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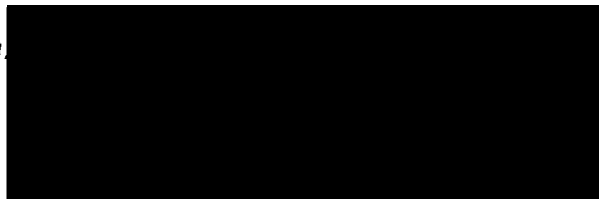
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A COMPARISON OF FAMILIES IN THE B.C. INFANT DEVELOPMENT
PROGRAMME AND MATCHED FAMILIES WITHOUT HANDICAPPED CHILDREN

by

Patricia A. Farrell

B.Sc., St. Francis Xavier University, 1979

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS
in the Department
of
Psychology



Patricia A. Farrell 1983

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July 1983

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ABSTRACT

The quality of the environment provided through the transactions of caregiver and infant is crucial to the well-being of any child. A nurturing and supportive environment is even more essential when the child's vulnerability is heightened by a handicap. This study examined the quality of the social environment provided by families with developmentally delayed children in the British Columbia Infant Development Programme (B.C. IDP) based on maternal responses to a 66 item questionnaire.

It was hypothesized that families with children in the B.C. IDP would show less feelings of maternal competence than their comparison families but that the two groups would not differ on their understanding of child development, their willingness to set limits on the child's behavior, their feelings of warmth and closeness towards the child, and their support from family and friends. It was also hypothesized that if the programme were effective in its aims the families which had been in the programme more than two years would show less distress than families which had been in the programme less than one year.

Fifty-six families were selected from five Lower Mainland IDPs. Half of the families had been in the programme more than two years, and half less than one year. Each of these families chose a comparison family with a nonhandicapped child matched to theirs on age, ordinal position, and sex.

A Principle Component Analysis of the questionnaire

identified three factors: family support, understanding of child development, and maternal competence. Analysis of Variance revealed that the only significant difference between IDP and comparison families was on the maternal competence factor. As expected, mothers of handicapped children reported that they felt less competent in caring for their child. The short and long term groups also differed on this factor, but the difference may have been due to differences between these groups on family socioeconomic status (SES) and child's age. High SES families and families with relatively young children reported greater feelings of incompetence than did lower SES families and families with older children.

Results are discussed in terms of their relevance to previous research and to the B.C. IDP.

DEDICATION

**To Gene who has provided me with
continuous support and faith**

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I. Introduction

Historically the birth of a child and the process by which the child is incorporated into the family has captured the interest of investigators in a wide variety of fields. The initial emphasis focussed on how the child was affected by the family into which he/she was placed. Subsequently the focus shifted to the impact of each child with his/her own particular pattern of characteristics on the family. More contemporary views consider how the characteristics of the child interact with established family characteristics to reciprocally influence one another over time. While research on the normal or disadvantaged child is prolific these more contemporary research concerns have seldom been extended to the case of the developmentally delayed child.

Given the scarcity of such research on developmentally delayed children, a review of child-family interaction studies on other child populations lays the foundation for the present work. The earliest studies on normal and disadvantaged children focussed on the effect of the family on the child, in particular, how the child's early environment influenced the level of intellectual development later achieved. It quickly became clear that the physical environment which was provided by the parents and the nature of the relationship which developed between child and caregiver were crucial components for optimal

development. Some specific aspects of the environment identified as salient for later intellectual or language skills include: the variety and amount of stimulation available in the home (Yarrow, Rubenstein, Pedersen and Jankowski 1972); sufficient and appropriate play materials (Bradley and Caldwell 1976a, Clarke-Stewart 1973, Wachs 1979, Yarrow et al 1972); affectionate, nonrestrictive, nonpunitive caregiving (Beckwith, Cohen, Kopp, Parmelee, and Marcy 1976); verbal stimulation and responsiveness to the child (Bradley and Caldwell 1976b; Clarke-Stewart 1973; Clarke-Stewart 1979; Elardo, Bradley and Caldwell 1977); the style of interaction between parent and child (Bee, Van Egeren, Streissguth, Wyman, and Leckie 1969); the contingent delivery of stimulation (Lewis and Goldberg 1969); as well as the overall condition of family life circumstances and emotional support (Whyler, Masuda, and Holmes 1971).

At this same time other researchers began to suggest that the child was not just a passive recipient at the mercy of the environment into which he/she was placed, but instead was an active participant in and elicitor of environmental stimulation (Lewis and Rosenblum 1979; 1974; Schaeffer 1977). Studies investigating the effects of child temperament (Thomas, Chess, and Birch 1968; Escalona 1968; Escalona and Heider 1959; Thomas, Chess, Birch, Hertzog and Korn 1963) or constitutional variability (Prechtl and Stemmer 1962; Wolff 1971), as well as numerous studies on child abuse (e.g., Gil 1970) and failure to

thrive (e.g., Gladstone 1971) all pointed to the effect the child had on the family and on the quality of care extended.

