The results given in the previous chapter are discussed in this chapter in the same order of presentation, namely

1. relationship between the study variables;
2. effect of the independent variables on the study variables;
3. effect of the study variables on baby's behavioural profile; and
4. effect of sensitive period on attachment patterns of infants.
Part I

Relationship between the Study Variables

Results regarding the relationship between the variables under study are discussed.

5.1 Relationship between Fathers’ Involvement in Baby Care and Baby’s Behavioural Profile

A significantly high correlation (vide, Table 4.1, $r = 0.95, P<0.001$) is obtained between fathers’ involvement in baby care and baby’s behavioural profile. Thus the hypothesis (1.6.1a) stating that there is a significant relationship between fathers’ involvement in baby care and baby’s behavioural profile is accepted.

The study revealed that the fathers who are actively involved in baby care activities like feeding, cleaning, dressing the baby, watching the baby, when the mother is busy and also making changes in the working schedules to incorporate caring of the child are found to have babies who exhibited easy temperaments. The babies in all such cases are found to wake up cheerfully, play as usual when left alone and have regular sleeping patterns and bowel movements. On the other hand, fathers who showed minimum involvement which were of lesser intensity and frequency, were found to have babies with a difficult temperament, who seem to be unpredictable in their actions and whose needs cannot be anticipated easily.

The results are bidirectional in the sense that just as fathers’ active involvement enhance easy temperament in infants, the easy temperament of infants studied, could enhance the active involvement of fathers in the caretaking activities. Thus an intense involvement of fathers was evident in
the case of babies with easy temperament compared to that of difficult babies. It is in line with the findings of Travers (1974), who has pointed out that it is easier to be warm and loving to a baby who is usually cheerful and whose wants can be anticipated and met relatively easily than it is with a baby who cries constantly and resists being cuddled.

Bidirectionality accounts for the positive correlation between fathers' involvement and baby's behavioural profile. As Mussen et al. (1984) have pointed out, parental involvement and infant temperament form the basis for the very important principle of bidirectionality in development.

The study also reveals that the other intervening variables like paternal age (vide, Table 4.13, \( F = 3.06, P<0.01 \)) with younger fathers being more involved (vide, Table 4.13, group I, mean \( (a) = 63.22 \)), paternal educational status (vide, Table 4.15, \( F = 7.56, P<0.001 \ )) in which the higher qualification indicating better involvement (vide, Table 4.15, group IV, mean \( (a) = 68.78 \)), maternal educational status (vide, Table 4.16, \( F = 6.45, P<0.001 \ )) with higher qualification indicating better involvement (vide, Table 4.16, group IV, mean \( (a) = 71.29 \)) gap between marriage and birth of the child (vide, Table 4.18, \( F = 7.98, P<0.001 \ )) with a gap of ≤2 years being superior (vide, Table 4.18, group I, mean \( (a) = 66.03 \)), nature of infant care provided (vide, Table 4.19, \( F = 3.15, P<0.01 \ )) with the own mother or other family members looking after being superior in fathers involvement in baby care (vide, Table 4.18, group I, mean \( (a) = 69 \)), sex of the infant (vide, Table 4.20, \( t = 4.66, P<0.01 \ )) male children being superior (vide, Table 4.20, group I, mean \( (a) = 65.94 \)), ordinal position (vide, Table 4.21, \( F = 18.24, P<0.001 \ )) with the infants who are first-born including the only child showing maximum scores for fathers' involvement (vide, Table 4.21, group I, mean \( (a) = 65.40 \)).
type of family (vide. Table 4.22, \( t = 9.74, P<0.001 \)) with the infants belonging to nuclear families showing maximum involvement (vide, Table 4.22, group I, mean (a) = 68.42), working status (vide, Table 4.23, \( F = 5.51, P<0.01 \)) fathers with working wives getting more involved in baby care (vide, Table 4.23, group I, mean (a) = 64.40) and gap between baby under study and the younger or older sibling (vide, Table 4.24, \( F = 7.91, P<0.001 \)) with those with a gap of ≤2 years showing maximum involvement of fathers (vide, Table 4.23, group I, mean (a) = 63.25). All the above-said variables enhance intense involvement of fathers which in turn affects baby’s behavioural profile. Baby’s behavioural profile assumed to be more genetic in their origin is hence found to be greatly influenced by environmental factors like fathers’ involvement.

Findings of Morgan (1986) that the baby’s behavioural profile is shared by the interplay of his inborn characteristics and his parents’ involvement is in line with the present study. The author also indicates that, although genetic factors play an important role on temperament or behavioural profile of infants, it does not seem to be etched in stone; it can be altered by external factors. The results can also be viewed in terms of the ‘goodness of fit’ model proposed by Thomas and Chess (1977). The model states that when the child’s temperament and environmental pressures are in harmony or achieve a ‘good fit’ development is optimal. When dissonance or a ‘poor fit’ between temperament and environment exists maladjustment and distorted development occurs. White (1972) has noted that the family has a crucial guiding influence on the child’s personality development. Studies by Yogman (1981) and Belsky et al. (1984) found that in the case of children with unpredictable behaviour, when parents are positive and involved with their
babies, the infants tend to be better in their development. Jaisree (1991) has found a significantly high positive relationship \( (r = 0.82, P<0.001) \) between fathers' involvement in baby care and baby's behavioural profile.

The present study and the high correlation obtained show that men have become much more assertive of their role as fathers and lend a greater supportive involvement in the childcare activities. As Sagi (1982) suggests fathers who are prepared to adopt a non-traditional role engage in more childcare activities and affect their children's development for the better. Thus fathers and mothers equally regard child rearing as a joint responsibility involving children and parents indicating fathers' involvement and baby's behavioural profile to be interrelated.

5.2 Fathers' Involvement in Baby Care and Reaction Patterns of Infants

The results regarding the relationship between the fathers' involvement in baby care and reaction patterns of infants are found to be showing significant positive correlation (vide, Table 4.2, \( r = 0.86, P<0.001 \)). Thus the hypothesis (16.1b) stating that there is a significant relationship between fathers' involvement in baby care and reaction patterns of infants can be accepted.

The temperamental qualities of the infant like the quality of mood, rhythmicity, approach withdrawal, adaptability, distractibility and persistence which were grouped under reaction pattern is found to be interrelated to fathers' involvement in baby care. The components of temperament which classified infants as having positive reaction pattern include quality of mood indicating positive trends with the infant waking up cheerfully, rhythmicity
favouring positively with the baby himself creating a pattern of rhythm by having regularity in sleeping patterns and bowel movements, approach withdrawal taking positive trends with the infants smiling or babbling when a stranger arrives, going to sleep as usual in a new surrounding, adaptability by smiling and vocalizing when taken outside home, easy distractibility by accepting the substitute when a play thing is taken away and low persistence as exhibited by crying till cleaned, when the baby wets or soils. All the above-said components of temperaments grouped under reaction patterns were found to be showing positive trends in the case of babies whose fathers actively took part in routine care activities. By applying the principle of bidirectionality, it could also be stated that the infants who exhibited positive reaction patterns elicited active involvement of fathers in baby care activities.

Mussen et al. (1984) note that the infants vary in a large number of physiological and psychological characteristics like irritability, average duration of naps, vigour, duration of smiles etc. In the present study, families where fathers had time to spend for baby care activities, to understand the individual specific characteristics and needs were able to bring forth a better relation and their infants scored high in positive reactions. While noting the stability of temperament a few characteristics like rhythmicity and quality of mood (components which make up the group reaction pattern) are found to be varying as the infant grows older. This in turn points out the effect of environmental factors like fathers' involvement in baby care on the reaction patterns of infants. Another study in support of this include that of Varghese (1994) where a significant relationship between caregivers' behaviour pattern and reaction patterns of infants was obtained (r = 0.69, P<0.01). Thus showing that environment is having an obvious impact on reaction patterns of
infants. Besides fathers' involvement in baby care the other intervening factors like mothers' behaviour patterns which is related to fathers' involvement in baby care (vide, Table 4.5, r = 0.95, P<0.001) can enhance easy temperament in babies. The husbands and wives enjoying marital harmony, who are responsive to the infants cues and thus having a positive behaviour pattern towards the infant would provide stimulating environment for the infants, where they develop easy temperamental traits. The other intervening factors include paternal age (vide, Table 4.13, F = 3.09, P<0.01) with younger fathers found to have babies with easy temperament (vide, Table 4.13, group I. mean (b) = 46.22), paternal educational status (vide, Table 4.15, F = 7.44, P<0.001) in which the higher qualification indicating infants with easy temperament (vide, Table 4.15, group IV, mean (b) = 68.78), maternal educational status (vide, Table 4.16, F = 5.82, P<0.001) with higher qualification indicating easy temperament (vide, Table 4.16, group IV, mean (b) = 50.14), gap between marriage and birth of the child (vide, Table 4.18. F = 6.40, P<0.001) with a gap of ≤2 years being superior in temperament (vide, Table 4.18, group I, mean (b) = 47.59), sex of the infant (vide, Table 4.20, t = 4.64, P<0.01) with male infants being more easy in their temperaments (vide, Table 4.20, group I, mean (b) = 47.73), ordinal position (vide. Table 4.21, F = 18.62, P<0.001) with the infants who are first-born including the only child being easy in their temperament (vide, Table 4.21, group I. mean (b) = 47.44), type of family (vide, Table 4.22, t = 9.10, P<0.001) with the infants belonging to nuclear families being easy in their temperament (vide, Table 4.22, group I, mean (b) = 49.04), working status (vide, Table 4.23. F = 3.99, P<0.01) with babies belonging to families where both the parents are working being more easy in their temperament
(vide, Table 4.23, group I, mean (b) = 46.67) and gap between baby under study and the younger or older sibling (vide, Table 4.24, F = 8.97, P<0.001) with infants having a gap of <2 years having easy temperament (vide, Table 4.24, group I, mean (b) = 46.12). Thus, in addition to active involvement of fathers in the care of infants, all the above-said intervening variables also affect baby’s behavioural profile.

5.3 Relationship between Fathers’ Involvement in Baby Care and Intensity of Reaction of Infants

The results obtained reveal that there is only a moderate relationship between fathers’ involvement in baby care and intensity of reaction of infants (vide, Table 4.3, r = 0.47, P<0.05). Thus the hypothesis (1.6.1c) stating that there is a significant relationship between fathers’ involvement in baby care and intensity of reaction of infants is accepted at 0.05 level.

The temperamental qualities of infants like the activity level, threshold of responsiveness and vigour of activity which were grouped under intensity of reaction of infants are found to be only moderately related to fathers’ involvement in baby care. From the investigation it was found that children with high activity level as evidenced by the infant taking food quickly, vigorous responses by rejecting the food vigorously and low threshold of responsiveness by showing distress after wetting or soiling are found to enhance fathers’ involvement in baby care activities to a moderate extent only.

Since the ‘r’ obtained for the intensity of reaction (vide, Table 4.3, r = 0.47, P<0.05) is much lower than the ‘r’ obtained for reaction pattern (vide, Table 4.2, r = 0.86, P<0.001) it can be presumed that the intensity of
reaction is more influenced by the innate factors than environmental factors. The reaction pattern, on the other hand, is overtly influenced by environmental factors. Varghese (1994) also supports the present study as she has found only a moderate relationship between intensity of reaction and caregivers' behavior pattern \((r = 0.4, P<0.05)\) whereas for reaction pattern a significantly higher correlation coefficient was obtained \((r = 0.69, P<0.01)\). This again points to the fact that intensity of reaction which has only a moderate correlation with environmental factors like fathers' involvement and caregivers' behavior patterns may be influenced by innate factors present in the infant.

A few other findings which are in line with the present study have suggested that temperament may be fashioned by physiological and clinical influences on brain before birth (Fontana, 1986) and that temperamental differences are far more likely to be due to inheritance than to learning. Kagan (1982) believes that individual differences in arousal of the limbic system contribute to contrasting temperamental styles. Hence attributing the cause to innate factors.

In the present investigation higher involvement of fathers in the care indicate infants' intensity of reaction to a moderate extent only. Hence the substantiative positive correlation obtained for the general profile scores and fathers' involvement in baby care (vide, Table 4.1, \(r = 0.95, P<0.001\)) is mainly due to the positive relation between reaction patterns of infants and their fathers' involvement in baby care. It could also be concluded from the results that the external influences have made impact on reaction pattern at the age of six months whereas the intensity of reaction of infants is found to be less fluctuating as per external influence.
5.4 Relationship between Fathers’ Involvement in Baby Care and Attachment Patterns of Infants

The results obtained reveal a significantly high positive correlation between fathers’ involvement in baby care and attachment patterns of infants (vide, Table 4.4. \( r = 0.94, P < 0.001 \)). Hence the hypothesis (1.6.1d) stating that there is a significant relationship between fathers’ involvement in baby care and attachment patterns of infants is accepted.

