitively provide food and comfort with consistency, continuity and sameness of experience. When the relationship with the mother inspires trust and security, the child experiences confidence in engaging and exploring the world.

The next crisis which occurs in toddlerhood is the crisis of autonomy versus shame and doubt. Toddlers want to rule their own actions and bodies. If they fail in their efforts to do so, either because they are incapable or because their caregivers are too restrictive and forbidding, they come to feel shameful and to doubt their abilities. According to Erikson (1963) the key to the child’s successfully meeting the crisis, and gaining a sense of autonomy is parental firmness. Through parental firmness, the child is likely to become increasingly self-confident when encountering new challenges as an independent being.

Mahler’s (1968) theory of infancy centres around the need for a proper balance between protection and freedom. According to the theory, during the first months of life, the mother-child relationship is symbiotic. The nursing infant feels literally a part of the mother’s body and the mother welcomes this temporary intrusion and dependency. At about five months, a new period begins that lasts until about age three. This is separation—individuation when the infant gradually develops a sense of self apart from the mother. Mahler refers to this as the time of ‘psychological birth’.

Toddlers attempt greater psychological separation from their mothers but then become influenced by the independence, they have gained, perhaps
regressing to a period of babyish clinging. Mothers should recognize the child's needs for both independence and dependence allowing a measure of freedom as well as providing comforting reassurance.

2.3.11 Evaluation of literature and position of the present study

The above review of literature on behavioural profile or temperament has focused on the definitions of temperament and its characteristics (Murray, 1938; Bhatia, 1969; Chaube, 1986). Models of temperament given by Fries (1938), Buss and Plomin (1975). Thomas and Chess (1977) and Rothbart and Derryberry (1981) are also described. Infants show widely different styles of responding to the same stimulus. This has been noted by Thomas et al. (1956), Craig (1979), Rothbart and Derryberry (1981) and Mussen et al. (1984). There are many factors which influence the temperament or behavioural profile of infants. Research in the nature—nurture issue in the realm of temperament and personality indicates that the importance of heredity cannot be ignored (Buss and Plomin, 1990; Braungart and Stifler, 1992; Emde and Harmon, 1992). At the same time, individual differences in personality can be understood only in terms of complex interdependence between genetic and environmental factors (Hoffman, 1985). A few other factors like the child himself (Mc Connel, 1977; Mussen, 1988) affecting his own temperament have been noted.

Findings of many studies like Korner (1974) and Goldsmith et al. (1986) provide support for the long-term stability of temperament. Temperament which represents the individual's typical style of emotional responding is also an effective predictor of children's behaviour like cognitive performance (Goldsmith et al., 1986), language development (Bates et al., 1987), social behaviour (Brobery, 1990), attachment patterns
The goodness of fit model coined by Thomas and Chess (1972) describes how temperament and environmental pressures combine to affect the course of development. Finally, methods advocated to measure temperament (Indulekha, 1977; Bates et al., 1987) are also given in the review of related literature.

From the review, it was evident that very few studies have been conducted in Indian context regarding the behavioural profile of infants except for a study conducted by Indulekha (1977). The study but was confined to behavioural profile of infants and their mothers' behaviour pattern with sex difference and environmental difference as the variables. A few other Indian studies which have been conducted in this area stress only on the influence of heredity and environment on temperament (Jaisree, 1991; Gopinath, 1994; Varghese, 1994).

Hence an attempt has been made here to study the behavioural profile of infants in relation to father's involvement in baby care with respect to the variables namely, age, sex, ordinal position of the infant, type of family, working status, educational status, socio-economic status, nature of infant care provided, number of years between marriage and birth of the child and gap between the child under study and the younger/older sibling.

2.4 Attachment Patterns of Infants

2.4.1 Definition

Bowlby (1969) states that attachment is an affectional bond enduring in nature and specific in its focus. He further notes attachment as the reciprocal social-emotional bond between infants and caregivers. The concept of
attachment implies something more than dependency. It cannot be reduced to a specific behaviour or a set of behaviours. It is a construct, an aspect of adaptation which functions to assure survival of the species.

Bowlby (1958, 1969), Ainsworth (1973) consider seeking proximity of the person to whom the infant is attached as the hallmark of attachment which is an ongoing condition of an organism and refers to its propensity to behave in ways characteristic of that organism which serve to maintain proximity to or interaction with a particular figure—the object of attachment. A rather different formulation is offered by Schaffer and Emerson (1964). They suggest that the infant's primary need is not for proximity to other people but for stimulation.

Yarrow and Pederson (1972) state that attachment should be thought of as a long process with some milestones or stages occurring in infancy. In attachment, the child actually seeks a physical closeness with the person or object that satisfies his wants. Ainsworth (1973) define it as the degree to which the infant is predisposed to initiate reaction towards the caregiver.

2.4.2 Development of attachment

Attachment according to Bowlby (1958), Schaffer and Emerson (1964), Yarrow and Pederson (1972) and Ainsworth (1973) does not develop suddenly and unheralded but emerges in a consistent series of steps.

Bowlby (1958) has described five phases in the development of attachment: The infant orientates and signals without discriminating different people which is characteristic of the infant in the first few months of life; the infant preferentially orientates to and signals at one or more discriminated persons which is commonly observed around five to seven months of age; the
infant maintains proximity preferentially to a discriminated person by means of locomotion and signals which is seen from seven to nine months; the formation of a goal-corrected partnership occur between child and caregiver. This refers to the idea that the child has begun to accommodate to the mother's needs which is characteristic of the child from three years of age; and lessening of attachment as measured by the child maintaining proximity and stressing more on abstract considerations such as affection, trust and approval, exemplified by an internal working model of the relationship.

The three phases according to Schaffer and Emerson (1964) include social state, during which the infant seeks optimal arousal of all aspects of his environment; pre-social state, characterized by indiscriminate behaviour showing interest in people in general and truly social state, in which attachment is formed to specific people.

Yarrow and Pederson (1972) have described the course of social attachment as a series of five ordered steps or accomplishments: Initially, the child must establish boundaries between the self and the external environment; discriminate between people and inanimate objects and animals within the external environment; discriminate between the mother or usual caregiver and other people; develop specific expectation toward the mother that distinguishes her from other people; and develop trust or confidence in the mother as a source of gratification.