Sameroff and Chandler's (1975) comprehensive review of prospective studies revealed that the majority of children experiencing perinatal and postnatal biological insult were not intellectually handicapped in later life, thus confirming the importance of early environmental variables as predictors of later intellectual levels. They, along with other research reviewers (e.g., St. James-Robert 1979), propose that these mediating effects on subsequent development are due not just to the environment into which the child is placed, but also to the reciprocal nature of caregiver and infant interactions. Sameroff and Chandler postulate a continuum of caretaker casualty. Their transactional model stresses that the relationship between parent and child is an ever changing one, evolving over time, and that specific transactions between parent and child determine the course of subsequent development. Although reproductive casualty may play an initiating role in the production of later problems, it is the caretaking environment which will determine the ultimate outcome (Sameroff, 1978).

In reviewing the literature it quickly becomes obvious that neither the parents, the child, nor the physical environment can be viewed as a single determinant of any specific adaptive outcome. It is clear that we are dealing with multi-determined, interacting systems that are also undergoing change over time. At the minimum, any equation for predicting long range

developmental outcomes for a child must include time-monitored information concerning the caretaking environment, the child's constitutional make-up, and changing interaction patterns.

The quality of the environment provided through the transactions of caregiver and infant is even more crucial when the child is constitutionally handicapped. "When the child's vulnerability is heightened through massive or recurrent trauma, only an extremely supportive environment can help restore the normal integrative growth process" (Sameroff and Chandler, 1975, p236). However, theoretical and empirical studies suggest that parents face special difficulties in providing the optimal amount of physical and social stimulation to their handicapped child as they do for their other children. It may be that they believe that such stimulation is of little use since the child is unable to gain from it, or it may be that special characteristics of the child (e.g., lack of social responsiveness or abnormalities of muscle tone and posture) make interaction with the child less rewarding. The child may be prevented from mastering skills such as feeding or dressing because it is easier for parents to do these for the child, or because they have such low expectations of the child's potential. Opportunities for family interactions and interactions with friends and neighbors may be restricted through inconvenience or parental embarrassment, thus limiting the child's everyday experiences and opportunities for stimulation (Cunningham 1979, Prechtl and Stemmer 1962, Wolff

1971). Thus, the already handicapped child becomes susceptible to what Cunningham calls secondary handicap, resulting from lack of parental contact and environmental deprivation.

Conner, Williamson, and Seipp (1970) believe that in order to provide their handicapped child with the same nurturing environment which they provide for their nonhandicapped children, parents must utilize sound child rearing practises and have confidence in their ability to influence the child. Moreover, they need to be aware of the supplementary nurturing role of family and community supportive systems. A realistic understanding both of the child's atypical development and what parents can do to encourage that development, the support and encouragement of other family members, and an external support system providing information and assistance are essential if the family is to understand and accept their handicapped child. This, in turn, should enable parents to develop a nurturing relationship with their child (Schell 1981).

The following sections examine theoretical papers and empirical research concerning the effect of the child's handicap on both the developing parental-child relationship and parental understanding of their child's development, as well as the effect of the handicap on the other family members. These studies have typically not included families participating in any type of external support system. Since nearly all families with children at developmental risk are currently enrolled in some type of program which can be expected to modify family

dynamics, previous research findings may need to be re-evaluated.

Parent-Infant Social Interactions

Early research focussed almost exclusively on parental reactions to the identification of the child as handicapped. Commonly cited reactions include denial of abnormality, disappointment and frustration, guilt, bitterness, hostility, and withdrawal (Baum 1962, Beqab 1966, Cohen 1962, Dalton and Epstein 1963, Grebler 1952, Roos 1977, Tisza 1962). These parental reactions often have a reverberating impact since interactions with the infant will be disturbed when parents are depressed and anxious about the child's abnormal condition. When the handicap is severe or when the child's physical appearance is affected (e.g., Spinal Bifida, Down's Syndrome, Hydrocephalus) the parents must not only come to terms with their own feelings of grief and bitterness, but are also forced to deal with the negative reactions of family, friends, and even strangers (Schell 1981, Tolleson 1978). As a result of these feelings of shame and grief, mothers of handicapped children may reject the child and/or not respond to the child's early attempts to communicate. The child may be handled perfunctorily or isolated from contacts with others and from enriching experience (Howard 1978).

The child's disability also contributes to the quality of the interactions. The atypical infant may not have the same range of social interactive skills as the normal child. Eye contact, smiling, and facial expressions may be affected by aberrant muscle tone, and a consequential droopy expression may be interpreted as a lack of interest in or comprehension of the environment (Connor et al 1978). As a result, the handicapped child may not be able to elicit and/or establish the same type of reciprocal relationship with the caregiver as would the normally developing child.

Verbal interactions may also be affected by the infant's handicap. Francis (1971) and Jeffree and Cashdan (1971) noted observable differences in the types of verbal interactions between parents and their handicapped children as compared to their normal children. Jones (1976; 1979) also found qualitative but not quantitative differences in mother-child interactions with normal as compared to Down's Syndrome infants. The Down's Syndrome infants repeatedly demonstrated poor timing in their interactions creating considerable difficulties for their mothers as partners in the interaction.