In the present investigation the active involvement of fathers in the care of the babies; active interaction in terms of initiating contacts and promptness with which they were responding to the babies’ cries resulted in having babies who were deriving comfort and confidence from the caregivers by showing mild protest following mother’s departure, seeks her when she returns and are easily comforted by her, thus showing secure attachment patterns whereas lesser involvement of fathers resulted in infants being seriously distressed, showing protest following mother’s departure and cling on to her when she returns thus exhibiting an insecure form of attachment. It was noted from the study that the constant and active involvement that the father provides for the infants give him an assurance that he or she can return to a reliable supportive caregiver as the infants enjoy periodic interaction with the fathers.

The other studies which are in line with the present investigation include studies of Bretherton and Waters (1985), Lamb et al. (1985) and Thompson (1991) who show that attachment is affected by the quality of care in early infancy. Ainsworth (1963, 1967) and Schaffer and Emerson (1964) state that the main environmental condition for the development of attachment appears to be sufficient interaction with a particular person. Easterbrooks and Goldberg (1984) are of the view that the extent and quality
of the fathers' involvement in the care of the child affects attachment of the child. Berger and Thompson (1996) found that the fathers' presence made the infant much more likely to smile and play with the new person (or a stranger) than the mothers' presence, a result especially apparent for boys. It may be speculated that the child's experience of boisterous, idiosyncratic play with dad make the fathers' presence a cue for playfulness and embolden the child to engage with the stranger.

From the study, it may be pointed out that the frequent interaction, sensitiveness to the babies' needs and contingent relationship of fathers provide better stimulation which accelerates the security of attachment patterns. The high correlation obtained between fathers' involvement and attachment patterns of infants reveal that the hierarchy of preferences and development of a secure attachment relationship are tied to the quality of interaction rather to its duration.

The principle of bidirectionality can be applied here and hence it can be noted that the secure attachment patterns of infants elicit active involvement of fathers. The other intervening variables which affect attachment patterns include paternal educational status (vide, Table 4.15, $F = 5.35, P<0.01$), maternal educational status (vide, Table 4.16, $F = 5.32, P<0.01$) both with better educational level showing secure attachment patterns (vide, Table 4.15, group IV, mean $(c) = 23.11$) and (vide, Table 4.16, group IV, mean $(c) = 23.71$), gap between marriage and birth of the child (vide, Table 4.18, $F = 9.56, P<0.001$) with a gap of ≤2 years giving secure attachment patterns (vide, Table 4.18, group I, mean $(c) = 22.63$), nature of infant care provided (vide, Table 4.19, $F = 3.36, P<0.01$) with the
own mothers or other family members looking after the babies being superior in attachment scores (vide, Table 4.19, group I, mean (c) = 23.77), sex of the infant (vide, Table 4.20, t = 4.11, P<0.01) with male children being superior (vide, Table 4.19, group I, mean (c) = 22.35), ordinal position (vide, Table 4.21, F = 17.22, P<0.001) with the infants who are first-born including the only child showing maximum scores of attachment patterns of infants (vide, Table 4.21, group I, mean (c) = 22.27), type of family (vide, Table 4.22, t = 8.38, P<0.001) with the infants belonging to nuclear families showing secure attachment patterns (vide, Table 4.22, group I, mean (c) = 23.15), working status (vide, Table 4.23, F = 6.03, P<0.01) with infants belonging to families where the mothers have taken up jobs securing the highest attachment scores which labelled the infants as secure (vide, Table 4.23, group I, mean (c) = 21.99) and gap between baby under study and the younger or older sibling (vide, Table 4.24, F = 4.24, P<0.01) with an interval of ≤2 years being superior (vide, Table 4.24, group I, mean (c) = 21.52). All the above-said variables enhance attachment patterns of infants.

5.5 Relationship between Fathers’ Involvement in Baby Care and Mothers’ Behaviour Patterns

The results reveal that there is a significant relationship between fathers’ involvement in baby care and mothers’ behaviour patterns (vide, Table 4.5, r = 0.95, P<0.001) thus the hypothesis (1.6.1e) stating that there is a significant relationship between fathers’ involvement in baby care and mothers’ behaviour patterns is accepted.
The investigation showed that fathers who were actively involved in baby care activities by attending to the babies’ needs when the mothers are busy are found to have mothers exhibiting intense and frequent behaviour patterns. The mothers provided greater stimulation in the course of feeding diapering, bathing by engaging in simple behaviours like imitating showing open appreciation while and after dressing, giving bath, cuddling, entertaining the baby by showing body movements. The mothers were seen to be constantly shifting their behaviour in order to elicit the baby’s attention.

The intense and frequent behaviour pattern among mothers can be attributed to the active involvement of fathers. The fathers who are actively involved in baby care, who show his interest right from pregnancy inculcate a positive feeling in mothers towards pregnancy and later onto childcare. The fathers’ emotional support of the mothers during pregnancy and early infancy is important to the establishment of positive beginning of relationship with the infants. It is in line with the findings of Pilling and Pringle (1978) who suggest that the mother herself receives reassurance from the husband’s support so that he reinforces not only the child’s but her own feelings of adequacy and self esteem which in turn increases her confidence in mothering which communicates itself to the child. Klaus and Kennel (1982), in their observations of Guatemalan mothers found that those receiving social support were more likely to respond to their babies by talking, smiling and gently stroking. Thus in the present investigation mothers were found to be responding to the baby’s signals and were attending to the baby’s needs in a better manner when they had support from their husbands in baby care activities.
The other intervening variables which affect mothers' behaviour pattern include baby's behavioural profile (vide, Table 4.7, \( r = 0.93, P<0.001 \)) and attachment patterns of infants (vide, Table 4.8, \( r = 0.89, P<0.001 \)). Mothers' behaviour pattern is also affected by paternal educational status (vide, Table 4.15, \( F = 6.12, P<0.001 \)) with the professionally qualified fathers influencing intense and frequent behaviour pattern among mothers (vide, Table 4.15, group IV, mean (d) = 30.09), maternal educational status (vide, Table 4.16, \( F = 5.72, P<0.01 \)) with the highly qualified mothers scoring the highest in their behaviour patterns (vide, Table 4.16, group IV, mean (d) = 31.14), gap between marriage and birth of the child (vide, Table 4.18, \( F = 8.57, P<0.001 \)) with a gap of \( \leq 2 \) years scoring the highest for mothers' behaviour patterns (vide, Table 4.18, group I, mean (d) = 29.96), sex of the infant (vide, Table 4.20, \( t = 4.64, P<0.01 \)) with male children being superior, (vide, Table 4.20, group I, mean (d) = 29.91), ordinal position (vide, Table 4.21, \( F = 18.44, P<0.001 \)) with the infants who are first-born including the only child showing the highest scores for mothers' behaviour patterns (vide, Table 4.21, group I, mean (d) = 29.73), type of family (vide, Table 4.22, \( t = 8.93, P<0.001 \)) those belonging to nuclear families showing positive mothers' behaviour patterns (vide, Table 4.22, group I, mean (d) = 30.16), working status (vide, Table 4.23, \( F = 4.68, P<0.01 \)) with those having working mothers scoring the highest in mothers' behaviour pattern (vide, Table 4.23, group I, mean (d) = 29.37) and gap between baby under study and the younger or older sibling (vide, Table 4.24, \( F = 6.36, P<0.001 \)) with an interval of \( \leq 2 \) years being superior in mothers' behaviour patterns (vide, Table 4.24, group I, mean (d) = 29). All the above-said variables enhance mothers' behaviour pattern.
5.6 Relationship between Baby's Behavioural Profile and Attachment Patterns of Infants

The results indicate a significant relationship between the behavioural profile and attachment patterns of infants (vide, Table 4.6, $r = 0.92$, $P<0.001$). Thus the hypothesis (1.6.2a) stating that there is a significant relationship between baby's behavioural profile and attachment patterns of infants is accepted.

From the investigation it is noted that babies who exhibited easy temperament who woke up cheerfully whose needs could be anticipated and met relatively easily are found to develop a secure form of attachment in which the infants showed mild protest following the caregivers departure, seeks her when she returns and are easily comforted by her. Those with difficult temperament on the other hand tend to be insecure in their attachment patterns, showing distress and protest following the caregivers departure.

The high correlation obtained between the variables is related to the fact that the infant himself plays a crucial and active role in the formation of a bond with the caregiver. The caregivers' behaviour pattern which determines the security of attachment relationships is associated with their perceptions of the child's temperament. Children of different temperamental characteristics present different challenges to their caregivers. It is reflected in the ways the caregivers respond to the infant's behavioural dispositions which determine the kind of attachment patterns of the child. The study has found a high positive correlation between mothers' behaviour patterns and infants' attachment patterns (vide, Table 4.8, $r = 0.89$, $P<0.001$). The effect of the caregivers behaviour pattern, the intervening variable on attachment patterns
of infants is thus evident. The interrelationship can be explained in terms of the caregiving problems encountered while handling a baby with a difficult temperament. Wieczoreck and Greene (1991) report that neonatal fussy, difficultness and caregiving problems may be related to subsequent insecure attachment.

Goldsmith et al. (1986) found that 46 per cent of the variance in attachment classifications was accounted for by individual differences in temperamental ratings. Belsky and Rovine (1987) and Vaughn et al. (1992) are of the view that measures of infant temperament affect attachment partially. The goodness of fit or match between infant temperament and parenting style is a key developmental factor and it according to Mangelsdorf et al. (1990) may be the quality of this fit that best predicts whether a secure or insecure attachments will develop.

The interrelationship also suggests a possible link between the supportive role of fathers and infants' attachment security (vide, Table 4.4, $r = 0.94$, $P<0.001$). The other intervening variables include paternal educational status (vide, Table 4.15, $F = 5.35$, $P<0.01$) with professionally qualified fathers scoring higher (vide, Table 4.15, group IV, mean $(c) = 23.11$), maternal educational status (vide, Table 4.16, $F = 5.32$, $P<0.01$) with the professionally qualified mothers scoring the highest in their attachment patterns (vide, Table 4.16, group IV, mean $(c) = 23.71$), gap between marriage and birth of the child (vide, Table 4.18, $F = 9.56$, $P<0.001$) with a gap of $\leq 2$ years scoring the highest for attachment patterns (vide, Table 4.18, group I, mean $(c) = 22.63$), nature of infant care provided (vide, Table 4.19, $F = 3.36$, $P<0.01$) with the infants looked after in their own homes by mothers or other family members scoring the highest mean
value (vide, Table 4.19, group I, mean (c) = 23.77), sex of the infant (vide, Table 4.20, t = 4.11. P<0.01) with male children being superior (vide, Table 4.20, group I, mean (c) = 22.35), ordinal position (vide, Table 4.21, F = 17.22, P<0.001) with the infants who are first-born including the only child showing the highest scores for attachment patterns of infants (vide, Table 4.21, group I, mean (c) = 22.27), type of family (vide, Table 4.22, t = 8.38, P<0.001), those belonging to nuclear families showing secure attachment patterns (vide, Table 4.22, group I, mean (c) = 23.15), working status (vide, Table 4.23, F = 6.03, P<0.001) with infants having working mothers scoring the highest in attachment patterns (vide, Table 4.23, group I, mean (c) = 21.99) and gap between baby under study and the younger or older sibling (vide, Table 4.24, F = 4.24, P<0.01) with an interval of ≤2 years being superior in attachment patterns (vide, Table 4.24, group I, mean (c) = 21.52). All the above-said intervening variables enhance attachment patterns of infants.

5.7 Relationship between Baby's Behavioural Profile and Mothers' Behaviour Patterns

The results obtained show a significantly high positive correlation (vide, Table 4.7, r = 0.93, P<0.001) between baby’s behavioural profile and mothers’ behaviour patterns. Hence the hypothesis (1.6.2b) stating that there is a significant relationship between baby’s behavioural profile and mothers’ behaviour patterns is accepted.