Ainsworth (1973) has given four sequenced phases: Period of indiscriminate social responsiveness which lasts upto 2–3 months after birth in which the child shows interest towards people in general; the infant behaves friendly towards mother or mother figures compared to others which occurs between three to six months; maintenance of proximity to a discriminated
figure, showing active interest in seeking proximity by the infant which is seen between six to seven months of age; and getting an internal working model which occurs after the age of three.

2.4.3 Onset of attachment

Most infants become attached in the third quarter of the first year (Ainsworth, 1963, 1967; Schaffer and Emerson, 1964; Tennes and Lampl, 1964, 1966; Yarrow, 1967). The authors also agree that the baby cannot be attached to anyone before he has reached the stage of cognitive development at which he can conceive of another person as existing independently when outside his perception.

Among the major findings of Schaffer and Emerson (1964) was that the onset of attachment to specific individual occurred for most infants between the age of six to nine months although the range varied from five to past one year.

Yarrow (1967) found distinct differences in infants’ reactions to separation in the first half of the year and afterwards. In his study all children permanently separated from their (foster) mothers at eight months showed marked disturbance, while only 20 per cent of those separated at five months displayed strong reactions. Bowlby (1969) and Ainsworth (1973) refer to the medium age for attaining attachment as seven months.

2.4.4 Behaviours that foster attachment

Bowlby (1969) has offered certain biobehaviour systems which are brought to solidify the social emotional bond between infants and their caregivers. These include crying, smiling, sucking, clinging. Another behavioural system which has been included is mutual gaze or ‘looking’.
2.4.4.1 Smiling

Darwin (1872) observed that smiling is a universal characteristic of human beings. It is a form of behaviour found in every culture. New-born babies smile but it is difficult to attribute this behaviour to learning or experience. Non-elicited smile is common in new-born babies. Freedman and Martin (1967) also support the view and state that it is generally considered to be a reflex and may be aroused by such stimuli as bright light, pleasant smiles or tickling. He further studied the development of smiling in infants and observed the stimuli that elicited it. During the first month, the sound of a voice especially a high pitched voice can elicit smiles. He also states that by the time an infant is five weeks old visual stimuli begin to dominate as elicitors for smiling. Later at around three months of age specific faces will elicit smiles.

Watson (1966) studied the interactions between parents and babies and concluded that a considerable reinforcer tends to be the contingency policy. In this game the parents' response is contingent on some behaviour produced by the infant. Thus Watson states that an infant reinforces parental behaviours that provide the child with an important cognitive exercise.

Bowlby (1969) states that smiling of an infant is an exceedingly effective reinforcer. He has further hypothesised that smiling behaviour increases the infant's chances of survival because it is likely to arouse a positive response from the mother.

2.4.4.2 Crying

Caudill and Frost (1975) state that young infant cries only when he is hungry, cold or in pain. The stimulus that most effectively terminates crying is
being picked up and cuddled and according to the author crying serves as a useful means to obtain assistance. Universally, adults recognize the infant’s cry as a signal that the baby may be cold, hungry or otherwise in need or in danger. Adults are quite adept at interpreting the infant’s broad repertoire of cries which in their varying intensity, duration and change of pitch can alternately signal hunger, pain and fear.

Ainsworth and Bell (1969) found that babies whose caregivers responded quickly to crying during the first three months actually cried less during the last four months of their first year than did infants with unresponsive caregivers.

Bowlby (1969) states that the infant’s immature motor system is compensated by signalling abilities like crying and baffling. He further adds that those behaviours elicit the parents’ attention and interest as well as foster attachment towards them.

Researchers have discovered that adults even if they have never cared for a baby, become physiologically aroused with focused attention and more rapid heartbeat upon hearing the sound of a baby cry (Thompson and Frodi, 1984).

2.4.4.3 Sucking

Piaget (1952) noted that infants often suck on objects even when they are not hungry. Non-nutritive sucking appears to be an innate behavioural tendency in infancy that serves to inhibit a baby’s distress. The author further notes that the behaviour is not unique to humans but a young monkey often holds onto its mother’s nipple with its lips even when it is not feeding. This
behaviour according to Piaget, is undoubtedly important in the formation of attachment between a mother monkey and her baby. Ainsworth (1967) in a cross-cultural study has found that in the Ganda society in Uganda, mothers were observed to give their babies access to a breast when they were fussy just as mothers in other cultures would give them a pacifier.

2.4.4.4 Cuddling

Ainsworth et al. (1974) in a sample of twenty-six middle class infants observed that babies who responded positively to physical contact in the fourth quarter, tended to have experienced a tender careful quality of holding by the mother in the first quarter of the year and had not experienced frequent abrupt pushing up. The findings also suggest that mother-infant interaction affects attachment and the quality of the attachment relationships.

Ainsworth (1972) found that when mothers held their babies relatively long and sometimes when it might not be expected the babies appeared to be particularly 'relaxed' and 'well sounded'. They enjoyed being picked up so much, so that, they sometimes initiated the contact by extending their arms.

Harlow and Zimmerman (1959) in their studies with monkeys found that a baby monkey clings to and cuddles its mother because the contact is innately reinforcing and not simply because she provides food. Physical contact according to the author is also inherently reinforcing for human infants. A recent study by Anisfeld et al. (1990) found that increased physical contact experimentally induced would promote greater maternal responsiveness and more secure attachment between infant and mother.
2.4.4.5 Mutual gaze

Stern (1974) states that mutual gaze may be the immediate forerunner of social play and also plays an important role in the development of self-recognition. Tronick et al. (1978) observed face-to-face interactions between mother and their infants and state that looking serves as a signal to the parent to respond. If a parent does not respond when eye contact is made, the baby usually shows signs of distress.

2.4.5 Patterns of attachment

Ainsworth et al. (1978) have described three major patterns of infant attachment:

- **Securely attached** infants, according to them, accept and initiate interaction and proximity with the mother during play, show approach or greeting behaviour during reunion and clearly prefer mother to a stranger.

- **Insecurely avoidant** infants, according to the authors tend not to solicit interaction with the mother during play, may show little or no separation distress and tend to avoid their mothers upon reunion.

- **Insecurely resistant** infants during reunion tend to couple, their desire for proximity to the mother with conspicuous anger towards her.

Mussen et al. (1984) give a detailed form of the types of attachment. Based on the infants' reaction in the stranger situation, they may be classified into three types A, B and C.