When the infant seems unresponsive to the parents or the parents are unable to interpret the infant's signals then the developing child-parent bond is likely to be fragile, leading to the negative transactional pattern discussed earlier. Parental knowledge of handicap limitations would assist parent-dyad social interactions.

Parental Response to Atypical Physical Development

The handicapped child's physical development also differs in numerous ways from that of the normal child. Abnormal muscle tone and/or exaggerated and persistent reflexive motor responses often interfere with or delay the attainment of motor milestones. A number of handicaps are likely to interfere with the normal development of expressive language. The form as well as the rate of perceptual development may differ in some handicapped infants. Down's Syndrome and premature infants, for example, do not show the same pattern of habituation and preference for novel stimuli as do normal children (Miranda 1976; Miranda and Fantz 1973, 1974; Sigman and Parmelee 1974).

Families whose children are identified as handicapped at birth realize that they may have to alter their expectations, although they may not be sure precisely how. Families whose children are not identified until later know that their child's development is not typical, but they are not sure what is wrong or what they can do to encourage development. In either case, parents are left with enormous doubts about their role in nurturing their child's development and may experience a crisis of confidence in themselves and their ability to care for their child (Schell 1981; Wolfensburger 1971).

The consequences of lack of knowledge and feelings of inadequacy have been frequently debated. Some researchers

suggest that parents' uncertainty regarding the child's capabilities may lead them to infantize the child, to overindulge the child, and to refuse to set reasonable limits on behavior (e.g., Gayton 1975). In contrast, other researchers suggest that increased rejection rather than overindulgence characterizes the handicapped child-caregiver transactions (Peck and Stephans 1960).

In summary, it seems that a lack of knowledge of their child's atypical development may hinder the developing relationship between parents and child. Uncertainty over the child's capabilities may prevent parents from realistically viewing the child and setting reasonable expectations for behavior. This in turn increases the difficulty parents face in providing their handicapped child with an environment conducive to growth. Intervention programs aimed at improving parental understanding of their child should reduce this uncertainty and result in a better relationship between parent and child. Parents who do not have access to some type of support system willing to assist them in developing both realistic expectations and strategies for promoting their child's development may simply give up the struggle.

Family Support

The handicapped child presents a long term extraordinary stress to which the family must continually respond and adjust. Unfortunately the presence of a child's handicap not only alters the relationship evolving between child and mother, but may also disrupt the unity of the family. By doing so, it effectively undermines the form of support most accessible to the mother and causes a further deterioration of the social milieu in which the infant is placed.

Friedrich (1979) found that mothers who felt satisfied and secure with the marital relationship were much better at coping with the handicapped child. Unfortunately, the majority of studies suggest that the stresses of raising a handicapped child increase the risk of marital disharmony, separation, and divorce (Begab 1966; Lonsdale 1978; Tew, Payne, and Laurence 1974; and Wentworth 1974). Gath (1977) conducted a two year follow-up study of 30 families with newborn Down's Syndrome infants, and their matched control families. It was found that while none of the control families reported any marital deterioration, in the Down's Syndrome group 7% were divorced, 10% were separated, and 20% reported severe marital tension marked by high hostility and a lack of warmth between husband and wife. Travis (1976) reported that a recurring theme in families with a handicapped child is the father's abdication of responsibility and increasing absence from home, with the mother being forced to

assume more and more responsibility for the child. In addition to confirming the high rates of marital disharmony among parents with handicapped children, Tew et al (1974) also found that some marriages which appeared satisfactory on the surface were actually "too cohesive". The parental role was exaggerated at the expense of the personal role, and all activities became subordinated to the needs of the handicapped child.

The picture is not entirely negative, however. Gath (1977), while confirming that measures of marital disharmony were higher in families with handicapped children, also found evidence that some positive measures such as mutual concern and affection were higher in these families. The presence of a handicapped child can have a beneficial effect, drawing the parents closer together. In McAndrew's (1976) study 38% of the parents of handicapped children believed that their marriage had been enhanced by the birth of the handicapped child, while only 21% reported that their marriage had been adversely affected by the child. The conditions which determine whether the handicapped child draws the family together or disrupts it are not clear, although there is a suggestion that it depends on the financial and emotional resources of the family.

The impact of the handicapped child on normal siblings is unclear. Interviews with teenage siblings suggest few adverse effects (Graliker, Fisher and Koch 1962; Farber and Jenne 1963). However, studies on schoolaged children indicate that children with handicapped siblings have more social adjustment problems

than their peers (Gath 1972, Gath 1973, Fowle 1969, Lavigne and Ryan 1979, Tew and Laurence 1973). Teachers and parents described these children by such adjectives as unpopular, disobedient, restless, socially withdrawn, and irritable (Gath 1972, 1973; McAndrew 1976).