From the investigation it was found that those infants who tend to be cheerful, easily pacified and who generally adapt to novel experiences are found to have mothers who exhibited intense or frequent behaviour patterns
towards their infants. Thus it can be stated that infants who were classified as having easy temperament elicited positive behaviour patterns from the mothers whereas infants with difficult temperament elicited behaviour patterns which are not so frequent or intense. It is a bidirectional phenomenon as it can be noted from the investigation that those mothers who exhibited better behaviour patterns elicited easy temperament in infants. The behaviour pattern of mothers was measured according to the contacts initiated by the mother, maternal attentiveness and responsiveness particularly looking at, talking to, smiling at and imitating the infants. The greater the intensity or frequency of the mothers' behaviour pattern, the infants were found to exhibit easy temperament. Thus it can be inferred that the infant himself plays a critical and active role in eliciting positive behaviour patterns of the mothers. The infant with the 'reciprocal exchange' of smiling behaviour which extends to full motor and vocal involvement, in sequence of affecting spontaneous back and forth exchanges enable the mothers or the caregivers to reciprocate more intensely and frequently. The two-way process can be made clear by the following reasons: an infant with a difficult temperament or behavioural profile tended to become even more negative and awkward when confronted by a mother who was rigid and punitive to the infants' difficult temperament. The mothers who might get irritated with their infant's behaviour, influences the baby's behavioural profile making it more difficult. But on the other hand, mothers who were extra patient, consistent and objective in their manner were found to be successful in coping with their infants' troublesome nature.

The other studies which are in line with the present investigation include Crockenberg (1981) and Bates et al. (1987) who state that better behaviour patterns of mothers elicited easy temperament in infants. Travers
(1974) is of the view that a child’s temperament is an important element in the way other people especially parents will act towards him or her and a child is moulded by the ease or difficulty in coping with a particular parent. Babies who cry a lot may turn off their parents and get less attention.

Varghese (1994) in her study on the interrelationship between infants' behavioural profile and their caregivers behaviour patterns found that a significant positive relationship existed between caregivers behaviour patterns and infants' behavioural profile ($r = 0.66, P<0.01$).

Evidence also suggests that fathers and mothers behave differently towards more and less active infants (Parke et al., 1972). Yarrow (1963) state that the same mother's sensitivity to a child's needs and provision of stimulation for him may be quite different for different children. Sensitivity involves a number of related components (Lamb and Easterbrooks, 1981) including the capacity to interpret the infants signals appropriately and to respond to them in a nurturing way. The parents' sensitivity is also affected by the characteristics of the infant. It is a different task to be sensitive to an easy going than to a fussy difficult infant. Thus the present study and the other studies done in the past support the view that baby's behavioural profile and mothers' behaviour patterns are interrelated.

5.8 Relationship between Attachment Patterns of Infants and Mothers' Behaviour Patterns

The results obtained indicate a significant positive relationship between attachment patterns of infants and mothers' behaviour patterns (vide, Table 4.8, $r = 0.89, P<0.001$). Hence the hypothesis (1.6.3a) stating that there is a
significant relationship between attachment patterns of infants and mothers' behaviour patterns is accepted.

From the study it was evident that the mothers' behaviour is related to the infants' attachment patterns. Sensitivity of the mother in perceiving and responding promptly and appropriately to the child's signals as evident from the investigation seems to be the key determinant of secure attachment. In the case of infants with secure attachments, mothers were always found to be showing positive behaviour patterns like smiling, vocalizing, attending to the babies' cries etc. The study reveals that the provision of a huge amount of social stimulation for the baby like looking, smiling, coming near him, talking to him, imitating him, replying to his vocalization by the caregiver appears to be related to secure attachment patterns.

The present study is in harmony with the studies carried out by Ainsworth (1993) and Isabella (1993) who are of the view that among the caregiving features that affect the quality of attachment are: (1) general sensitivity to the infants' needs; (2) responsiveness to the infants' specific signals and (3) talking and playing with the infant in ways that actively encourage the child's growth and development. Berger and Thompson (1996) are of the view that mutual engagement and synchronous responsiveness help to build a secure attachment.

There is ample evidence that sensitivity to the infants' signals by his caregiver and the provision of a high level and variety of social stimulation in the first years of life foster a close attachment between the child and his caregiver (Schaffer and Emerson, 1964; Ainsworth and Bell, 1969; Bell, 1970; Clarke-Stewart, 1973; Ainsworth et al., 1978).
Ainsworth (1967), in her studies of children in Uganda found that children who showed the strongest attachment behaviour had a highly responsive relationship with their mothers. Gopinath (1994) in her study on the interaction between attachment behaviour of infants and their mothers’ behaviour patterns found a moderate level of significance ($r = 0.4, P<0.05$). Measures of maternal care according to Belsky and Rovine (1987) and Vaughn et al. (1992) provide only a partial explanation for infants becoming securely or insecurely attached. The other intervening factors may be the temperament or behavioural profile of the infants. The mother’s timely responsiveness and positive behaviour pattern towards an infant with easy temperament may contribute to the interrelationship between the two variables under study. It is also important to note that the infant plays as critical and active a role in the formation of a bond as the caregiver. Infants who respond positively to a caregiver promote more positive behaviour on the part of the caregiver which in turn elicits an even stronger degree of attachment from the child.

The interaction between mothers and infants who are securely attached has been found to exhibit greater synchrony than those between mothers and infants who are insecurely attached. Thus sensitive and responsive caregiving in the early months leads to secure attachment. Hence it can be noted that attachment depends on the mothers’ sensitivity which lets the baby form expectations of her as generally accessible and responsive. The sensitive parent is tuned into the child’s signals and communications and will respond to them promptly. On the other hand insensitive mothering produces insecurity in children. This accounts for the positive relationship between attachment patterns of infants and mothers’ behaviour patterns.
5.9 Relationship between Attachment Patterns and Reaction Patterns of Infants

A significantly high positive correlation (vide, Table 4.9, \( r = 0.83, P<0.001 \)) is obtained between attachment patterns and reaction patterns of infants. Thus the hypothesis (1.6.3b) stating that there is a significant relationship between attachment patterns and reaction patterns of infants can be accepted.

From the investigation it was found that babies who showed positive reaction patterns elicited secure attachment patterns and those with a negative reaction pattern had more of an insecure attachment pattern. The investigator found that infants who were found to have regularity in routine activities, fluctuations of mood towards a positive side, positive approach to new objects, persons, surroundings, easy distractibility and low persistence and thus a total positive reaction pattern were found to have mothers being responsive and sensitive to the babies’ needs and contingent in her relationships with the baby which were the main accelerating factors of secure attachment. The infants were found to be deriving comfort and confidence from the caregivers as evidenced by the infants’ attempt to be close to the caregivers and readiness to explore the new environment.

From the investigation, it was found that those infants with a secure attachment relationship emitted positive reaction patterns. These findings are in line with the observations of Schaffer and Emerson (1964), Ainsworth (1967) and Bowlby (1969). For attachment to be secure, both the parties, i.e. infants and their caregivers have to reach out and respond to each other. The role of temperamental factors in the child that elicit secure attachment relationship are evident from the investigation.
The components of temperament which classify infants as having positive reaction patterns include (1) quality of mood, indicating positive trends with the infant waking up cheerfully, showing happy expressions while taking food, playing when left alone; (2) rhythmicity favouring positively with the baby being fed always according to a schedule, and having regular bowel movements and sleep hours; (3) approach withdrawal taking positive trends with the infant smiling or babbling when a stranger arrives, going to sleep as usual in a new surrounding and being co-operative when left alone with an infrequent visitor; (4) being positive in adaptability by smiling and vocalising when taken outside the home and co-operating while changing the dress; (5) easy distractibility by accepting when a plaything is taken away and substitute is given and are easily comforted when the feelings are hurt and stops crying when rocked or a toy or a pacifier is given; and (6) show low persistence by accepting a substitute like water even when the baby is crying for milk and adjusts to any position while going to sleep. All the above-said components of temperament grouped together under reaction pattern were found to be having positive trends resulting in infants having secure attachment patterns. Hence the child himself is an active provider of stimuli with their positive reaction pattern eliciting secure attachment patterns.

5.10 Relationship between Attachment Patterns and Intensity of Reaction of Infants

The results obtained indicate a moderate relationship (vide, Table 4.10, \( r = 0.47, P<0.05 \)) between the variables. Thus the hypothesis (1.6.3c) stating that there is a significant relationship between attachment patterns and intensity of reaction of infants is accepted at 0.05 level.
The intensity of reaction tends to be intense or mild depending on secure or insecure attachment patterns of infants. The temperamental qualities of infants like the activity level, threshold of responsiveness and vigour of activity are grouped under intensity of reaction of infants. It is evident from the investigation that the children with (1) high activity level shown by the infant, taking food quickly, by being active always moving hands and legs etc.; (2) vigorous responses by rejecting the food vigorously clamping the mouth closed when satisfied and giggles and laughs loudly during rough play; and (3) show low threshold of responsiveness by showing distress after wetting or soiling or gets startled with an unexpected loud noise had high intensity of reaction. In such cases, a severe attachment pattern was seen only to a moderate extent. This may indicate the influence of other innate factors. Analysis of findings by Goldsmith et al. (1986) showed a moderate genetic contribution to activity level, a component of intensity of reaction of infants. They found that the identical twins were more similar to one another in activity level at eight months than were the non-identical twins.

A major reason that intensity of reaction and other child characteristics do not show strong relationship with attachment security may be that their influence depends on the goodness of fit. The model states that when the child’s temperament and environmental pressures are in harmony or achieve a ‘good fit’ development is optimal. When dissonance or a poor fit between temperament and environment exists maladjustment and distorted development occurs. The other factor which may account for intense or mild intensity of reaction include the child himself.

Since the correlation obtained between attachment patterns and reaction pattern of infants (vide, Table 4.9, $r = 0.83$, $P<0.001$) is much
higher than that obtained for intensity of reaction and attachment patterns of infants (vide, Table 4.10, \( r = 0.47, P<0.05 \)), the high positive correlation obtained for general behavioural profile and attachment patterns of infants (vide, Table 4.6, \( r = 0.92, P<0.001 \)) will be mainly due to the effect of reaction pattern than intensity of reaction of infants.

### 5.11 Relationship between Mothers’ Behaviour Patterns and Reaction Patterns of Infants

The results obtained indicate a significantly high positive correlation (vide, Table 4.11, \( r = 0.87, P<0.001 \)) between mothers’ behaviour patterns and reaction patterns of infants. Thus the hypothesis (1.6.4a) stating that there is a significant relationship between mothers’ behaviour patterns and reaction patterns of infants can be favourably accepted.

From the investigation it was evident that those infants whose mothers exhibited a better quality of behaviour pattern like cuddling, carrying the baby often, talking to the baby and thus making the baby aware of her affection and care were found to have babies with regularity in routine activities, fluctuations of mood towards the positive side, positive approach to new objects, persons, surroundings, easy distractibility and low persistence and thus a total positive reaction pattern. In the course of feeding, diapering, bathing, the mothers provide a constant source of stimulation by talking to the infant and playing games. They also engaged in simple behaviours like imitating which again acts as a rich dialogue of social play between the mother and infant. Interactions was greater in areas like showing open appreciation while and after dressing, giving bath, cuddling the baby, entertaining the baby by
showing body movements etc. The mothers constantly shift their behaviour in order to elicit and maintain the baby’s attention. Even while interviewing the mother, they were found to be taking care of their babies by gently stroking them.

Minuchin and Nicholas (1993) point out that every family member’s behaviour is influencing and influenced by the behaviour of the rest. Osofsky and Danzger (1974) in their studies state that the temperamental differences affect the way the parents interact with the child and vice versa. Varghese (1994) in her study on the interrelationship between the infants’ behavioural profile and their caregivers’ behaviour patterns found a significant relationship \(r = 0.69, P<0.01\) between caregivers’ behaviour patterns and infants’ reaction patterns.

Thus the complexities of behaviour in the adults who surround the child inevitably determines the kind of behaviour which in future will serve as the necessary conditions for the gratification of his secondary drives. Thus the family with all its varieties of behaviour, its manneristic modes of expression, its uniqueness of structure will determine the kinds of secondary motivational systems to be established in the new-born baby. It is these secondary motives that comprise what is called behavioural profile of infants. On the light of above discussion it is evident that those mothers of infants with a positive reaction pattern find it easier and happier to interact with them but those with a negative reaction pattern would find it irritating at times and this would be reflected in their behaviour patterns.
5.12 Relationship between Mothers’ Behaviour Patterns and Intensity of Reaction of Infants

The results obtained regarding the relationship between mothers’ behaviour patterns and intensity of reaction of infants (vide, Table 4.12, \( r = 0.40, P<0.05\)) indicate that there is only a moderate relationship between the variables. Hence the hypothesis (1.6.4b), which states that there is a significant relationship between mothers’ behaviour patterns and intensity of reaction of infants can be accepted at 0.05 level.