Group A infants called **anxiously attached avoidant** conspicuously avoid their caregivers during reunion episodes, fail to cling when held and tend to treat the strangers the same way as or sometimes more positively than
their caregivers. This in turn according to the authors have two subgroups. A1 infants, who show clear cut avoidance and A2 infants who mingle avoidance and proximity seeking to and contact maintaining with their attachment figures. 20-25% according to the authors fall under A1 and A2.

Group B include **securely attached**, tend to seek proximity to and contact with attachment figures particularly during reunion episodes. Such infants manifest clear preferences for their caregivers over strangers. 65% of middle class according to the authors fall under this category. This again is subdivided into four groups.

B1 infants, who rely mainly on distal modes of interaction with their caregiver may show some avoidance. B2 infants may show some avoidance during the first reunion but who eventually seek proximity. B3 infants, who conspicuously seek proximity and contact with their attachment figures during reunion and show virtually no avoidance or resistance. B4 infants, who rather ineffectively but persistently seek contact with their caregivers and who constantly become distressed during separation and show some resistance upon reunion.

Group C termly **ambivalently attached** or **resistant** infants tend to resist interaction and contact with the caregivers. Yet they also manifest contact and seek proximity seeking behaviour. This according to the author has two subgroups.

C1 infants combine marked proximity and contact seeking with conspicuously angry—resistant behaviour like hitting or pushing attachment figures. C2 infants show both passive proximity and contact seeking by crying rather than reaching or approaching, they may also show some resistance.
Wieczorek and Greene (1991) examined the distribution patterns of infant-mother attachment and have identified three main attachment groups. In a sample of 100-, 18-month-old infants, 80% of infants were classified as secure, 15% as insecure avoidant and 5% as insecure resistant.

2.4.6 Measurement of attachment

Based on the theories of Bowlby (1958), with the caregivers as a secure base, attachment was usually operationalized in terms of unitary behavioural dimensions such as separation protest, the amount of time spent in proximity to the mother and the relative degree of positive expressions directed to the mother rather than to a stranger.

Ainsworth (1973), an unquestioned authority on the topic of infant mother attachment and Wittig (1969) have not ruled out the validity of prior approaches. But they held that the measures did not adequately capture individual differences in the quality of attachment. Nor according to the authors did these measures seem related to individual differences in child care practices of mothers.

Ainsworth and Bell (1969), Ainsworth and Wittig (1969) have used the strange situation, a structured procedure designed to allow observation of the organization of attachment behaviour in response to gradually increasing stress. According to the authors, when the infants were 12 or 18 month old (upto +1 month at either age), they were observed with their mothers in the stranger situation procedure which consists of eight episodes.

In the first episode, the baby was carried to the experimental room by the mother accompanied by the observer who subsequently left. The episode lasts for 30 seconds. In the second episode, the mother placed the baby on
the floor and sat in a chair for three minutes. In the third episode, the stranger entered, sat quietly for a minute, conversed with the mother for a minute and then gradually approached the baby. After three minutes, the mother quietly left the room. The next episode had the infant and the stranger left alone in the room for three minutes. The first reunion episode followed, where mother greets the baby and the stranger leaves unobtrusively leaving the mother and infant alone for three minutes. In its next episode, the baby was left alone for three minutes. In the seventh episode, the stranger returned and stayed with the baby for three minutes. In the last episode, the mother returns, greets the baby while the stranger leaves unobtrusively which again lasted for three minutes.

For analytic purpose, the authors have focused on the infants’ reaction upon reunion with the parents after a brief separation. Episode-by-episode ratings of the infant’s proximity and contact seeking, contact maintaining, accordance, resistance, distance interaction and search behaviour are used by the authors to facilitate an overall assessment of the infant-adult attachment relationship.

2.4.7 Measurement of attachment – Criticized

Criticisms made on the infants’ reaction to strangers as given by Rheingold and Eckerman (1970) show that in more natural environments, the infants at times smile at and approach strangers. Sroufe and Waters (1977) talk of ‘wariness’ of strangers to describe the phenomenon.

Criticisms have also been made of the attachment typing resulting from the strange situation procedure. Lamp et al. (1985) state that the typology
was originally based only on 26 American infants and it has been suggested that the classification has been derived prematurely, in an inadequate sample size. The authors go on to say that the suggestion that type B attachment is normal has been criticized, bearing in mind the cultural variations. It has also been pointed out that the procedure measured the relationship between mother and infant, not some characteristics of the infant. Klaus and Kennell (1982) have modified their original position and state that the hospital practices that kept mother and infant apart are not critical for the attachment relationship between mother and her baby. After analyzing more than 20 follow up research projects, Lamb (1987) concluded that early contact between a mother and her new-born has no lasting effect on either one, although it may sometimes have slight short term effects on some mothers in some circumstances.

Thompson et al. (1982) bring some biological basis for showing secure insecure attachments. According to them there is a chemical called urinary cortisol, which determines body reaction to anxiety and environmental upsets. The authors and Tennes et al. (1966) found that infants who had a tendency to execute high levels of the chemical showed intense separation distress when the mothers left. So according to the authors separation anxiety is related to the amount of the chemical, an infant has.

Sagi (1982) questions the strange situation procedure and reveals that the distributions differ markedly across and within cultures thus varying doubts as to whether one behaviour in the strange situation can be regarded as a valid index of the security of attachment.
2.4.8 Sensitive periods for the development of attachment

Spitz (1965) suggests that lack of appropriate social and affective stimulation in infancy leads to devastating consequences on the development of attachment. Freud (1964) showed that the consequences are more devastating when the mother-infant separation occurred during the later half of the first year.

Schaffer (1963) studied the immediate effect of separation on infants admitted in a hospital and the results showed that 30 weeks or seven months is the period when most clear-cut separation occurs and at approximately seven months of age, attachment leads to fear of strangers. Schaffer and Emerson (1964) found evidence for social attachment among infants during the first quarter of the first year. They have found that the infants show distress when familiar person leaves or stranger enters the room. Ainsworth and Bell (1972) too joined in stating that five, six and seven months are critical periods for the development of attachment.