Discussion papers by Baumeister (1967) and Gayton (1975) point out that the handicapped child's high degree of dependence means that both mother and siblings must assume extra responsibility. When the handicapped child's presence means that the normal siblings have to relinquish their own time with the mother, a deterioration in the sibling-mother relationship may result. In response, the normal children may develop negative attitudes towards the handicapped child, they may start misbehaving outside the home, or they may develop somatic complaints in their attempts to gain attention.

Korn, Chess and Fernandez (1978) believe that the impact of the handicapped child need not necessarily be severely distressing or degenerative if the parents receive extensive social support. The most frequent source of help and support to which parents turn in times of need are the grandparents (McAndrew 1976). When grandparents show sympathy and understanding to the parents the result is increased marital harmony and increased parental self-esteem, as well as more positive feelings towards the child. Yet, families with handicapped children frequently report receiving much less effective support from their child's grandparents than do

families with normal children (Howard 1978). Davis (1967) found that while more than 75% of normal families reported receiving effective support from the grandparents, fewer than 50% of the families with handicapped children had effective support. Gayton and Walker (1974) believe that grandparents may have even more difficulty accepting the child's handicap than do parents. They frequently refuse to believe that anything is wrong, become angry when the matter is discussed, and encourage the mother to "find a different physician".

In addition, parental embarrassment over the child's handicap often causes parents to limit the amount of social contact with friends and family (Birenbaum 1970). This diminished social contact includes decreased visiting time, decreased home entertaining, and less frequent contact. This contributes to the reduction in the amount of support available to the parents and further reduces the child's opportunities for interactions with others.

Community Support Systems

The importance of external support for normal children is confirmed by findings that social support appears to be as potent as maternal education, for example, in predicting children's later intellectual and academic achievement (Bee, Barnard, and Eyres 1982; Whyler et al 1971). Since the early 1970s many American and Canadian families with special needs

children have been involved in some form of external support system, yet the effects of these programs have been virtually unexplored. Positive effects of supportive services on families with handicapped children were reported by Korn et al (1978). They found much less impairment of marital quality and family interactions in families with rubella children who had received supportive services than had other studies on families with handicapped children who had not received similar services. However, it may be that the handicaps associated with rubella are not as disruptive to family functioning as are more severe disorders, such as Down's Syndrome. In contrast, Waisbien (1980) found no beneficial effects for formal support systems such as help from professionals in a handicapped population. Unfortunately, his research examined only whether or not support was available in the community and failed to measure whether parents were receiving such support.

While the actual effects of external support systems on the child-caregiver relationship and family functioning have not been adequately investigated, it has generally been assumed that any support is better than none (Judson and Burden 1980). As a result every family with a child who is potentially at risk for developmental delay has been encouraged to enter an Infant Development Program. However, while essentially beneficial, some aspects of these programs may have negative implications for parents. To be effective it is important that the program not offset the parental sense of primary responsibility for the

child (Bricker and Casuso 1979). Yet it is not improbable to expect that parents in these programs may become discouraged when others are better able than they to care for the needs of their child. Gray and Wanderman (1980), in reviewing studies of disadvantaged children, found evidence suggesting that home intervention can overwhelm the mother and increase her feelings of inadequacy, passivity, and helplessness. Parents of handicapped children who have to deal with disabilities such as Spina Bifida where they must learn new and sometimes difficult techniques in order to provide for their child's most basic needs, or Down's Syndrome where they must learn to recognize and encourage small units of progress in order for their child to reach even minor motor milestones, may be even more likely to feel inadequate when faced with a competent and knowledgeable programme worker.

Summary

The reciprocal relationship which develops between child and caregiver is as important for the optimum development of the handicapped child as it is for any normal child. Yet the additional stresses on these parents as a direct result of the handicapping condition often means that they are less than capable of coping at this time. The child's atypical development and the impairment of normal interactional skills makes the establishment of a nurturing and rewarding caregiving

relationship difficult. The adjustments other family members must make because of the handicapped child can make them resentful and unsupportive, overburdening the mother and causing a further deterioration in the quality of care which the child receives. However, the birth of the handicapped child need not be a debilitating experience. The ability of the family to cope depends to a large extent on their understanding of their child's atypical pattern of development and the role they can play in encouraging that development, the emotional support they receive from family and friends, and the additional support and information the community provides. Researchers suggest that when these are present families are able to understand and accept their handicapped child, which in turn enables them to develop a nurturing relationship with that child.

Rationale For Present Study

The present study is an extension of the work of previous researchers investigating both the development of the reciprocal relationship between mothers and their handicapped child, and the impact of the handicapped child on the family support system. Furthermore, this study is specifically interested in the reactions of families involved in the British Columbia Infant Development Programme since past studies have overlooked the role formal support systems may play in modifying the impact of the handicapped child on the family.

The British Columbia Infant Development Programme is a home based intervention program for newborn to three year old developmentally delayed children. Children in the programme have a wide variety of handicapping conditions, ranging from mild delays in language or motor areas to severe physical and/or mental disabilities. The program attempts to provide parents with information and skills which will enable them to accept and respond to their handicapped child in positive ways, and to encourage their child's optimum development. In addition, it provides extensive support and encouragement to these families, particularly the mother.