Infants with higher activity level, vigorous responses and low threshold of responsiveness are considered to have a high intensity of reaction and those infants opposite to the above are found to have milder intensity of reaction. The present study indicates only a moderate relationship between the variables. The role of temperamental factors in the child that tend to elicit certain responses from adults indicate that the child is not merely a passive recipient of parental actions but is also the provider of stimuli to the parent and right from the beginning there is a two way reciprocation of stimuli and responses. The parent is to a considerable extent disposed by learning and experience to certain patterns of action whereas the infant is largely predisposed by temperamental or constitutional factors to provide certain cues and to make particular responses. It is also in line with the ethological theory proposed by Bowlby (1958) which stresses the importance of the caregivers’ responsiveness. But in addition to the overlay of learning the parent is also equipped with certain biological predispositions to react to the child. The social interaction within the family is thus a two-way phenomenon stressing the responses of the parents as well as parent-elicited responses of children.
Varghese (1994) in her study on the interrelationship between the infants' behavioural profile and their caregivers' behaviour pattern 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 the intensity of reaction of infants \( r = 0.4, \ P < 0.05 \). The mothers according to Bowlby (1958) are biologically prepared to respond to the infant elicitors just as the infants are predisposed to respond to the sights, sounds and nurturance provided by their caregivers. The mother herself may be responsible for this moderate relationship as Thompson and Walter (1989) have pointed out that opportunity to observe another female with an infant is important in the development of adequate maternal behaviours. The mothers' own rearing conditions are also known to be important. Females reared without mothers or peers (motherless mothers) were themselves inadequate mothers generally failing to nurse their infants and being either indifferent or actively abusive to them.

The intervening variables like ordinal position, gap between the child and the older or younger sibling may influence the maternal behaviour. Certain other factors which may account for an intense or mild reaction include the child himself, his body build (Mc Conell, 1977; Mussen, 1983; Chaube, 1986), language skills (Broberry, 1990), conscious thinking (Bronsen, 1974) and the child's expectations about others (Harris, 1990).

It is thus clear that the intensity of reaction is not merely influenced by the caregivers' or mothers' behaviour patterns. It is more governed by innate factors present. Mothers' behaviour patterns is found to be greatly related to the reaction patterns of infants (vide, Table 4.11, \( r = 0.87, \ P < 0.001 \)) than the intensity of reaction (vide, Table 4.12, \( r = 0.40, \ P < 0.05 \)). Hence it could be
arrived at the following conclusion that external factors have made impact on reaction pattern even at six months but the intensity of reaction of infants is found to be less fluctuating as per external influences. Hence the substantial positive correlation obtained for general profile score and mothers' behaviour pattern (vide, Table 4.7, \( r = 0.93, P<0.001 \)) is mainly due to the positive relation between mothers' behaviour patterns and reaction patterns of infants.

Part II

Effect of the Independent Variables on the Study Variables

5.13 Effect of Paternal Age on the Study Variables (a) Fathers' Involvement in Baby Care; (b) Baby's Behavioural Profile; (c) Attachment Patterns of Infants; and (d) Mothers' Behaviour Patterns

The results obtained for the effect of paternal age on the study variables (a) fathers' involvement in baby care (vide, Table 4.13, \( F = 3.06, P<0.01 \)), (b) baby's behavioural profile (vide, Table 4.13, \( F = 3.09, P<0.01 \)), (c) attachment patterns of infants (vide, Table 4.13, \( F = 2.05, P>0.05 \)) and (d) mothers' behaviour patterns (vide, Table 4.13, \( F = 2.97, P>0.05 \)) show that the hypothesis (1.6.5.1) can be partially accepted favouring (1.6.5.1a) and (1.6.5.1b) that there is a significant effect of paternal age on fathers' involvement in baby care and baby's behaviour profile. But (1.6.5.1c) and (1.6.5.1d) stating that there is a significant effect of paternal age on attachment patterns and mothers' behaviour patterns is rejected.

For the statistical analysis three groups were identified based on paternal age. Group I comprised those fathers whose age lie below mean - SD (below 28 years), group II comprise fathers whose age lie between
Mean - SD and mean + SD (between 28 and 35 years) and group III had fathers whose age lie above mean + SD (above 35 years).

It was found from the investigation that an active involvement of fathers in baby care activities depend upon the age of the father with younger fathers being more involved (vide, Table 4.13, group I, mean (a) = 63.22) as compared to their older counterparts (vide, Table 4.13, group III, mean (a) = 56.22). The impact of paternal age on fathers' involvement in baby care may be due to the fact that younger fathers may be more alert and attentive to their children's needs. They may be full of youthful enthusiasm and energy. They are able to treasure their children as individuals eager to discover their talents. Same reason may be attributed to the positive effect of paternal age on baby's behavioural profile (vide, Table 4.13, F = 3.09, P<0.01), younger fathers tend to have babies who exhibited easy temperaments (vide, Table 4.13, Group I, mean (b) = 46.22) as compared to their older counterparts who record lowest in their behavioural profile scores (vide, Table 4.13, group III, mean (b) = 42.17). The fathers who are actively involved in baby care tend to be more responsive and in turn may have a positive effect on the temperaments of children. It is in line with the findings of Homan (1970) who state that the age of the parents can modify the personality effects with the younger fathers having zest to devote more time and energy to their children. The decreasing trend of scores obtained for the study variable, with an increase in paternal age may be due to the reason that older fathers will have to spend more time and energy for other activities than conforming only to household and childcare responsibilities.

On the other hand, attachment patterns of infants and mothers' behaviour patterns are found to be unaffected by paternal age. The infants
tend to be securely or insecurely attached regardless of paternal age. The intensity and frequency of mothers' behaviour pattern is also unaffected by paternal age. Figure 4.1 representing the effect of paternal age on the study variables also show that the mean values obtained differ in the case of fathers' involvement in baby care and baby's behavioural profile, but the mean values obtained for the other two variables each, are almost similar for the three different groups.

5.14 Effect of maternal Age on the Study Variables (a) Fathers' Involvement in Baby Care; (b) Baby's Behavioural Profile; (c) Attachment Patterns of Infants; and (d) Mothers' Behaviour Patterns

The results of the effect of maternal age on the study variables, namely (a) fathers' involvement in baby care (vide, Table 4.14, $F = 1.59$, $P>0.05$), (b) baby's behavioural profile (vide, Table 4.14, $F = 1.21$, $P>0.05$), (c) attachment patterns of infants (vide, Table 4.14, $F = 1.99$, $P>0.05$) and (d) mothers' behaviour patterns (vide, Table 4.14, $F = 1.37$, $P>0.05$) indicate that there is no significant effect of maternal age on the study variables. Hence the hypothesis (1.6.5.2a, b, c and d) stating that there will be a significant effect of maternal age on (a) fathers' involvement in baby care, (b) baby's behavioural profile, (c) attachment patterns of infants and (d) mothers' behaviour patterns.

Based on the maternal age, three groups were identified. The three groups are formed as group I comprising mothers whose age lie below mean – SD (below 24 years), group II comprised those whose maternal age lie
between mean – SD and mean + SD (between 24 and 32 years), group III consisted of mothers whose age lie above mean + SD (above 32 years).

The decreasing trend of the scores obtained for the study variables with an increase in maternal age may be due to many reasons. One such reason may be due to the fact that women at an older age find that their responsibilities have increased greatly. Sending the older children to school, coping with their demands, both physical and intellectual, attending to the needs of the spouse and dealing with household chores all take away their energy.

Fathers, on the other hand, find that their spouses are better left alone to bring up the babies as the mothers are now older. The men thus arrive at the conclusion that the age of their spouses make them practised trainers of children. Thus fathers tend to be less involved in the care of infants whose mothers belong to an older age group.

Hence in the case of all the variables studied, fathers’ involvement in baby care, baby’s behavioural profile, attachment patterns and mothers’ behaviour patterns. similar results seem to persist which show that, maternal age has no effect on the variables studied. Figure 4.2 showing the effect of maternal age on the study variables also reveal that the mean differences obtained for all the study variables did not differ much between the three groups. Thus fathers’ involvement tend to be intense or mild, babies tend to be difficult or easy in their temperament, attachment tend to be secure or insecure and mothers’ behaviour tend to be similar irrespective of differences in maternal age.
The investigation is supported by the views of Homan (1970) that mostly caregivers act on an impulse which is not controllable, not generally changeable and not based on any conscious knowledge. Thus favouring the view that mothers discover new realms of efficiency, care and concern in their role irrespective of their age.

5.15 Effect of Paternal Educational Status on the Study Variables
(a) Fathers' Involvement in Baby Care; (b) Baby's Behavioural Profile; (c) Attachment Patterns of Infants; and (d) Mothers' Behaviour Patterns

The results of the effect of paternal educational status in the study variables (a) fathers' involvement in baby care (vide, Table 4.15, F = 7.56, P<0.001), (b) baby's behavioural profile (vide, Table 4.15, F = 7.44, P<0.001), (c) attachment patterns of infants (vide, Table 4.15, F = 5.35, P<0.01) and (d) mothers' behaviour patterns (vide, Table 4.15, F = 6.12, P<0.001) show that paternal education has a definite impact on all the study variables. Thus accepting the hypothesis (1.6.6.1a, b, c and d) favourably which states that there will a significant effect of paternal educational status on (a) fathers' involvement in baby care, (b) baby's behavioural profile, (c) attachment patterns of infants and (d) mothers' behaviour patterns.

Based on the educational level of fathers, four groups were identified which include group I having fathers who had educational qualification equivalent to pre-Degree; group II had qualification equivalent to degree level and group III comprised fathers who had qualification equivalent to post graduate degree and group IV consisted of fathers who are professionally qualified.
From the investigation it was noted that those fathers who are professionally qualified tend to have infants who scored the highest in fathers' involvement in baby care (vide, Table 4.15, group IV, mean (a) = 68.78), baby's behavioural profile (vide, Table 4.15, group IV, mean (b) = 49.50), attachment patterns of infants (vide, Table 4.15, group IV, mean (c) = 23.11) and mothers' behaviour patterns (vide, Table 4.15, group IV, mean (d) = 30.09). The values were found to be declining in a descending order with the mean values for the fathers with minimum educational qualification obtaining the lowest scores for all the study variables. Figure 4.3 shows that the professionally qualified fathers scored the highest for all the study variables.

The present investigation shows that the better educated fathers are fully aware of their role as parents. They may read a lot about such things and therefore never miss an opportunity to be with their kids. They indulge in baby care enjoying the activity thoroughly. They are also conscious of the need to support their wives in parenting. Some of the fathers were found to attend to the baby's needs during the night and were also found to take care of the babies when the mother is busy.

Kagan (1979) points out that the well-educated professional father behaves in a special way with his infants, he also acts as a respected role model whom the child tries to emulate. Kagan is also of the view that the education of the father is as good a predictor of the young adults' occupational and educational attainment as the child's intellectual ability on personality profile during the first five years of life. The better educated fathers may also tend to encourage their wives to direct their behaviour patterns towards the infants in an intense and frequent manner. The less
educated fathers. on the other hand, are not aware of their need for co-operation in the rearing of children.

The higher educational qualification not only measure the acquired skills of an individual but also indicate the educational aspirations, expectations and beliefs of an individual. Those with lower educational level need not necessarily value these than those with higher educational levels. It is also likely that those with higher levels of education have the wherewithal (such as more flexible jobs so that they can become involved and the confidence in their ability to help the child) to ensure that their expectations are met, similarly the better educational level which provide better income enables the family to live in a better neighbourhood and to provide, Their infants with a rich stimulating environment.

5.16 **Effect of Maternal Educational Status on the Study Variables,** namely (a) Fathers' Involvement in Baby Care; (b) Baby's Behavioural Profile; (c) Attachment Patterns of Infants; and (d) Mothers' Behaviour Patterns

The results of the effect of maternal educational status on the various study variables, namely (a) fathers' involvement in baby care (vide, Table 4.16, \( F = 6.45, P<0.001 \)), (b) baby's behavioural profile (vide, Table 4.16, \( F = 5.82, P<0.01 \)), (c) attachment patterns of infants (vide, Table 4.16, \( F = 5.32, P<0.01 \)) and (d) mothers' behaviour patterns (vide, Table 4.16, \( F = 5.72, P<0.01 \)) favours the hypothesis (1.6.6.2a, b, c and d) which states that there is a significant effect of maternal educational status on all the variables.