There has been speculation by Klaus et al. (1972) that the period immediately following the child's birth may be as in certain animal species, a sensitive period for the development of the mother's attachment to the child. Klaus et al. (1972). Leifer et al. (1972) and Kennel (1974) have suggested that the hormonal condition of the mother soon after birth may facilitate acceptance of the child and that contact through all sensory modes also elicits attachment behaviour in the mother. The authors also found that mothers who had a lesser or greater amount of contact with their babies in the first days and weeks after birth showed some differences in later maternal behaviour. Leifer et al. (1972) state that temporary separation from the baby has detesrious effect on later mothering.
2.4.9 Multiple attachment

Schaffer and Emerson (1964) and Ainsworth (1967) are of the opinion that the child brought up in his own family become attached to several familiar people. They state that once a first attachment has formed, attachments to other people follow rapidly.

According to Ainsworth (1963, 1967), Schaffer and Emerson (1964) and Cohen and Campos (1974), the child has a hierarchy of preferences among his attachments. Generally the mother is the child's principal object of attachment. Occasionally the father may be the main attachment object. Evidence suggests that most children living with their families have more than one attachment (Schaffer and Emerson, 1964; Tizard and Tizard, 1971) and that ties to people other than the mother increases as the child grows older (Schaffer and Emerson, 1964). Findings of other studies carried out by Ban and Lewis (1974), Cohen and Campos (1974) and Lamb (1976) suggest that there tends to be some preference for the mother in one-year-olds particularly under conditions of stress.

There is tenuous evidence from the studies of Escalona and Corman (1971) and Spelke et al. (1973) that infants with a 'deep' attachment to both father and mother may be cognitively advanced. They found that the infants who had frequent interactions with their fathers were found to be more advanced in cognitive development than those who had little interaction with their fathers.

Research by Lamb (1978), Grossman et al. (1981) and Main and Weston (1981) have demonstrated that infants often form relationships of different types to their mothers and fathers. Presumably, Lamb (1981)
suggests that the behaviour of each parent affect the infant's expectations of the specific adult and that the security of both infant-parent relationship affects the child's later behaviour. A study by Maccoby et al. (1983) in USA showed that older siblings can act as attachment figures in a strange situation. Fox et al. (1991) in their meta-analysis of attachment towards father and mother found that security of attachment to one parent was dependent upon security to other parent and the type of insecurity to one parent was dependent upon the type of insecurity to the other.

2.4.10 Quality of attachment

Ainsworth et al. (1971) state that an intensive attachment behaviour often indicates the insecurity rather than the strength of the relationship. Thus a child can display intensive attachment behaviour to someone without being deeply attached to them.

Ainsworth (1973) and Ainsworth et al. (1974) have stressed the difficulties in trying to measure the quality of attachment. Pain, illness, tiredness, alarm, absence of the attachment object, reasons and unfamiliarity of the environment may all heighten attachment behaviour. Schaffer and Emerson (1964) and Ainsworth (1972) state that although the child shows stronger attachment behaviour under these circumstances, it may not be very sensible to interpret this as showing that the relationship with the preferred person has grown stronger.

Ainsworth et al. (1978) conclude from their observations that the infants, in each group or subgroup of attachment classification were attached to the mother in their own fashion, the qualitative character of the attachment relationship overriding the significance of the concept of strength of
attachment. In one study by Clarke-Stewart (1973) using Ainsworth’s stranger situation procedure, a measure of intensity of attachment was obtained by totalling up all the proximity and attention seeking behaviours displayed by an infant throughout the entire session.

According to Ainsworth et al. (1978) and Patron (1981), the quality of attachment depends partly on the parents’ behaviour in relation to the children. According to them the quality rather than the quantity is important and it has three aspects sensitivity, synchronicity and reciprocity.

Belsky et al. (1989) state that the quality of caregiving also play a role. When caregivers are sensitive to the needs and signals of children, infants are much more likely to form secure attachment to them.

2.4.11 Attachment and sociability with strangers

According to Rheingold (1969), a ten month old infant placed alone in strange surroundings explores less and cries more than a child whose mother has been with him first and then departed. The author further states that the presence of a person to whom the infant is attached transmits strangeness into novelty.

Tennes and Lampl (1964), Yarrow (1967) and Morgan and Ricciuti (1969) share the view that the mother or other preferred persons may be used as a secure base for the exploration of people. The study shows that the attachment with a stranger in ten to sixteen months old infants was significantly greater, when they were near to the mother rather than when they were on their own.

Maccoby and Feldman (1972) show that children aged two to two and a half years look more towards and interact to a greater extent with a stranger
in the mother's presence than when she is absent. Main (1973), Thompson and Lamb (1981) show that the patterns of infant-mother attachment predict sociability and co-operativeness with unfamiliar adults. It also predicts social compliance with peers (Lieberman, 1977; Easterbrooks and Lamb, 1979).

Ainsworth et al. (1978) explain the relationship between security of attachment and sociability toward unfamiliar adults. The authors state that the security of the infant-father relationship has a greater impact on interaction with males rather than with female strangers, whereas the security of the infant-mother attachment affects interaction with females more than the interaction with males.

Greenberg et al. (1973) show that infants typically respond more positively to female than to male strangers. Lamb et al. (1982) in their study pertaining to the security of mother- and father-infant attachment and its relation to sociability with strangers in traditional and non-traditional Swedish families found that the infants who were securely attached to their fathers were more sociable with strangers but the security of infant-mother attachment was unrelated to sociability. The authors also found that there was a tendency for children from non-traditional families to be more sociable than infants from traditional families.

2.4.12 Attachment and temperament

Crockenber  (1981) studied a group of forty-six mothers and infants over the first year of the child's life. The child's irritability was measured when the baby was 5-10 days old and the security of the child's attachment to the mother was measured when the child was 12 months old. The author found that irritable babies would be more likely to be insecurely attached. It was also
found that when the mother had both an irritable baby and low levels of support the infant was likely to be insecurely attached. Mothers with adequate social support were able to care for their irritable babies in ways that fostered secure attachment.

Sroufe (1985) notes that a 'strong' infant temperament perspective would produce a great deal of similarity of classification between caregivers based on the infant's dispositional tendency to respond to novelty or stress. The author further adds that the classification of an infant based on the quality of attachment relationship are probably the result of a complex interaction of parental caregiving styles, infant temperament and the working model developed by the infant.