In order to investigate the effects of the British Columbia Infant Development Programme on the relationship developing between child and family, a 66 item questionnaire was developed probing areas identified as important by previous researchers. These areas included maternal understanding of child development, confidence in caretaking ability, willingness to set limits on child behavior, warmth and closeness towards child, time to spend in activities with husband and other children, time to spend with relatives and friends, support from husband and grandparents, and behavior problems of the other children. Responses made by families with handicapped children in the British Columbia Infant Development Programme will be contrasted with responses made by comparison families having normal children, in order to identify areas of particular concern for families of handicapped children. This contrast is

necessary since the birth of any child will result in some family disharmony and increased stress, independent of the stress resulting from a handicapping condition. Ideally, we would also like to contrast these families' responses with responses made by matched families having a handicapped child not involved in any external support system. This is not possible, however, since the majority of B. C. families with handicapped children are involved with the programme.

Since the British Columbia Infant Development Programme provides information to the parents on their child's atypical development and the role they can play in encouraging that development, as well as extensive social support to the families, it is predicted that the results of this study will not be consistent with past research. Families in the Infant Development Programme will be more similar to their comparison families than previous studies suggest. In particular, given programme effectiveness, it is predicted that mothers in this program will not differ from their comparison mothers on their understanding of child development, their ability to set limits on their child's behavior, and the amount of closeness and warmth they feel toward their child. It is also expected that the Infant Development Programme, by removing some of the burden on the mother and providing external support, may improve family functioning, so that there is more emotional support available from the spouse and grandparents, more time for family and friends, and fewer problems with siblings. However, since the

mothers now have a role model who is able competently to care for their child while they are still learning new and sometimes difficult techniques, parents in the Infant Development Programme may feel less involved and less competent in their day to day care of the child than their comparison mothers.

Handicapped and developmentally delayed children enter the British Columbia Infant Development Programme at various ages; thus families with children having similar handicaps have been in the program differing lengths of time. If the British Columbia Infant Development Programme is effective the families who have been in the programme longest should be influenced by it the most, while families who are just entering the programme will be least affected. In an attempt to measure the effect of the programme on parental understanding and family interactions, families selected from the programme were chosen to provide an equal number of short term families (in the programme less than one year) and long term families (in the programme more than two years). We expect that findings from the short term families should be very similar to findings from previous research on families not in external support systems. In particular, it is predicted that the short term group in comparison to the long term group will show less understanding of their child's development, less ability to set limits on the child's behavior, less warmth and closeness toward the child, less time for family and friends, less support from husband and grandparents, and more problems with siblings. The short term group, however, may

feel more competent than the long term group in their ability to care for their handicapped child since they have not had as much time to contrast their abilities with or become dependent on the Infant Development Programme worker. There should not be any differences in the respective comparison groups since these families do not have handicapped or delayed children in the British Columbia Infant Development Programme.

II. Method

Subjects

One hundred twelve English speaking families from the Lower Mainland were participants in this study. Fifty six of the families were enrolled in the British Columbia Infant Development Programme (IDP), and were randomly chosen by programme coordinators from their caseloads. Of these families, 28 had children who had participated in the IDP less than one year and whose mean age was 13 months (age range=2-36 months), and 28 had children who had participated in the programme between one to two-and-one-half years and whose mean age was 24.9 months (age range=18-36 months). These families will be referred to as the experimental group. The other 56 families comprised a comparison group who were contacted by the families in the IDP. Each of these families were friends of an experimental family, and each had a nondelayed, nonhandicapped child of similar age, similar ordinal position, and same sex as the child enrolled in the IDP.

Within this sample of 112 families, nine paired families were from the New Westminister programme, five paired families were from the Burnaby programme, 11 were from the North Shore programme, 14 were from the Vancouver-Richmond programme, and 17

were from the Upper Fraser Valley programme. Seven additional questionnaires were distributed to family pairs, but were not returned by one or both members of the pair.

Questionnaires

The researcher developed a self-report questionnaire to assess maternal reactions to a handicapped or nonhandicapped child, and the effect of the child on family unity. Specific areas were selected on the basis of past studies which indicated that these were topics of particular concern for parents of handicapped children. Individual questions were adapted from instruments used by other researchers (e.g., Caldwell and Bradley 1978, Holroyd 1975, or Schaeffer and Bell 1958), or composed as a result of numerous meetings with advisors from the IDP. Care was taken to ensure that each question was not ambiguous, was not offensive to mothers of handicapped children, and would give necessary information on family functioning.

The entire questionnaire was pretested on two mothers, one having a delayed child in the IDP, and one having a nondelayed child not in the programme. Any difficulties encountered at that time were corrected before questionnaires were distributed. Questionnaire items are provided in Appendix A.

The questionnaire begins with a section on background information, which includes questions on parental age, education, occupation, income, number of years married, and

number of children. Families in the IDP also completed a section on their child's participation in the programme. All background questions were multiple choice where possible, otherwise short answer. Following the background section, written instructions informed mothers that the remaining 66 items on the questionnaire dealt with one particular child, the child identified by the infant coordinator, or who matched their friend's child in the IDP.