Based on maternal educational status, four groups were identified. Group I comprised mothers whose educational qualification is equivalent to
pre-Degree: group II had mothers with a qualification equivalent to degree level; group III had post graduate degree and group IV consists of mothers who are professionally qualified. Figure 4.4 shows the effect of maternal educational status on the study variables. The mean values obtained for all the study variables increased with group I showing minimum score and group IV having the maximum score. The scores obtained for the various variables range in an ascending order from group I to group IV with the professionally qualified showing the best results.

Group IV in which the mothers were professionally qualified were found to have the highest score obtained for all the study variables. Fathers’ involvement in baby care (vide, Table 4.16, group IV, mean (a) = 71.29), baby’s behaviour profile (vide, Table 4.16, group IV, mean (b) = 50.14), attachment patterns of infants (vide, Table 4.16, group IV, mean (c) = 23.71) and mothers’ behaviour patterns (vide, Table 4.16, group IV, mean (d) 31.14).

Maternal educational level influences her confidence in letting their husbands in baby care, in providing an enriched an atmosphere, favouring easy temperament, secure attachment and mothers' behaviour patterns towards a positive direction. Well-educated mothers may be more aware of the importance of fathers’ involvement and they may be more confident to let the fathers involve in the caring of the baby. At the same time, the mothers who are well-educated are conscious of the importance of spending quality time.

As it may be stated for paternal educational status, those with higher levels of education in the case of mothers also have the wherewithal to ensure
that their expectations are met. The better education which brings higher income enable them to provide. The children with a rich stimulating environment which may enhance the overall development of the child. Hence it may be clear that the maternal education affects all the variables in a positive manner with the highly educated showing maximum scores.

5.17 Effect of Status of Income on the Study Variables, namely
(a) Fathers’ Involvement in Baby Care; (b) Baby’s Behavioural Profile; (c) Attachment Patterns of Infants; and 
(d) Mothers’ Behaviour Patterns

The results of the effect of status of income on the study variables, namely (a) fathers’ involvement in baby care (vide, Table 4.17, t = 1.91, P>0.05), (b) baby’s behavioural profile (vide, Table 4.17, t = 1.04, P>0.05), (c) attachment patterns of infants (vide, Table 4.17, t = 1.63, P>0.05) and (d) mothers’ behaviour patterns (vide, Table 4.17, t = 1.33, P>0.05) reveal that status of income does not have any significant influence on any of the study variables. Hence the hypothesis (1.6.7a, b, c and d) which states that there is a significant effect of the status of infant on the study variables can be rejected.

For the analysis, two groups were identified based on the annual income. The grouping based on the statistical analysis by classifying the given data into three groups as mean + SD comprising the first group, mean ± SD as the second group and mean - SD as the third group reveal that income does not influence the study variables. To make the picture more clear, another grouping based on the Economic Survey of Kerala, published by Directorate of Economics and Statistics (1995) was utilized. As per the survey, the per capita annual income of an average family is Rs. 40,000/-.
which two groups had been identified in the present investigation as those having an annual income < Rs. 40,000 as group I and those having an annual income > Rs. 40,000 as group II.

The 't'-values indicated that status of income does not have any significant impact on the variables studied. Fathers' involvement tend to be intense or mild, temperament of infants being easy or difficult, attachment tend to be secure or insecure and the mothers being intense or frequent and thus positive or negative in their behaviour patterns regardless of the income level to which the infants belong. Figure 4.5 representing the effect of status of income on the study variables show that the mean values obtained for the two different groups each for the study variables did not differ much from each other. This may be due to the fact that among the sample studied, a drastic disparity in income was not to be seen. The environment studied was almost similar. A drastic disparity in income will affect the family ecology but in the sample studied difference in family ecology was not so obvious. Another reason can be attributed to the fact that at an early stage of infancy, the parents who belong to any socio-economic levels, may spend almost equal amounts of the free time available in routine caretaking activities. This active involvement of either of the parents or both the parents as the case may be will not be affected by disparity in income. This is in line with the findings of Kilbride et al. (1971) cited by Streissguth and Bee (1972), Tulkin and Kagan (1972) and Lawson and Ingleby (1974) who state that the income differences do not affect the extent of caretaking provided for the infant from two weeks to four year old in the amount of time spent in due proximity to him or in physical contact with him. Hence due to the active involvement of the parents, the other factors may remain unaffected even though the subjects belonged to different income levels.
5.18 Effect of interval between Marriage and Birth of the Child on the Study Variables, namely (a) Fathers' Involvement in Baby Care; (b) Baby's Behavioural Profile; (c) Attachment Patterns of Infants; and (d) Mothers' Behaviour Patterns

The results of the effect of interval between marriage and birth of the child on the various study variables, namely (a) fathers' involvement in baby care (vide, Table 4.18, F = 7.98, P<0.001), (b) baby's behavioural profile (vide, Table 4.18, F = 6.40, P<0.001), (c) attachment patterns of infants (vide, Table 4.18, F = 9.56, P<0.001) and (d) mothers' behaviour patterns (vide, Table 4.18, F = 8.57, P<0.001) favours the hypothesis (1.6.8a, b, c and d) which state that there is a significant effect of interval between marriage and birth of the child on all the study variables.

For the analysis, three groups were identified. Group I comprised of those with an interval of ≤2 years, group II had infants with an interval of >2 years but ≤4 years and group III comprised infants who had a gap of >4 years.

The present investigation found that an interval of ≤2 years are found to be the best giving the highest mean value for all the study variables, namely (a) fathers' in involvement in baby care (vide, Table 4.18, group I, mean (a) = 66.03), (b) baby's behavioural profile (vide, Table 4.18, group I, mean (b) = 47.59), (c) attachment patterns of infants (vide, Table 4.18, group I, mean (c) = 22.63) and (d) mothers' behaviour patterns (vide, Table 4.18, group I, mean (d) = 29.96. The superiority of the group having a gap ≤2 years may be due to the fact that at this stage the mothers would be getting help from the fathers in the care of infants and this as evident from the study has a positively significant relationship with the baby's behavioural profile (vide, Table 4.1, r = 0.95, P<0.001), attachment patterns of infants (vide,
Table 4.4, $r = 0.94, P<0.001$) and mothers' behaviour patterns (vide, Table 4.5, $r = 0.95, P<0.001$). Thus children with an interval of two years though too less contrasting to the common prediction are discovered to be the most attended to, showing better fathers' involvement, easy temperament, secure attachment patterns and mothers' behaviour patterns taking positive direction.

The present investigation gives another interesting revelation that second to these children come those who are born after a gap of four years and above. Here the mothers would have certainly finished with the time-consuming duties of looking after their first child and feel relaxed and interested in their new babies. Third among the group come the children who have found their way into the world after a gap of 2-4 years. Mothers in this case are neither free of the attention showing period nor do they feel relaxed as they come to their new-born, as concern towards their first child is still their pre-occupation. Figure 4.6 representing the effect of gap between marriage and birth of the child on the study variables show that group I with a gap of $\leq 2$ years had the maximum scores obtained for all the study variables followed by group III with a gap of $>4$ years followed by the group with a gap of $>2$ years but $\leq 4$ years. Hence in the Figure 4.6 there was a decline of the scores obtained from group I to group II and then an increase in the mean values obtained for group III. Thus it is clearly evident from the study that the interval between marriage and birth of the child has a definite impact on the study variables.
5.19 Effect of Nature of Infant Care Provided on Fathers’ Involvement in Baby Care, Baby’s Behavioural Profile, Attachment Patterns of Infants and Mothers’ Behaviour Patterns

Recent years have seen a number of women participating in the work force. It has led to a substantial proportion of young children spending parts of the day in day-care centres. In the present study three groups have been identified based on the nature of infant care provided. Group I comprised subjects whose mothers or other family members take care of the infants. Group II had infants who are looked after mostly by servants and group III had infants who are sent to a day-care centre.

The results of the effect of the nature of infant care provided on the study variables, namely (a) fathers’ involvement in baby care (vide, Table 4.19, $F = 3.15$, $P<0.01$); (b) baby’s behavioural profile (vide, Table 4.19, $F = 2.08$, $P>0.05$); (c) attachment patterns of infants (vide, Table 4.19, $F = 3.36$, $P<0.01$) and (d) mothers’ behaviour patterns (vide, Table 4.19, $F = 1.88$, $P>0.05$) indicate that the hypothesis (1.6.9a and c) which states that the nature of infant care has a significant impact on fathers’ involvement in baby care and attachment patterns of infants can be accepted whereas the hypothesis (1.6.9b and d) which states that the nature of infant care has a significant impact baby’s behaviour profile and mothers’ behaviour patterns is rejected.

The mean values obtained for fathers’ involvement in baby care indicate that group I comprising subjects whose mothers or other family members take care of the infants had maximum scores (vide, Table 4.19, group I, mean $a = 69.00$). This may be due to the reason that the parents and the family members prefer to share the task of baby caring among
themselves than depend on an outsider. The group in which mothers or other family members take care of the baby had the maximum involvement of fathers. Mothers of this group may feel at ease if the task is shared by their husbands. Next to this fathers’ involvement was better in the group where the infants were looked after by the servants (vide, Table 4.19, group II, mean (a) = 63.91). It may be due to the employment of the mother, the care by servants is resorted to. The study has pointed out that working status greatly influences fathers’ involvement in baby care (Vide, Table 4.23, F = 5.51, P<0.01). Another reason for assigning servants for the care of the infants include, being in a nuclear family, where the parents are left with no other choice but to rely on servants. The study is also supported by the findings that nuclear family affects fathers’ involvement in baby care positively (vide, Table 4.22, t = 9.74, P<0.001). Thus both the intervening variables, working status and type of family which make the parents, resort to servants for baby care, favour fathers’ involvement in baby care positively. Last among the group where fathers’ involvement in baby care was seen was the group in which the infants were sent to a day-care centres (vide, Table 4.19, group III, mean (a) = 61.19). Most of the parents resort to a day care only at a later stage than in initial months of infancy where adequate attention has to be provided. Thus the age of the infant and the quality of day care facilities provided may affect the involvement of fathers. The quality of the day care in terms of the ratio of staff and children; the professional skills and warmth of the staff, staff-parent communication etc., if better may impede fathers’ involvement in baby care. The parents who place their children in such good day care where ‘quality care’ is provided may themselves value independence in their offspring and this may be reflected in their minimum involvement in baby care activities.
While studying the effect of nature of infant care provided on baby's behavioural profile (vide, Table 4.19, $F = 2.08$, $P > 0.05$) and mothers' behaviour patterns (vide, Table 4.19, $F = 1.88$, $P > 0.05$) there was no significant effect. Baby's behavioural profile thus tend to be easy or difficult irrespective of the nature of infant care provided. This may point to the innate factors accounting for the baby's temperament. The mothers' behaviour will also tend to be the same irrespective of the nature of infant care provided. A typical mother as Kagan (1979) points out may be emotionally involved with her infant and is more likely to display positive behaviour patterns and to convey emotionally charged messages. It thus need not depend on the nature of care provided.

The nature of infant care provided affects the attachment patterns of infants with the group in which mothers or other family members take care of the infants showing maximum scores (vide, Table 4.19, group I, mean $(c) = 23.77$) followed by the group where infants are looked after by servants (vide, Table 4.19, group II, mean $(c) = 21.50$) and lastly by the group where the infants are sent to day care (vide, Table 4.19, group III, mean $(c) = 20.87$). Attachment patterns tend to be more secure in the first group compared to the other two groups. Security is found to be declining with the group, where infants are looked after in a day care showing minimum mean value. It is in line with the findings by Clarke-Stewart (1978) and Belsky and Rovine (1987) that disproportionate numbers of infants in day care are likely to be classified as insecurely attached. This again may depend upon the age at which the infant is placed in a day care. Figure 4.7 which depicts the effect of nature of infant care provided on the study variables show that the mean values obtained for fathers' involvement in baby care and attachment
patterns of infants for the three different groups each, show difference whereas the mean values obtained for the other two variables, baby’s behavioural profile and mothers’ behaviour patterns are almost similar.