Researchers interested in infant temperament like Kagan (1982), Goldsmith et al. (1986) and Thompson et al. (1988) have argued that behaviour in the strange situation and to some extent attachment classification reflects the infant's temperamental traits.

Infants with a low threshold to express negative affect, who are highly irritable may be more likely to be classified as insecure resistant (Davidson and Fox, 1989). On the other hand, Lewis and Firing (1989) note that an infant highly focused on interaction with toys and objects may be more likely to be classified as insecure avoidant in the strange situation.

Izard (1991) found that mothers' emotional experiences, expressive behaviours and personality traits were significant predictors of the level of security of infant-mother attachment. Infants' expressive and temperamental characteristics as rated by their mothers were also significant predictors of attachment security.
2.4.13 Attachment and cognitive development

In one study by Bell (1970), infants who are more securely attached in the strange situation were also found to have reached a more advanced stage in the concept of persons and objects than those who showed proximity avoiding behaviour.

Clarke-Stewart (1973) also found that the infants classified as 'securely' attached on the basis of their strange situation behaviour have also been found to be well advanced in mental development.

Yarrow (1963), Lewis and Goldberg (1969) and Clarke-Stewart (1973) state that the same kinds of maternal behaviour which promote the formation of a secure attachment—sensitivity and appropriate responsiveness to the child’s signals and provision of a high amount of social stimulation, also promote mental development.

Lamb (1973) found that institutionalized infants whose relationships with staff were such that they were unable to form attachment to anyone have been found to be extremely retarded in the stage of object permanence compared with home reared infants who had established attachments with their mothers.

Schaffer (1971) note that the amount of social stimulation received by the child in the early months is the determinant of an infant’s readiness to form specific attachments. A study by Escalona and Corman (1971) show that the nature of the child’s relationship to his mother may be affected by influences outside that relationship itself. Once the child has formed specific attachment, the authors note that it will influence other aspects of his development, including cognitive development.
Schaffer (1971), Spelke et al. (1973) and Lester et al. (1974) state that cognitive development, certainly appears to influence some aspects of attachment behaviour. Research findings by Tizard et al. (1972) have shown that young children living in residential nurseries which provide good physical care and a high level of staff-child interaction, are not retarded in intellectual or linguistic development. Thus Rutter (1972) states a sufficient level of stimulation including verbal stimulation is what matters for cognitive growth.

2.4.14 Antecedents of attachment relationship

Ainsworth and Bell (1972) and Clarke-Stewart (1973) are of the opinion that mothers who are sensitive to their children’s needs, have infants who are classified as ‘securely’ attached in a strange situation. The authors further note that insensitive mothers have infants who show their insecurity either by being particularly upset by the strange situation or who show proximity-avoiding behaviours such as a defence against a disharmonious relationship with the mother.

Ainsworth et al. (1978) found a complex relationship between characteristics of the mother and the child’s attachment behaviour. Mothers who are the most rejecting as the authors note, have infants who show proximity avoiding behaviours, and little protest in strange situation.

Tennes and Lampl (1966) who support the above view and state that the mothers who were the most (and also least) hostile were found to have infants who showed little or no distress on separation in a laboratory situation. Beckwith (1972) also confirm the findings of Ainsworth et al. that mothers who are both rejecting and interfering have babies who tend to ignore them at home.
According to Clarke-Stewart (1973), the provision of a high amount of social stimulation for the baby like looking, smiling, coming near him, talking to him, imitating him, replying to his vocalization appears to be related to secure attachment. Bell (1970) is also of the opinion that provision of greater stimulation for the baby by taking him on outings more often has found to be related to secure attachment. Gopinath (1994), in her study on the interaction between attachment behaviours of infants and their mothers' behaviour patterns found a moderate level of significance between the variables.

2.4.15 Lasting effects of attachment

Matas et al. (1978) have found several long-lasting effects of attachment when securely attached 18 month old infants were followed up at the age of two. They turned out to be more enthusiastic, persistent, co-operative and in general more effective than children who had been insecurely attached. Watson (1979) found that securely attached infants at 3½ years are described as peer leaders, socially involved, attracting the attention of others, curious and actively engaged in their surroundings. At four or five years Arend et al. (1979) found that they are more curious and more competent.

Main and Weston (1981) found that attachment behaviour classified in infancy as secure or insecure remained consistent in these children's reunion behaviour with their mothers at the age of six. Researchers like Arend et al. (1979) found that young children who are securely attached develop better quality of relationships with others as they grow older. Lewis and Fiering (1989) found that boys classified in infancy as secure exhibited fewer behavioural problems at age six than those classified as insecure.
Ainsworth (1989) has shown that secure attachment in infancy is important to the development of other types of affectional bonds that develop during the entire life span. Fagot and Kavanagh (1990) found that girls rated as insecure or avoidant at 18 months were found later on as more difficult to deal with and as having more difficulty with peers than girls rated as securely attached.

2.4.16 Theories of attachment

2.4.16.1 Ethological theory

John Bowlby is credited with bringing ethology to the attention of developmental psychologists. His observations of infants separated for a long time from their mothers led him to conclude that an early social attachment between infant and caregiver is crucial for normal development. A disrupted mother-infant relationship often leads to the infant's protest, despair, detachment and finally in some cases psychopathology. Evidence for the attachment bond in normal situations include protest when the parent leaves and greeting behaviours such as smiling and babbling when the parent returns.

Drawing on observations of mother, infant bonding in non-human primates, Bowlby (1969) proposed that attachment to a caregiver has evolved because it promotes the survival of the helpless infant by protecting him from predators or exposure to the elements. Separation of the infant from its mother can be a fatal error in many animals. At birth and throughout early development, infants have a biological predisposition to maintain proximity to adults of the species.
In human infants, the signalling mechanisms such as crying, babbling and smiling are helpful in communicating the infant’s needs and encourages the adult to come to him. The infant’s immature motor system is compensated for by these signalling abilities.

Just as, following the imprinted object, in ducklings maintain proximity, so do signalling behaviours serve the purpose in humans. In both, the results are the same. The infant is protected and nurtured.

Ebufeldt supports Bowlby’s view that signalling behaviours are innate. According to him even infants born blind or blind and deaf acquire a social smile at approximately six weeks as do normal infants. Children born blind and deaf reveal a wide range of normal behaviours including smiling, crying, babbling and typical facial expressions of fear, anger and sadness.