The 66 items chosen for the questionnaire included questions on maternal enjoyment of the child (e.g., I enjoy the time I spend with my child), feelings of competence in caring for the child (e.g., I feel capable of adequately looking after my child), maternal time demands (e.g., I still have time to do the little things I've always enjoyed), maternal relationship with the spouse (e.g., I find myself wishing my husband was more supportive of me), and the maternal relationship with siblings (e.g., My other children could be more help to me at home than they are now). Each question was rated on a five point Likert scale. Questions 1 to 43 were rated on a scale ranging from almost never, through seldom, sometimes, frequently, to almost always. Questions 44 to 63 were rated on a scale ranging from strongly disagree, through disagree, uncertain, agree, to strongly agree.

Procedure

The policy of the IDP has always been to ensure complete anonymity for the families who become involved in their programme. For this reason the researcher was never allowed contact with any of the families in the programme; instead, questionnaires were distributed and collected by the IDP employee who worked with the family. Questionnaires were numbered by the researcher, and the Infant Development worker was responsible for recording which family received which numbered questionnaire. The researcher identified completed questionnaires by number alone.

Questionnaires were distributed to Infant Development workers through a meeting held with the coordinators for the six Lower Mainland IDP's (New Westminster, Burnaby, Vancouver-Richmond, North Shore, Surrey, and Upper Fraser Valley). At that time the researcher briefly described the study, and discussed the procedure for selecting the experimental families. All areas except one agreed to participate in the study. Coordinators were instructed to select randomly the families from their caseloads (an example of a good random selection procedure was described), including an equal number of families who had been in the programme less than one year and families who had been in the programme more than two years. Since many of the programmes did not have enough children in this second group, some children who had participated in the

programme for more than 12 months, but less than 24 months, were included. Additional questionnaires were later distributed to coordinators in areas with larger caseloads: North Shore, Vancouver-Richmond, and the Upper Fraser Valley.

The families selected were given a package containing two questionnaires, two stamped addressed envelopes, and complete instructions on how to select an appropriate comparison family. Comparison families were to be friends of the family, having a child of similar age, ordinal position, and same sex as the child in the IDP, but the child was not to be handicapped or in any way involved in the Infant Development Programme. It was decided to allow each family to select its own comparison family in order to maximize their similarity on less easily measured variables, such as child rearing attitudes and personal values.

Each family who received a questionnaire was told that their participation was voluntary, that it would help the IDP in British Columbia improve services offered to families, and that all answers would be kept completely confidential. They were instructed to answer each question as honestly as possible, and it was explained that completed questionnaires could be sealed in the stamped envelope and returned via the Infant worker, or by mailing the questionnaire directly to the researcher. Infant workers would not see any individual family's responses, and the researcher would not have access to any family's name.

Scoring

The five categories of responses on the Likert scale were converted to numerical ratings, with possible scores ranging from one to five. A high score (close to five) always indicated a more positive attitude, and a low score (close to one) always indicated a more negative attitude. To agree with this coding strategy answers to questions which were negatively worded (e.g., I find it difficult to get close to this child) were transformed.

Grouping

Returned questionnaires were divided into four categories: a short term experimental group made up of families with children who had been participants in the IDP for less than 12 months, a long term experimental group made up of children enrolled in the programme for more than 12 months, a short term comparison group, and a long term comparison group. The short term and long term comparison groups were made up of comparison families chosen by their corresponding experimental families. The terms 'short term' and 'long term' are applied to comparison groups for convenience only, as no comparison family had ever been involved with the Infant Development Programme. A complete description of these four groups and their family backgrounds is given in Table 1. There were no significant group differences in

any of the family background factors shown in Table 1, except that the long term families contained older children and had a lower socioeconomic status.

Table 1
 Percentage Responses on Demographic Questions, Mean Age of Child
 and Family Socioeconomic Status

<u>Question</u>	<u>Response</u>	<u>Short Exper</u>	<u>Comp</u>	<u>Long Exper</u>	<u>Comp</u>
Siblings	none	43	30	15	30
	one	34	58	60	45
	two or more	23	12	25	25
Income	too little	46	28	55	22
	enough	51	62	40	61
	too much	3	10	5	17
Years Married	1-5 yrs	54	47	32	45
	5-10 yrs	26	29	42	30
	10+	20	24	26	25
Maternal Education	not gr. 12	20	6	20	10
	grade 12	47	59	50	70
	post-sec.	33	35	30	20
Paternal Education	not gr. 12	26	19	35	26
	grade 12	41	45	50	37
	post-sec.	33	36	15	37
Reason for Referral	physical	20		28	
	mental	37		44	
	delay	37		28	
	no diag	6		0	
Mean	Family SES*	43.7	47.3	39.6	37.8
Mean	Child age*	13.0	15.3	24.9	24.2

*Between Group Difference $p < .05$ for both short and long term groups.

III. Results

Although our hypotheses are stated in directional terms this is an exploratory study; in order not to miss possible group differences all significance tests will be two tailed looking for less than .05 probability in either direction. Mean scores for each of the 66 items on the questionnaire, both overall and for the four groups individually, are shown in Appendix A.