5.20 Effect of Gender on Fathers’ Involvement in Baby Care, Baby’s Behavioural Profile, Attachment Patterns of Infants and Mothers’ Behaviour Patterns

The results of the effect of gender on the study variables, namely (a) fathers’ involvement in baby care (vide, Table 4.20, \( t = 4.66, P<0.01 \)); (b) baby’s behavioural profile (vide, Table 4.20, \( t = 4.64, P<0.01 \)); (c) attachment patterns of infants (vide, Table 4.20, \( t = 4.11, P<0.01 \)) and (d) mothers’ behaviour patterns (vide, Table 4.20, \( t = 4.64, P<0.01 \)) indicate that the hypothesis (1.6.10) which states that gender has a definite impact on all the study variables is favourably accepted.

Fathers’ involvement was found to be better in the case of males (vide, Table 4.20, group I, mean (a) = 65.94) compared to their female counterparts (vide, Table 4.20, group II, mean (a) = 57.84). From the study it was found that fathers were more involved in the routine care of boys than female infants. It may be due to the fact that the mothers feel at home or are more comfortable when the baby boy is taken care for such activities by the father since he may know more about a boy than a girl or it may be due the reason that fathers themselves are more comfortable with a baby boy than a baby girl for such activities.

Baby’s behavioural profile is also found to be affected by the effect of gender with male infants showing better scores (vide, Table 4.20, group I, mean (b) = 47.73) compared to female (vide, Table 4.20, group II,
mean (b) = 43.04). The reason can be attributed to the increased involvement of fathers in the care of male infants (vide, Table 4.20, group I, mean (a) = 65.94). The increased involvement of fathers may give rise to an easy temperament of the infants (vide, Table 4.1, r = 0.95, P<0.001). Most of the studies reported earlier indicate that fathers prefer to engage in more boisterous active play. The fathers may get his son take part in such active play than he would allow his female infants. The differential treatment can be partly explained by innate sex differences in infant behaviour and partly be due to cultural expectations. The intense and frequent interaction pattern of fathers in the case of boys, tend to be reflected in the easy temperament of boys. Boys in the study were found to be waking up cheerfully, being regular in routine activities like that of bowel movements and sleeping patterns. Jaisree (1991) has also found a significantly positive relationship (r = 0.82, P>0.001) between fathers' involvement in baby care and baby's behavioural profile. She has also noted that the fathers engage more in the care of baby boys as compared to that of girl's care. Hence it can be stated that the fathers who actively take part in the baby boy's routine care, enhances his behavioural profile in positive direction giving rise to an 'easy temperament'. Korner (1974) found that male babies were more vigorous in their activities during neonatal period and exhibited spontaneous startle and sudden convulsive movements of the whole body particularly when deeply asleep. Certain innate factors may also account for the differences in behavioural profile among the sexes. Hutt (1972), a supporter of this view reviewing through many studies and literature on related account came to the conclusion that some part of the brain is characteristically different for male and female babies.
Gender also plays a role in the attachment patterns of infants with the boys showing secure attachment patterns (vide, Table 4.20, group I, mean (c) = 22.35) compared to that of girls who exhibited more of an insecure attachment patterns (vide, Table 4.20, group II, mean (c) = 19.84). Boys in the present study exhibited secure attachment patterns by showing mild protest following mothers' departure seeks her when she returns and are easily comforted by her. Girls on the other hand exhibited insecurity in their attachment relationship by showing serious distress and protest following mothers' departure and initiated physical contact and cling on to the mother when she returns.

The reason can be attributed to the greater involvement of fathers' in the care of boys which enhance their attachment patterns. The present study gives a high positive relation between fathers' involvement in baby care and attachment patterns of infants (vide, Table 4.4, r = 0.94, P<0.001). The constant and active involvement of fathers in the care of boys, provide them an assurance that they can return to a reliable supportive caregiver. Berger and Thompson (1996) found that the fathers' presence made the infant much more likely to smile and play with a new person (stranger) than the mothers' presence, a result apparent for boys. It may be speculated that the boys who engage in boisterous and idiosyncratic play with the fathers consider his presence, a cue for playfulness which emboldens the child to engage with the stranger.

Gender when treated with mothers' behaviour patterns also revealed that the mothers exhibited positive behaviour patterns towards boys (vide, Table 4.20, group I, mean (d) = 29.91) as compared to that of girls (vide, Table 4.20, group II, mean (c) = 27.32). In the present study it was
found that the mothers' exhibited positive behaviour patterns like smiling, vocalizing, attending to the baby's cries etc. towards boys than towards girls. The reasons can be attributed to the fathers' active involvement in the care of boys (vide, Table 4.20, group 1, mean (a) = 65.94) and secure attachment relationship of boys (vide, Table 4.20, group 1, mean (b) = 47.73). The study also supports the positive relation between fathers' involvement in baby care and mothers' behaviour patterns (vide, Table 4.5, r = 0.95, P<0.001). Hence the active involvement of fathers in the care of boys leads to mothers' positive behaviour pattern towards boys. The fathers who actively took part in the boy's care activities, who in a way helped the mothers to be positive in their behaviour patterns towards boys. The boys who also exhibited secure attachment patterns (vide, Table 4.20, group 1, mean (b) = 47.73) made the mothers to take a positive direction in their behaviour pattern towards them (vide, Table 4.20. group 1, mean (d) = 29.91). The study has also proved the relation between attachment patterns and mothers' behaviour patterns (vide, Table 4.8, r = 0.89, P<0.001). The boys who exhibited 'easy temperament' (vide, Table 4.20. group 1, mean (b) = 47.73) also paved the way for positive behaviour pattern among mothers. The positive correlation obtained for baby's behavioural profile and mothers' behaviour pattern (vide, Table 4.7, r = 0.93, P<0.001) also account for the positive behaviour pattern towards boys. The boys who exhibited easy temperament were found to have mothers with positive behaviour patterns towards them whereas on the other hand the girls who showed more of a difficult temperament tended to become even more negative and awkward when confronted by mothers who were rigid and punitive to their difficult temperament. Thus the gender of the infant which affects the child's temperament is an important element in the way other
people will act towards him or her. Figure 4.8 depicting the effect of gender on the study variables reveal that in all the variables studied, the male infants were found to be superior than their female counterparts. The difference was obvious in the case of fathers’ involvement in baby care which showed wide difference between the mean values obtained for both the sexes.

5.21 Effect of Ordinal Position on Fathers’ Involvement in Baby Care, Baby’s Behavioural Profile, Attachment Patterns of Infants and Mothers’ Behaviour Patterns

The results of the effect of ordinal position on the study variables, namely (a) fathers’ involvement in baby care (vide, Table 4.21, $F = 18.24$, $P<0.001$); (b) baby’s behavioural profile (vide, Table 4.21, $F = 18.62$, $P<0.001$); (c) attachment patterns of infants (vide, Table 4.21, $F = 17.22$, $P<0.001$) and (d) mothers’ behaviour patterns (vide, Table 4.21, $F = 18.43$, $P<0.001$) reveal that there is a significant impact of ordination position on the study variables. Hence the hypothesis (1.6.11) which states that ordinal position has a significant impact on all the study variables can be accepted.

In the present investigation based on the ordinal position, two groups had been identified. Group I had all the infants who are born first including the only child. Group II include infants who are later born which comprise second or third born. The mean values obtained for fathers’ involvement in baby care was found to be superior in the case of first born (vide, Table 4.21, group I, mean (a) = 65.40) compared to that of later born infants (vide, Table 4.21, group II, mean (a) = 57.82). In the study, the fathers of first born infants tend to be active in the routine care of the infants. They were found to be more alert and attentive to their children’s needs. For those who had two or more children, the fathers’ involvement tend to be of lesser intensity and
frequency. This may be due to the fact that the fathers with an 'only child' or the first child pay greater attention as there is a touch of novelty in all that they find. The fathers would want to be perfect in every way spending ample resources to take care of the baby. The first child has more time alone with the parents than subsequent children by virtue of having no siblings until the second child is born.

The other intervening variables which accord for superiority of first born include the educational status of the parents and the age of the parents. The economic factors may also attribute to getting adequate stimulation for the first born infants.

Baby's behavioural profile is also affected by the ordinal position of infants (vide, Table 4.21, $F = 18.62, P < 0.001$) with the first born being superior (vide, Table 4.21, group I, mean (b) = 47.44) than the later born infants (vide, Table 4.21, group II, mean (b) = 43.00). The first born babies in the present study were found to exhibit easy temperament by being a cheerful baby where needs could be anticipated and met relatively easily than a baby who cries constantly and resists being cuddled.

The ordinal position which affects fathers' involvement in baby care (vide, Table 4.21, $F = 18.24, P < 0.001$) paves the way for an easy temperament. Fathers who are actively involved in the care of the first born also give way to an easy temperament in them. Mothers' behaviour pattern of the first born or the only child are found to be better than the later born infants (vide, Table 4.21, group I, mean (d) = 29.75 for first-borns and group II, mean (d) = 27.31 for later-borns). The study also reveal the influence of mothers' behaviour pattern on the baby's behavioural profile (vide, Table 4.7, $r = 0.93, P < 0.001$). Thus the ordinal position which has an effect on fathers'
involvement in baby care and mothers' behaviour patterns act as intervening variables to affect baby's behavioural profile positively.

The effect of ordinal position on the attachment patterns of infants (vide, Table 4.21. F = 17.22, P<0.001) with the first borns scoring better (vide, Table 4.21, group I, mean (c) = 22.27) than the later borns (vide, Table 4.21, group II, mean (c) = 19.71) indicate the superiority of first born in the attachment patterns. In the present investigation it was found that the first born and the only child exhibited secure attachment patterns as indicated by showing mild protest following mothers' departure, sought her when she returned and were easily comforted by her whereas the later born infants showed more of an insecure attachment patterns who were seriously distressed showing protest following mothers' departure and a desire for close physical proximity by clinging on to her when she returned.

The first born or the only child being superior in the attachment patterns may be due to the fact that their fathers are getting more involved (vide, Table 4.21, group I, mean (a) = 65.40) and mothers are being positive in their behaviour patterns (vide, Table 4.21, group I, mean (d) = 29.75) both of which have a definite influence on attachment patterns of infants fathers involvement in baby care (vide, Table 4.4, r = 0.94, P<0.001) and for mothers' behaviour patterns (vide, Table 4.8, r = 0.89, P<0.001). This is also in line with the findings of Ainsworth (1993) and Isabella (1993) who are of the view that among the caregiving features that assert the quality of attachment are (1) general sensitivity to the infants' needs; (2) responsiveness to the infants' specific signals; and (3) talking and playing with the infant in ways that actively encourage the attachment patterns of infants. Thus in the case of the only child or the first child with the mothers' positive behaviour
pattern, the timely responsiveness to the infants' signals and the fathers' active involvement the infants are found to exhibit secure attachment patterns.

The effect of ordinal position as the mothers' behaviour pattern (vide, Table 4.21, $F = 18.43, P<0.001$) with the first born scoring better (vide, Table 4.21, group I, mean (d) = 29.75) compared to the later born infants (vide, Table 4.21, group II, mean (d) = 27.31).

Mothers tend to be more responsive in the case of their first born children as they may have ample time and energy to do so. In the case of later born infants, the demands made by the other siblings of the child may impede the positive behaviour patterns. The study notes that the mothers of first born devoted more time and attention to their needs. The mothers were also found to be better in the intensity and frequency of her contacts (visual, tactual and verbal) with the first born infants. The easy temperament (vide, Table 4.21, group I, mean (b) = 47.44) and greater involvement of fathers in the care of first born (vide, Table 4.21, group I, mean (a) = 65.40) both of which have a definite relationship with the mothers' behaviour patterns respectively for baby's behavioural profile (vide, Table 4.7, $r = 0.93, P<0.001$) and fathers' involvement in baby care (vide, Table 4.5, $r = 0.95, P<0.001$). A few other studies which show superiority of first born include that of Sears et al. (1957) who assign the explanation for the superiority of first born over the later born infants to be probably social rather than biological. Gopinath (1994) in her study on the inter-relation between attachment behaviour of infants and their mothers behaviour pattern states that in families with birth order of the child being fourth or fifth the mothers had limited time and energy to provide stimulating behaviours which may act as one of the reasons for them to lag behind the first born and the only child. Figure 4.9
representing the effect of ordinal position on the study variables reveal that first born infants show superiority in all the variables studied with maximum scores obtained for group I comprising first or the only child.