Bowlby’s theory of attachment includes many of the characteristics of the general theory of ethology. There are species-specific reflexes and fixed action patterns, product of evolution that ensure proximity of the mother to the child. Lorenz’s drives, however are not utilized in the theory. Sensitive periods and general and specific attachment abilities, biologically predispose infants and caregivers to develop a system of synchronised interactions.

Bowlby goes beyond general ethological theory by suggesting that a control system regulates the distance between the child and the caregiver. In keeping with the ethological theory, Bowlby relies heavily on observation of children and animals. However much of the observational research in attachment stimulated by his theory was conducted in laboratory settings.

Bowlby (1980) has recently incorporated into his theory some of the notions of information processing theory. Unsatisfactory early social
relationships. Abnormally strong repression and thinking disorders can in part be explained by general principles of selective attention and selective forgetting.

A Darwinian influence is reflected in Bowlby's (1969) suggestions that the ability to form an attachment bond with the mother will increase the infant's chances for survival. Ethologists believe that the infants have certain behavioural systems locked in genetically, during infancy, these innate systems are activated by the environment and their expression elucidate specific responses from the caregivers.

In short, the ethological theory postulates that the development of attachment is a natural and spontaneous phenomenon that has survival value for the species and is triggered by a particular stimulus in the environment such as separation or the presence of danger. The infant responds to these by clinging, crying or smiling. The individual to whom those responses were made are those to whom the infant will become attached. The keyword in the description of the ethological theory is 'triggered'. Attachment is not learned. It is an inherent phenomenon triggered by appropriate conditions.

2.4.16.2 Contribution of psychoanalytic theories towards attachment

2.4.16.2.1 Freud's theory

According to psychoanalytic theory, the infant in the first year of life is in the oral stage of development. The infant's principal release for the energy generated by the libido is through the mouth and lips. In the psychoanalytic view during the early weeks, the libidinal energy of infants is directed solely to the satisfaction of their needs. They make no distinction between themselves
and the external world and experience only the tension produced by bodily needs and release of tension that follows gratification of such needs.

In this first stage, in the development of attachment, the infants object catchexis is merely the pleasure associated with need gratification. During the second stage the infant becomes aware of the outside world, food becomes associated with the satisfaction of needs and the breast or bottle becomes the love object and in the third stage, the infant has objectified the mother and identified her as the provider of food. It is at this point that the infant becomes attached to the mother as the primary love object.

To a lesser degree the mother’s caring for the infant, in other ways, stroking and holding him also eases tension and contribute to attachment. This is called the stage of true object relations. Since attachment to the mother is now no longer dependent on her gratifying the infant’s bodily needs, the mother now is seen as the provider of love, affection and approval. When the infant becomes attached to the mother for the purpose of being loved, he cannot readily transfer this attachment to others. It is at this stage that the infant fearing the loss of the love object becomes distressed when the mother departs.

In its explanation of attachment, psychoanalytic theory emphasises the importance of the infants’ investment of psycho-sexual energy in maintaining contact with objects that are associated with the satisfaction of instinctive biological needs. During the first two years of life, the mouth is the source of instinctive gratification and feeding of the infant by the mother serves to establish her, as an object associated with need gratification. The key concept in the psychoanalytic model is that attachment is a natural phenomenon.
triggered by an internally directed maturational process and mediated by need gratification.

The way in which object relations or infant-mother attachment develops can be exemplified by the changes in infant smiling during the first months. According to Spitz, when the reflex smile has developed into a social smile, the infant first begins to smile selectively to human faces by about four months when smiling becomes more frequent. The infant appears to recognise the mother's face and respond more positively to it than to other faces.

Although Spitz and others have done psychoanalytically-oriented behaviour studies, they have been criticized for disregarding evidence not in line with their preconception that attachment develops from need qualification and for depicting the infant as an entirely passive one.

An outgrowth of the psychoanalytical model of development has been the assignment of importance to the roles of feeding patterns and toilet training in the subsequent development of attachment. Although the quality of contact between a caregiver and an infant clearly does have an effect on the development of attachment, there is no evidence to suggest that breast-feeding leads infants to develop more secure attachment than bottle-feeding. Similarly, there is little evidence to associate methods of toilet training with differences in the intensity or quality of attachment.

2.4.16.2.2 Erikson's theory

Erikson (1963) has developed the only major theory of normal human development that covers the entire life span. He outlines eight stages of development throughout life each of which depends upon the successful resolution of a crisis or turning point.
Papalia and Olds (1987) says that each crisis is an issue that means to be resolved at a particular point in the development with the aim of bringing a balance between the two alternatives. Their contribution towards the concept of attachment lies within the first stage crisis, trust vs. mistrust.

*Crisis I - Trust vs. Mistrust*

The infancy period or the oral sensory stage is a sensory stage because for the first few months, the infant is a passive receptor of sensory inputs from the world around it. The crisis involved in this stage is that of learning a basic trust or mistrust of other people.

Each day as its wakeful hours increase the infant becomes more familiar with sensual experience. Situations of comfort and the people responsible for these components become familiar and identifiable to the infant because of the infant’s trust in and familiarity with its maternal person, it achieves a state of acceptance in which that person may be absent for a while. This initial social achievement by the infant is possible because it is developing an inner certainty and trustfulness that the maternal person will return. Daily routines, consistency and continuity in the infant’s environment, provide the earliest basis for a sense of psychosocial identity. Through continuity of experiences with adults, the infant learns to rely on them and to trust them but perhaps even more importantly it learns to trust itself the proper ratio of trust and mistrust which results in the ascendance of hope.

The early development of a strong bond between parent and child seems to have far reaching effects. Securely attached babies are more sociable with strangers, probably because they trust their mothers and generalize this trust to other people (Thompson and Lamb, 1981).
2.4.16.3 Social learning theory

According to this theory, the caregiver acquires a positive value through association with the satisfaction and reduction of hunger, a primary drive. It is reasoned that the mother, who is initially a neutral stimulus, acquires secondary reinforcing properties. Overtime infants learn that the mother is the agent responsible for their primary reinforces, such as tactile stimulation, milk or warmth. In other words eventually just the presence of the mother becomes satisfying, the child develops an acquired need for contact with mother. The key principle in social learning theory according to Gewirtz (1972) is that attachment is a set of learned behaviour.