Principal Component Analysis

A principal component analysis was conducted in order to reduce the large number of variables for further analysis. The intent of this analysis was to provide factor scores that could be used to examine differences both within the experimental and comparison groups and between the short and long term participation groups. A total of 13 questions which could receive a "not appropriate" reply due to family composition (e.g., those dealing with the presence of siblings or grandparents) were excluded from the component analysis.

The principal component analysis conducted on the remaining 53 variables originally yielded 19 factors with eigenvalues greater than 1.0. A Scree Test (Cattell, 1966) identified several possible cut-off points; therefore, repeated orthogonal and oblique rotations of the data were conducted, using varimax and quarti-min,

and varying the number of factors selected. This procedure revealed that three uncorrelated factors produced maximum discrimination, and best accounted for the data. These three factors accounted for 23% of the variance. The variances accounted for by each factor are provided in Appendix B.

Table 2 illustrates variable loadings on each of the three factors. The following variables had high loadings on the first factor, labelled support from husband and friends: maternal confidence in ability to meet the child's needs or to find services to do so, support from husband, time for self, and time for activities with husband, friends, and family. The second factor, labelled maternal understanding of child development, consisted of the following variables: maternal understanding of child development, an ability to set limits on the child's behavior, feelings of closeness with the child, and a lack of resentment over the child's caretaking requirements. The third factor, labelled lack of maternal competence, consisted of negative loadings on the following variables: feelings of competence in caring for their child, a belief that they could care for their child better than others could, a belief that their child gave their life a special meaning it never had before and enjoyment of activities involving the child. This factor also included variables indicating a lack of pre-occupation with the child, and increased time for the husband and/or other children.

Table 2
Sorted Rotated Factor Loadings

Question	Factor 1	Factor 2	Factor 3
26 child attention	.68	.32	
18 time for self	.63		.17
38 not at limit	.62		
66 family	.62		
5 capable	.57		-.25
22 friends	.54	.21	
16 time for family	.51		.43
6 confidence	.50		
42 husband	.50		
47 child attention		.72	
46 child play		.51	
60 meaning			-.57
3 discuss child			-.36
19 relax	.34		.30
20 new situations		.36	
10 sit still		.40	
24 others think	.37		
1 control	.35		-.17
27 future	.27	-.26	
28 enjoy child	.43	.27	-.34
29 not preoccupied	.25		.34
30 teasing		.31	
32 husband	.41		
35 child responds	.31	.25	-.37
36 behavior		.30	
4 others better			.46
39 acquaintances	.37		-.43
40 husband		.34	.16
13 family	.28		.44
45 no purpose		.30	.49
11 praise child	.26	.26	-.20
15 crying		.28	
49 talking to		.45	
50 curiosity		-.25	
51 fragile		.40	
52 development		.38	
53 sit still		.45	-.28
54 meet others			-.34
56 own toys		-.30	-.15
57 importance	.32	.23	
58 meet new people			-.41
59 development	.28	.29	
17 confident	.39	.32	-.32
61 outings	.45		-.16
62 services	.35		-.20

63 family	.36		-.16
64 child closeness	.35	.50	-.23
65 care	.35		
12 importance			-.33

Analysis of Variance

The mean scores for each of the four groups on each of the three factors were computed using each subject's factor scores. These are presented in Table 3. Three separate analyses of variance were conducted, one for each factor. All were 2 x 2 factorial analyses with condition (experimental or matched comparison group) treated as a within groups independent variable, and participation length (short term or long term) as a between groups independent variable. Treating condition as a repeated measures variable is a conservative test of significance allowing for the possibility that the groups may be matched on some variable since comparison groups were not randomly selected but were solicited through the experimental families. The dependent variable in each case was the factor score for one of the three factors. Results for each of these analyses are presented in Appendix B.

For the first dependent variable, support from husband and friends, there were no significant main effects for condition $F(1,54) = .003$ $p > .05$ or for participation length $F(1,54) = .27$ $p > .05$, and there was no interaction $F(1,54) = .72$ $p > .05$. On the second dependent variable, maternal understanding of child development, there were no significant main effects for condition $F(1,54) = .08$ $p > .05$ or participation length $F(1,54) = .65$ $p > .05$, and there was no significant interaction $F(1,54) = 1.33$ $p > .05$. On the third dependent variable, lack of maternal competence, the main effect for condition approached significance $F(1,54) = 3.59$ $p = .055$, with both

Table 3
Individual Group Means and Standard Deviations on Factor 1, Factor 2, and Factor 3

	<u>Short Term</u> Mean	<u>S.d.</u>	<u>Long Term</u> Mean	<u>S.d.</u>
Factor 1: Support from Husband and Friends				
Experimental	0.108	0.93	-0.012	1.06
Comparison	-0.147	0.95	0.047	1.09
Factor 2: Maternal Understanding of Child Development				
Experimental	0.031	0.96	0.121	1.15
Comparison	0.058	0.75	0.186	-1.14
Factor 3: Maternal Lack of Competence				
Experimental	-0.123	0.93	0.495	0.95
Comparison	-0.331	0.98	0.068	1.01

comparison groups showing more competence and more enjoyment of their child than the experimental groups. There was a significant main effect for length of participation $F(1,54)=10.20$ $p=.0023$, with the two short term groups showing more competence and more enjoyment of their child than the long term groups. There was no significant interaction $F(1,54)=.04$ $p>.05$.