5.22 Effect of the Type of Family on Fathers' Involvement in Baby Care, Baby's Behavioural Profile, Attachment Patterns of Infants and Mothers' Behaviour Patterns

The results of the effect of type of family on the study variables, namely (a) fathers' involvement in baby care (vide, Table 4.22, t = 9.74, P<0.001); (b) baby's behavioural profile (vide, Table 4.22, t = 9.10, P<0.001); (c) attachment patterns of infants (vide, Table 4.22, t = 8.38, P<0.001) and (d) mothers' behaviour patterns (vide, Table 4.22, t = 8.93, P<0.001) reveal that type of family has a strong impact on all the study variables with infants belonging to nuclear families being superior in all the study variables compared to those belonging to joint families. Hence favouring the hypothesis (1.6.12) which states that there will be significant impact of type of family on the study variables.

Fathers' involvement when treated with the type of family revealed that the group with infants belonging to nuclear families exhibited intense and frequent involvement of fathers in their routine care (vide, Table 4.22, group I, mean (a) = 68.42) compared to that of joint family (vide, Table 4.22, group II, mean (a) = 54.22). The study showed that in nuclear families fathers were found to be actively involved in baby care activities like feeding, cleaning, dressing the baby, watching the baby when the mother is busy and also making changes in the working schedules to incorporate caring of the child whereas fathers of joint families were found to participate in the above said activities to a lesser intensity and frequency only.
The reasons for the fathers of nuclear families to be actively involved in the baby care may be due to the fact that in such families the childcare responsibilities are to be shared among the parents as there is no one else whom they could seek help from. Mothers will have to rely fully on their husbands. Nuclear family also imposes the advantage of having only a few members which in turn facilitates maximum utilisation of the available resources of money, time and energy by the fathers. Hence the fathers will be able to actively engage in caretaking activities. In joint family on the other hand, with many members, the fathers may feel that there are others who could lend a helping hand for his wife during his absence, hence he may refrain from getting actively involved in the care of infants.

Baby's behavioural profile was also found to be better in the nuclear families (vide, Table 4.22, group I, mean (b) = 49.04) than joint families (vide, Table 4.22, group II, mean (b) = 41.12). The infants belonging to nuclear families were found to be easy in their temperament. The babies were found to wake up cheerfully, have regular sleeping patterns and bowel movements. His needs could be anticipated and met relatively easily. This may be accounted by the fact that nuclear families which showed better scores of fathers’ involvement (vide, Table 4.22, group I, mean (a) = 68.42) provided the children with a stimulating environment conducive to the development of easy temperament. In nuclear families the economic hardships may be comparatively lesser compared to the joint families with many members. Hence the parents will be in a position to shower their infants with ample care and thus resulting in an enriched family atmosphere. The quality of family relationships also favours the baby’s behavioural profile. Thus the nuclear family with an enriched atmosphere provided by the active
involvement of fathers resulted in infants having an easy temperament. The joint family, on the other hand with more than one member to look after the baby encountered, a variety of experiences where the child was simultaneously confronted with several individuals. Hence the baby although getting a large quantity of care from different adults was not provided with 'quality care' which is an important element in the behavioural profile of infants. This may be the reason for the low scores of temperament in babies belonging to joint family (vide, Table 4.22, group II, mean (b) = 41.12).

Attachment patterns of infants when treated with the type of family environment showed that infants belonging to nuclear families had better scores (vide, Table 4.22, group I, mean (c) = 23.15) showing more of severe attachment relationships. The infants belonging to the nuclear families were found be showing mild protest following mothers’ departure and were readily comforted if distressed but those belonging to the joint families were found to be anxious to leave their mothers and when reunited were found to be distressed refusing to be comforted.

The nuclear family with the father and mother may provide quality care which enhances security in their attachment to specific people but on the other hand the joint families where there was a variation in routine caretaking practices by other family members interacting with the baby most of the time tend to be lower in their attachment scores (vide, Table 4.22, group II, mean (c) = 18.68). This may again stress the importance of 'quality of care' provided by a few members belonging to the nuclear families rather than the quantity of care provided by many members of joint family. The constant and the active involvement of the fathers in the nuclear family gives the infant an assurance that he or she can return to a reliable supportive caregiver during
stressful situations, but in joint family the fathers who are lesser involved (vide, Table 4.22, group II, mean (a) = 54.22) may not provide the infant with such an assurance. Thus the fathers' involvement in nuclear families which actively promotes secure attachment in infants account for the superiority of infants belonging to nuclear families. It is in line with the findings of Easterbrooks and Goldberg (1984) who state that the quality of fathers' involvement in the care of the child affects attachment of the child.

Mothers' behaviour pattern was also found to be superior in the case of nuclear families (vide, Table 4.22, group I, mean (d) = 30.61) than in joint families (vide, Table 4.22, group II, mean (d) = 26.29). The superiority of mothers' behaviour pattern in nuclear families was evident from the frequency and intensity of contacts initiated by the mother, type of stimulating and entertaining activities. The nuclear families which provide the infants with such stimulating activities due to an increased involvement of fathers helped the mothers to develop positive behaviour patterns. The easy temperament exhibited by the babies (vide, Table 4.22, group I, mean (b) = 49.04) also elicited positive behaviour patterns among mothers. As the study shows behavioural profile is positively related to mothers' behaviour patterns (vide, Table 4.7, \( r = 0.93 \), P<0.001). The infants classified as having easy temperament who belonged to nuclear families were found to have mothers with positive behaviour patterns. On the other hand, those with a difficult temperament tended to become even more negative when confronted by mothers who were rigid to the infants' difficult temperament. The other intervening factors may include parental marital relationship, age of the parents etc. Figure 4.10 depicts the effect of the type of family on the study variables show that infants belonging to nuclear families are found to be
superior than those from joint families in all the variables studied, with a wide difference seen in the fathers' involvement in baby care and baby's behavioural profile.

5.23 Influence of Working Status on Fathers' Involvement in Baby Care, Baby's Behavioural Profile, Attachment Patterns of Infants and Mothers' Behaviour Patterns

More and more mothers, taking up employment in recent decades has put the focus on the consequences of its effect on the development of children. The present study attempts to assess the effect of working status on the study variables. Group I and group II consisting of working and non-working mothers respectively were taken into consideration in the present study.

The results of the effect of working status on the study variables, namely (a) fathers' involvement in baby care (vide, Table 4.23, $F = 5.51$, $P<0.001$); (b) baby's behavioural profile (vide, Table 4.23, $F = 3.99$, $P<0.01$); (c) attachment patterns of infants (vide, Table 4.23, $F = 6.03$, $P<0.001$) and (d) mothers' behaviour patterns (vide, Table 4.23, $F = 4.68$, $P<0.01$) reveal that working status has a significant influence on all the study variables. Hence the hypothesis (1.6.13) which states that working status has a definite impact on all the study variables is accepted.

The results indicate that F-value for fathers' involvement is significant statistically (vide, Table 4.23, $F = 5.51$, $P<0.001$) with the fathers getting more involved in the group comprising working mothers (vide, Table 4.23, group I, mean (a) = 64.40). The fathers tend to get actively involved in the baby care activities right from the mothers' pregnancy. They involve in baby care activities like waking up the child, changing nappies, feeding, putting
them to sleep and looking after the baby when the mother is busy. The active involvement of fathers in the care of working mothers may be due to the fact that the fathers are quite aware from his own experience that holding a job demands a major portion of the available time and energy. Hence the caring of the baby has to be shared and he refrains himself from being a mere spectator. It may also be due to the fact that the working mothers' home environment may be providing the infant with better parent-child interaction, better parental participation in infants' activities, right type of help in their routine activities and also with appropriate system of feedback. This may also be attributed to the fact that the mothers were better educated than the non-working mothers. The working mothers may also be aware of the salience of fathers in the care and development of children and will actively encourage their husbands to share the task.

But in the case of non-working mothers, the fathers may presume that the mothers have at their disposal, sufficient time and energy to attend to the baby's needs. It may also be due to the fact that the non-working mothers do not encourage their husbands to involve in baby care activities due to lack of awareness on the importance of the father in the child's lives and may feel reluctant to tax their husbands with the work of baby caring. All these reasons cited may account for the minimum involvement of fathers in baby care activities of non-working mothers (vide, Table 4.23, group II, mean (a) = 60.13). This is supported by the findings of Tilker (1975) that more and more fathers take an active and involved interest in their children's growth and development especially when the mother works. Hoffman and Nye (1974), Gold and Andres (1978), Spock (1979) and Mussen et al. (1984)
also state that the fathers of working mothers are more involved in baby care than are the fathers of non-working mothers.

The results of the significant effects of working status on baby's behavioural profile (vide, Table 4.23, $F = 3.99$, $P<0.01$) reveal that baby's behavioural profile is affected by the working status of the mothers. The temperament scores were found to be better, with the children found to exhibit easy temperament in the case of working mothers (vide, Table 4.23, group I, mean $d = 46.67$). The better education and the superiority of the home environment of working mothers pave the way for better stimulation provided at home for the children. The working mothers may also compensate for their absence by planning activities that they can enjoy together. They may also feel confident to let their husbands share the task of baby caring. Thus as the study reveals the positive behaviour pattern of mothers (vide, Table 4.7, $r = 0.93$, $P<0.001$) and greater involvement of fathers (vide, Table 4.1, $r = 0.95$, $P<0.001$) each may give rise to an easy temperament in infants and respectively.

The $F$-value (vide, Table 4.23, $F = 6.03$, $P<0.001$) clearly depicts the significant effect of working status on the attachment patterns of infants. The mean values for the attachment scores obtained for working mothers tend to be better (vide, Table 4.23, group I, mean $c = 21.99$) than their non-working counterparts (vide, Table 4.23, group II, mean $c = 20.44$). Thus revealing that the infants of working mothers tend to be securely attached than the infants of non-working mothers.

Infants with working mothers tend to show mild protest following her departure, seeks her when she returns and are easily comforted by her whereas those with non-working mothers had their mothers with them round
The infants in this case were found to be seriously distressed showing protest during mothers’ departure and cling on to her when she returns, indicating insecure attachment relationship.

The secure attachment exhibited by infants with working mothers may be due to the fact that the mothers arrange the activities to compensate for their absence thus stressing on quality of care rather than its quantity. The positive mothers’ behaviour patterns exhibited by working mothers (vide, Table 4.23, group I, mean (d) = 29.37) may account for the secure attachment in infants. The positive behaviour patterns of mothers as the study proves leads to better involvement of fathers in the care of infants (vide, Table 4.5, r = 0.95, P<0.001) and also secure attachment patterns in infants (vide, Table 4.8, r = 0.89, P<0.001). The other intervening factors such as the sex of the child, age of the infant when mothers took up jobs, marital satisfaction, number of hours spent for work also affect the security of attachment relationship. Bower (1977) in a study found that infants of employed mothers do not differ from those of non-employed mothers in the nature of their attachment to them, but Belsky et al. (1989) findings unlike the other studies seems to indicate that maternal absence for the major part of the day during the first year of life may be associated with patterns of attachment that show some degree of insecurity. The age of the infant at which the mothers took up employment also acts an intervening variable. Chase and Owen (1987) indicated that early resumption of employment may not impede the development of secure infant attachment.

The influence of working status on mothers’ behaviour patterns indicate F-value to be significant statistically (vide, Table 4.23, F = 4.68, P<0.01) with the working mothers seem to show better behaviour pattern (vide, Table 4.23,
group I, mean (d) = 29.37) than the non-working mothers (vide, Table 4.23, group II, mean (d) = 28.11).

This may be due to the fact that the working mothers in the present study try to compensate for leaving home everyday by setting aside certain hours to be with the children and thus stressing on the quality of their behaviour pattern within the available period of time. They exhibited a better quality of behaviour pattern like cuddling, talking to the baby while feeding and bathing and thus making the baby more aware of her affection. It can also be attributed from the present study that the working mothers who are better educated, may be aware of the importance of providing better stimulation and getting their husbands help in baby care activities. Fathers' involvement in baby care as the study shows influences the mothers' behaviour patterns (vide, Table 4.5, r = 0.95, P<0.001). A few other studies also support the present investigation. As Hetherington and Parke (1986) have pointed out that when mothers were encountering stress and had few supports available, they were less responsive to their infants. In the present investigation, it was noted that for working mothers who were encountering stresses had fathers who acted as supportive measures which enabled the mothers to relieve the tension to some extent and to be positive in their behaviour pattern towards infants. Klaus and Kennel (1982) in their observation of Guatemalan mothers found that those receiving social support were more likely to respond to their babies by talking, smiling and gently stroking. Thus the working status which enhances the involvement of fathers in the case of infants affects mothers' behaviour patterns positively. Figure 4.11 representing the effect of working status on the study variables indicate that group I with working mothers had maximum mean values obtained for all
the variables studied compared to group II to non-working mothers which thereby stress the superiority of the group with working mothers.