2.4.16.4 Communicational approach to attachment

Bower (1977) postulates that the ability to communicate with significant people is of critical importance to the security of any human. An infant's communication is non-linguistic and probably idiosyncratic to each child and to the people with whom the child is in continued contact. Thus the bond of security is referred to as attachment. From shared non-verbal cues the infant may not understand and communicate to the stranger. Thus the presence of a stranger will present a threatening condition to the infant as he can neither communicate with the people in the room nor understand their communication.

2.4.16.5 Cognitive theory

Unlike the other theories cognitive theory does not postulate a motivational basis for attachment. The cognitive developmental view interprets attachment as an output growth of developing mental abilities.
Attachment and proximity seeking behaviour develop because the infant is cognitively aware of the perceptual difference that exists between the mother and others in the environment. Discrimination or the ability to distinguish between similar stimuli of the caregiver proves the underlying dynamics of this school of thought.

Attachment is strengthened because of the infants ability to understand person permanence. Cognitive theorists like Bell (1970) suggest that the child’s ability to construct a mental image of the mothers’ distinguishing characteristics will result in more proximity seeking behaviour. Thus cognitive and social behaviours are said to be related.

2.4.17 Evaluation of literature and position of the present study

The above review of literature has focussed on the definitions of attachment as given by Bowlby (1958, 1969), Schaffer and Emerson (1964), Yarrow and Pederson (1972) and Ainsworth (1973). Development of attachment in different phases have been given by Bowlby (1958), Schaffer and Emerson (1964), Yarrow and Pederson (1972) and Ainsworth (1973). According to them, attachment does not develop suddenly and unheralded, but emerges in a consistent series of steps. Ainsworth (1963, 1967), Schaffer and Emerson (1964), Tennes and Lampl (1964, 1966) and Yarrow (1967) all agree that most of the infants become attached in the third quarter of the first year. Bowlby (1969) has given the behaviours that foster attachment as smiling (Darwin, 1872), crying (Ainsworth and Bell, 1969; Bowlby, 1969), sucking (Piaget, 1952), cuddling (Harlow and Zimmermann, 1959; Ainsworth, 1972; Ainsworth et al., 1974) and mutual gaze (Stern, 1974; Tronick et al., 1978).
Ainsworth et al. (1978) have described three major patterns of infant attachment as securely attached, insecurely avoidant and insecurely resistant. Mussen et al. (1984) have also given three types of attachment as anxiously attached avoidant, securely attached and ambivalently attached infants. Ainsworth (1973), an unquestioned authority on the topic of infant-mother attachment and Wittig (1969) have developed measures of attachment. They have used the strange situation, a structured procedure designed to allow observation of the organization of attachment, but the procedure has been criticized by Rheingold and Eckerman (1970), Sroufe and Waters (1977), Thompson, Lamb and Ester (1982), Tennes (1982) and Sagi (1982). They question the strange situation procedures and reveal that the distributions differ markedly across and within cultures.

Sensitive periods for the development of attachment has been given by Spitz (1965), Schaffer (1963), Freud (1964), Schaffer and Emerson (1964), Ainsworth and Bell (1972), Klaus et al. (1972) and Leifer et al. (1972) all agree to the fact that five, six and seven months are critical periods for the development of attachment. Ainsworth (1963, 1967), Schaffer and Emerson (1964) and Cohen and Campos (1974) are of the opinion that the child brought up in his own family become attached several familiar people.

According to Tennes and Lampi (1964), Morgan et al. (1969), Rheingold (1969) and Maccoby and Feldman (1972) explain the relationship between security of attachment and sociability towards unfamiliar adults. Crockenberg (1981). Sroufe (1985) and Goldsmith et al. (1986) have all stated that the behaviours in the strange situation and to some extent attachment classification reflects the infants' temperamental traits.
Bell (1970), Clarke-Stewart (1973) and Spelke et al. (1973) have found that cognitive development appears to influence some aspects of attachment behaviour. Antecedents of attachment relationship have been given by Ainsworth and Bell (1972), Clark-Stewart (1973), Indulekha (1977), Ainsworth et al. (1978) and Gopinath (1994). The lasting effect of attachment has been given by Matas et al. (1978), Arend et al. (1979) and Watson (1979). They state that the securely attached infants turned out to be more enthusiastic, persistent, co-operative and in general more effective than insecurely attached infants.

In the review, theories of attachment like that of Bowlby's ethological theory, psycho-analytical theories of Freud and Erickson, social learning theory, communicational approach to attachment and cognitive theory have been given.

From the review, it was evident that Indian studies regarding attachment are considerably few except for a few studies like that of Indulekha (1977) and Gopinath (1994). Hence an attempt has been made here to explore the variable with respect to father's involvement in baby care.

2.5 Mothers' Behaviour Patterns

2.5.1 Modern mothers

Stoppard (1990) has classified modern mothers into two categories. The first group consists of those who feel that, while their children are very young they want to look after them, themselves. The second category, include working mothers who have two full time jobs, that of a mother and that of a wage earner.
Sahjeeed (1991) notes, the fewer children a woman has, the older they are, the lower her husband’s income, the higher her own education, the higher the market value of her employment skills, the more likely she is, to seek a job. Thus a woman’s economic horizon once confined to domestic servanthood or labour on the farm has expanded considerably. Women from all shades of life have started working in other fields.

2.5.2 Mother-infant interaction

Sears et al. (1957) write, actually every interaction between two people has an effect, both on their present action and on their potentialities to future action. An affectionate hug or reprimand, not only influences what the child is doing at the moment but adds a small change into his expectations of what will happen in similar occasions in future. They are of the opinion that of all the human relatives influencing a child’s development, personality of the mother is of central importance.

The child’s first relationship with the environment established a feeling of social trust or social mistrust. Since the mother provides the child with the first social relationship, her task is, to create a warm environment conducive to the nurturance of positive feelings (Erickson, 1963).

Yarrow (1963) observed that there is extensive evidence of the close inter-relationship between mother and child from birth and even before birth. According to Mussen et al. (1984) in short, the child needs one person who fulfils her need for company, who notices her every action and respond to it and who generally bring small parts of the world to her.

Ambron (1975) points out that most babies select the mother as their first love, such a privilege is earned not only by just being the mother but by
mothering the baby. According to Tiwari (1987) while the role of parent-child relationship in personality development of a child, implies relationship with both mother and father, the relationship with mother has the most vital effect on the child. Mothers were found to be acceptant, nurturant, democratic, less restrictive and authoritative than fathers in the parent-child relations.

Gardner et al. (1964) suggest that excluding physical care other types of tending such as loving, talking and playing with the child has an important role on the formation of such a bond between the child and mother.

2.5.2 Mothers' behaviour patterns

Mothering involves a warding off of stimulation as well as an increased protection against excessive dosage and supply of extra stimuli. The mother must help to moderate the infant's general arousal level. In early development, this level can fluctuate considerably changing fairly rapidly from deep sleep to intense excitement and unlike the adult, an infant has relatively few mechanisms available whereby he himself can bring about changes in arousal (Schaffer, 1971).

Bayley (1960) reported that the early warmth and affection of mother is associated with calm, happy and co-operative behaviour from children throughout the years in to adulthood. The maternal attitude toward her forthcoming child is channelled into a direction predominantly accepting or rejecting. He also theorizes that the maternal attitude is a distillate of the woman's personality. Philosophies, relationship with husband, security and motivation for pregnancy, conditions of pregnancy, delivery and early post partum period all make important contribution to this attitude.
Moss (1967) reports a descriptive normative data of maternal and infants' behaviour in the naturalistic setting at home. A sample of 30 first-born infants and their mothers were studied by means of direct observation made during and around the first and third months of life. He noticed that during first three months maternal behaviour tended to be shaped by the characteristics of the infant in that, the significant shifts of maternal behaviour seemed related to developmental changes in infant behaviour. At these levels, the infants slept more and cried more than they did at three months and their mothers held and soothed them more. At three months, the infants vocalized, smiled and watched the mother more and their mothers spent more time near them, face-to-face, were more affectionate and gave them more stimulation social and otherwise. The author found a moderate stability over the first three months for maternal attentiveness and responsiveness particularly looking at, talking to, smiling at and imitating the infant. The frequency of these maternal behaviours increased significantly over this period while behaviours involving physical contact decreased in frequency.

According to Bowlby (1969) by bringing the baby into a face-to-face orientation to herself a mother gives him an opportunity to look at her by cradling him to herself in a ventro-ventral position. She is likely to elicit reflex responses, that not only orients him more precisely to her but also gives him the chances to use mouth, hands and feet to grasp parts of her. In this reciprocal way, the early interaction between mother and baby begins.

The infants through his visual auditory and other perceptual processes will establish schemata of human emotions as reflected in facial expression (Spitz, 1965; Stern, 1974) will acquire smiling and probably vocalizing as exogenous or social events (Spitz, 1965).
Kagan (1971) suggests that since the mother (caregiver) is most often the stimulus, that activates the inborn responses as smiling, cooing, babbling, grasping and the like, the infant becomes attached to the mother and later on it is generalized to other members as well.

The works by Klaus et al. (1972) indicate that the attachment bond between the mother and infant is based on tactile and sensory stimulation not merely on feeding or caregiving.

When the mother exhibited behaviour considered as directing, interfering, criticising and suggesting control, the child responded in an inhibited non co-operative or negative manner (Sears et al., 1957). The authors found maternal coldness to be associated with development of feeding problems, persistent bed-wetting and high aggression in children. Kagan et al. (1971) indicate that middle-class mothers spent more time in face-to-face contact and entertained them more with objects than with lower-class mothers. They were also more prone to resorting to arousal reducing methods for they responded more quickly to the infants’ crying and thus made movements to quickly return to normal kind of functioning.

Biehler (1976) states that if mother is responsive to her child’s relations during the critical period, life-long competence may be implanted which is associated with frequent and sustained physical contact, the mother’s ability to soothe a baby’s discomfort through physical handling, the mother’s sensitivity to baby’s signals and an environment that helps the child to develop a feeling of control over what happens.

Indulekha (1977) compared three month old infants of advantaged and disadvantaged settings found that the disadvantaged infants scored more on
the negative side of the behavioural profile, had higher threshold of responsiveness, longer fixation time and their mothers' tactual, vocal and visual contacts were of lesser intensity and frequency compared to advantaged children.

Vandell (1979) has reported studies by Escalona (1973) and Bronsen (1974) who investigated interaction, initiation and interaction terminators in addition to the specific content of interaction behaviour.

Belsky (1980) in a comparative study of mother-infant interaction at home and in the laboratory, compared maternal, infant and dyadic behaviour within and across contexts indicated that the laboratory when loosely structured elicited behaviour which is not fully representative of mother-infant interaction in everyday life. This was found true of maternal behaviour.

According to Tiwari (1987), the most important single factor influencing the survival and welfare of the children appears to be the interest and ability of the mother and the quality of care which she provides. Consistency requires adequate mothering which generate those forces that lead toward later personality development.

When the parents communicate with the babies, a difference in behaviour compared to their usual behaviour can be seen. They talk more, voices are kept lower, there is more repetition of phrases, more handling and are generally more warm and loving (Fontana, 1980). Thus the behaviour of the infants is very much affected by that of the mothers. Varghese (1994), in her study on the inter-relationship between the infants' behavioural profile and their caregivers' behaviour patterns found that caregivers with better
behaviour patterns. that is with intense or frequent reaction to their infants were found to have a moderate influence on infants' behavioural profile.

2.5.3 Evaluation of literature and position of the present study

Studies have shown that mothers' role seems to be taking new strands. Women are found to be a part of all shades of life. They are simultaneously doing two jobs that of a mother and of a wage earner (Stoppard, 1990; Sahjeeed, 1991). The role of mother-infant relationship is crucial in the personality development of children as noted by Erickson (1963), Gardner (1964), Ambron (1975), Mussen et al. (1984) and Tiwari (1987). Infants' behaviour is found to be closely related to the mothers' behaviour patterns (Sears et al., 1957; Bayley, 1960; Spitz, Stern, 1965; Kagan, 1971; Klaus et al., 1972; Indulekha, 1977; Tiwari, 1987).

From the above review of literature it is evident that very few studies have been conducted in the field of mothers' behaviour patterns except for a few studies conducted like that of Moss (1967), Indulekha (1977), Tiwari (1987) and Varghese (1994). Hence the present study makes an attempt to explore the relationship between fathers' involvement in baby care and mothers' behaviour patterns.