5.24 Effect of Interval between the Child and the Younger or Older Child on Fathers’ Involvement in Baby Care, Baby’s Behavioural Profile, Attachment Patterns of Infants and Mothers’ Behaviour Patterns

The family which is a constantly evolving unit, undergoes a lot of changes. The arrival and development of siblings may greatly affect the other young members present in the family. In the present study an attempt has been made to find out the effect of the interval between the child under study and the younger or older siblings on the study variables. Based on the interval, three groups had been identified those with a gap of less than or equal to two years as the first group, those with a gap of more than two but less than or equal to four years as group II and finally the third group comprised of those who had an interval of more than four years.

The results of the effect of interval between the child under study and the younger or older siblings on the study variables, namely (a) fathers’ involvement in baby care (vide, Table 4.24, $F = 7.91, P<0.001$); (b) baby’s behavioural profile (vide, Table 4.24, $F = 8.97, P<0.001$); (c) attachment patterns of infants (vide, Table 4.24, $F = 4.24, P<0.01$) and (d) mothers’ behaviour patterns (vide, Table 4.24, $F = 6.36, P<0.001$) indicate a significant impact on all the study variables favouring the hypothesis (1.6.14) which states that there is a significant effect of interval between child under study and the younger or older sibling on the study variables.

The mean values obtained for fathers’ involvement in baby care indicate that group I comprising of those with an interval of less than or
equal to two years had maximum scores (vide, Table 4.24, group I, mean (a) = 63.25) followed by Group III with a gap of more than four years (vide, Table 4.24, group III, mean (a) = 61.76) and finally group II with a gap of more than two years but less than or equal to four years (vide, Table 4.24, group II, mean (a) = 46.57). The figures reveal that fathers’ involvement is the greatest when the child under study had a sibling who is just two years younger or older. It shows that the fathers of this group have realized the need to inhand and has actively helped their wives in taking care of the baby. The mothers might find it difficult to cope with the demands of both the children and the fathers who readily share the tasks act as a psychological boon for the mother as reflected in their behaviour patterns towards the infants which also show maximum score for the group with a gap of less than or equal to two years (vide, Table 4.24, group I, mean (d) = 29.00) when compared to the other groups (vide, Table 4.24, group III, mean (d) = 28.76 and group II, mean (d) = 24.14) in descending order of scores respectively. The mean values obtained for baby’s behavioural profile (vide, Table 4.24, group I, mean (b) = 46.12, group III, mean (b) = 45.86 and group II, mean (b) = 35.86) and for attachment patterns of infants (vide, Table 4.24, group I, mean (c) = 21.52, group III, mean (c) = 20.71 and group II, mean (c) = 17.29) all point to the fact that maximum scores were obtained for group I with an interval of less than or equal to two years. The babies of this group exhibited more of an easy temperament. This is in line with the findings of the present investigation that fathers’ involvement greatly influences the baby’s behavioural profile (vide, Table 4.1, r = 0.95, P<0.001) and attachment patterns of infants (vide, Table 4.4, r = 0.94, P<0.001). The superiority of this group in all the study variables may also be due to other
intervening variables like the age of the parents, educational qualification, working status and type of family.

The mean values obtained for the study variables indicate that the next best group is the one having an interval of more than four years. At this stage the mothers would have certainly finished with the time-consuming duties of looking after their first child. They may feel relaxed and interested in their new babies. Mothers’ behaviour pattern towards the children will be positive which has a telling effect on fathers’ involvement in baby care (vide, Table 4.5, $r = 0.95$, $P<0.001$), baby’s behavioural profile (vide, Table 4.7, $r = 0.93$, $P<0.001$) and attachment patterns (vide, Table 4.8, $r = 0.89$, $P<0.001$).

The third group includes those who had siblings with an interval of more than two years but less than four years. Mothers at this stage may not be free nor would they feel relaxed as they come to the new-born as concern towards their first born is still their preoccupation. Thus parents at this stage tend to be busy as the elder sibling would have started going to a school which stresses on the mothers’ new task of meeting the baby’s intellectual demands in addition to their physical demands. The parental stimulation is likely to be less easily available. The parents will have to distribute their caregiving to include both the children who equally need care and attention. All these may account to the fact that the group is last in the order of effect, with regard to all the study variables. Figure 4.12 representing the effect of interval between baby under study and the younger or older sibling on the study variables reveal that group I with a gap of $\leq 2$ years showed the maximum mean value for all the study variables. But for group II, there was a decline in the scores and then for group III the mean values obtained for all
the study variables showed an increase. This shows the superiority of the first group followed by group III with an interval of >4 years followed lastly by group II with a gap of >2 years but ≤4 years.

Part III

5.25 Effect of the Study Variables on Baby's Behavioural Profile

From the results of the multiple regression analysis of the effect of fathers' involvement in baby care, attachment patterns of infants and mothers' behaviour patterns on baby's behavioural profile, it is clear that the overall effect of the study variables on baby's behavioural profile is highly significant (vide, Table 4.25. \( R^2 = 0.92 \)) i.e. 92% of the variation in baby's behavioural profile can be explained by the predictor variables, fathers' involvement in baby care, attachment patterns of infants and mothers' behaviour patterns. Hence the hypothesis (1.6.15) stating that the study variables make significant contribution to the behavioural profile of infants can be accepted.

From the investigation, it was found that baby's behavioural profile has been influenced by the other study variables which was evident from the high positive correlation obtained between fathers' involvement (vide, Table 4.1, \( r = 0.95, P<0.001 \)), attachment patterns (vide, Table 4.6, \( r = 0.92, P<0.001 \)) and mothers' behaviour patterns (vide, Table 4.7, \( r = 0.93, P<0.001 \)) each with baby's behavioural profile. The study also revealed that the fathers who were actively involved in the care of infants, infants with secure attachment patterns and mothers who were frequent and intense and thus positive in their behaviour patterns, all had babies with easy
temperaments. Among the three study variables, fathers' involvement in baby care seems to be the strongest predictor of behavioural profile (vide, Table 4.25 (a) partial regression coefficient of $V_{13} = 0.094$). The fathers who were actively involved in the routine care by feeding, cleaning, dressing the baby, watching the baby when the mother is busy and also incorporating changes in the working schedules to take care of the baby are found to have infants who exhibited easy temperament. The babies in all such cases were found to wake up cheerfully, play as usual when left alone and have regular sleeping patterns and bowel movements. The bidirectional effect is evident as it was seen from the investigation that easy temperament of infants studied enhance active involvement of fathers in caretaking activities.

The next in the order of effect on baby's behavioural profile is the mothers' behaviour patterns (vide, Table 4.25 (a) partial regression coefficient of $V_{16} = 0.071$). The mothers who exhibited intense or frequent behaviour patterns were found to have babies with easy temperaments. The principle of bidirectionality can be applied here as it was evident from the study that infants who were easy in their temperamental dispositions attracted intense and frequent behaviour pattern from the mothers. The two-way process is clearly seen from the study that an infant with a difficult temperament or behavioural profile tended to become even more negative when confronted by a mother who was rigid and punitive to the infant's difficult temperament.

The last in line of the effect on baby's behavioural profile is attachment patterns of infants (vide, Table 4.25 (a) partial regression coefficient of $V_{17} = 0.067$). From the investigation it was noted that infants who were secure in their attachment patterns showed mild protest following the mothers'
departure and were easily comforted by her on her return are found to have easy temperament characterized by waking up cheerfully, having regular sleeping patterns and bowel movements. Bidirectionality is evident as it was noted that babies with easy temperament procured secure attachment patterns whereas difficult temperament resulted in insecure attachment patterns among infants. Figure 4.18 depicts the individual effect of the predictor variables fathers' involvement in baby care, attachment patterns of infants and mothers' behaviour patterns on baby's behavioural profile the predicted variable which is represented in the centre of the circle. Based on the partial regression coefficients obtained from Table 4.25(b), the predictor variables are rank ordered and the most influencing variable is represented near the centre closes to the predicted variable and the other two are also represented based on their partial regression coefficients with the least influencing predictor variable at the periphery. From the figure, it may be noted that baby's behavioural profiles is influenced by fathers' involvement in baby care followed by mothers' behaviour patterns and lastly by attachment patterns of infants.

Thus it may be noted that there is a bidirectionality among the variables studied. Figure 4.19 makes the picture more clear by representing the four variables studied in a vicious cycle. The bidirectionality can be applied to bring forth the theorem that the fathers who are actively involved in the care of infants affects ↔ the infants' behavioural profile in an easy direction which in turn affects ↔ the attachment patterns to be secure which again influences ↔ mothers' behaviour pattern to be intense and frequent.
5.26 Effect of Sensitive Periods on Attachment Patterns of Infants

The results of the effect of sensitive periods on attachment patterns of infants (vide, Table 4.26, $F = 5.50$, $P<0.01$) is in favour of the hypothesis (1.6.16) which states that age of the infant has a significant impact on attachment patterns of infants. To make the picture more clear, the differential effect of individual age groups on attachment patterns of infants was assessed. Age groups having similar mean values, where the difference between the age groups were not significant were grouped into one cluster. It was seen from Table 4.26(a) that (6 and 7 months), (8, 9, 10 and 11 months), (12, 13, 14, 15, 16, 17 and 18 months) were similar in attachment scores. Thus forming three clusters with the group (8, 9, 10 and 11 months) showing maximum scores. Figure 4.20 represents the differential effect of age on attachment patterns of infants. It was noted from the figure that the attachment scores increase with an increase in age for 6, 7 and 8 months and maximum scores are obtained for 8-11 months. Figure 4.20 and Table 4.26(a) support the hypothesis (1.6.17) which states that there is a particular age group which show similar characteristics with regard to attachment patterns of infants.

The differential effect of individual age groups on attachment patterns reveal that attachment scores increased with an increase in the age of the infant with maximum scores obtained between 8-11 months with infants belonging to 8th month showing the highest score. The results can be discussed in terms of sensitive period hypothesis which states that there is relatively a short period of time where rapid organization of some kind is taking place which has a lasting effect on the organism. It was evident from
the investigation that the period 8-11 months showed the maximum attachment scores which can be regarded as the sensitive period. It is also in line with the studies of Ainsworth (1963), Schaffer and Emerson (1964) and Yarrow (1967) all of whom confirm on the phases in the development of attachment. They have agreed to the point that a phase of undifferentiated responsiveness proceeds a phase of differentiated and discriminating social responsiveness. This discrimination in turn proceeds a phase in which attachment becomes more active. The decline of mean values as the age of the infant advances may be due to the fact that the infant generalizes his attachment to other people. From the investigation it is found that during the period 6-18 months, three phases which differed significantly from each other thus forming three clusters (6 and 7 months), (8, 9, 10 and 11 months) and (12, 13, 14, 15, 16, 17 and 18 months) were identified.

Emerson (1964) found that there is a sensitive period with regard to social development in human beings. Schaffer and Emerson (1964) found evidence for social attachment among infants during the first quarter of the first year. They have found the infant showing distress when familiar person leaves or stranger enters the room. Ainsworth and Bell (1973) too joined in stating that 6-9 months are critical for the development of attachment. Although the range varied from 5 months to past 1 year. The intensity of attachment for specific individual peaked between 41-44 weeks and again at 78 weeks. It may be noted that the new motor skills developing between 44-78 weeks like crawling, standing and walking may be responsible for this peak in attachment scores.

Ainsworth (1963, 1967), Schaffer and Emerson (1964), Tennes and Lampl (1964, 1966) and Yarrow (1967) have all agreed to the fact that most
of the infants become attached to anyone at an age not before he has reached the stage of cognitive development at which he can conceive of another person as existing independently when outside his perception. The motor behaviours of infants at this stage will enhance caregivers' responsiveness. The timely responsiveness and attentiveness regarded as accelerating factors of attachment patterns contribute to the peak in attachment scores obtained during 8-11 months in the present investigation. The observed phases of the present study did not synchronize fully with the phases of the studies of Schaffer and Emerson (1964) and Ainsworth and Bell (1973). These differences can be attributed to the differences in sample, criteria and methods of study. But in can be proved from the investigation that age of the infant has an important part to play on the development of attachment and there is a critical period where maximum organization of attachment is taking place.