Families were assigned to either the short or long term group on the basis of the handicapped child's length of participation in the B.C. IDP. However, Table 1 shows that the two groups also differed on present age of the child and family SES (derived from paternal occupation according to Siegel's Prestige Scale, Siegel

1977) .

Given these obtained differences in family SES and present age of the child, the effect of these variables on maternal competence was examined in this exploratory study. Families were divided on the basis of the child's age into a young (less than one year) and an old (more than one year) group and on the basis of SES into a high (above 60), high medium (46-59), low medium (30-46), and a low group (below 29). A 2x2x4 factorial analysis of variance was conducted, with condition (experimental and matched comparison) treated as a within group independent variable, age and SES treated as between groups independent variables, and the third factor, maternal competence, as the dependent variable. Similar analyses were conducted on the first two factors but no significant differences were found on these factors.

Results pertaining to maternal competence indicate a significant main effect for SES, $F(3,48)=3.87$ $p=.015$, with higher SES families feeling more competent and reporting more enjoyment of activities with the child. A marginally significant main effect for age $F(1,48)=3.72$ $p=.060$ was also found, with parents of younger children feeling more competence and more enjoyment. No significant main effect for condition and no significant interactions were found. Mean scores on the maternal competence factor are presented in Table 4. Although the overall interaction was insignificant visual inspection of the data indicated the possibility of an interaction between SES and age in the handicapped group. A subsequent 2x4 analysis of variance looking at the effects of SES

and age in the handicapped group revealed an approaching significant interaction between SES and age in this group only $F(3,48)=2.32$ $p=.08$. The effect of SES on maternal competence depends on the age of the handicapped child.

Manova

Since items pertaining to the mother's parents, her spouse's parents, and her other children did not apply to all families as had previous items they were analyzed separately by Multi-Variate Analysis of Variance. Separate MANOVAs were computed for the six children's items, the three maternal grandparents' items, and the three paternal grandparents' items. One item, question 23, which contained more than 70 per cent missing data, could not be used in these analyses. MANOVAs were computed using length of participation as a between groups independent variable, condition as one within groups independent variable, and the various questionnaire items as a second within groups independent variable. For the items concerning siblings there were two main effects which approached significance, length of participation $F(1,12)=4.55$ $p=.0542$, and condition $F(1,12)=3.76$ $p=.0764$. Families in the long term group reported more problems with sibling management, as did families in the comparison group. However, the experimental/comparison group difference was primarily on question 55; experimental families more frequently reported that their other children understood why this child received more attention than they. There were no significant main effects or interactions for items concerning the maternal or

Table 4
Group Means For SES and Age in Experimental and Comparison Groups

	<u>Young</u> <u>Mean</u>	<u>s.d.</u>	<u>Old</u> <u>Mean</u>	<u>s.d.</u>
<u>Experimental</u>				
Low SES	1.10	1.07	.52	.90
Low Medium	-.50	.75	-.07	.72
Hi Medium	-.37	.85	.63	.89
High SES	-1.35	.80	.14	.99
<u>Comparison</u>				
Low SES	.17	.43	.23	1.05
Low Medium	-.89	.90	-.20	.72
Hi Medium	-.26	.73	.03	1.26
High SES	-.74	.25	-.55	1.22

paternal grandparents.

IV. Discussion

Theoretical studies and empirical research have suggested that the normal process whereby a child is incorporated into the family is disrupted by the presence of a handicap in the child. It has been suggested that the child's atypical pattern of development, combined with the parents' lack of understanding of that development, makes it difficult for the caregiver to develop a reciprocal and loving relationship with the child and to set reasonable limits on the child's behavior. Extra demands made on the mother and on other family members because of the child's handicap predispose the family to strife and conflict, undermining the normal family support system and causing further deterioration in the quality of caregiving received by the handicapped child.

Since the early 1970s numerous external support systems designed to address these problems have flourished, yet few studies have investigated how these programmes may modify the deleterious effects of having a handicapped child. This study was designed to investigate maternal understanding of child development, maternal competence in caretaking, and support available from the family in families with young handicapped children in the British Columbia IDP by comparing their responses to the responses of matched families having nonhandicapped children. This will allow us to identify those areas which are of specific concern to families with handicapped children from those which are of more general concern

to any family having a young child

The findings of this study confirmed our first set of hypotheses which proposed a lack of differences between IDP families and their comparison families. Families in the IDP were not significantly different from comparison families on factor 1 (support from husband and friends) or on factor 2 (understanding of child development). The pattern of scores on these factors meant that, in addition, these two groups of mothers did not differ on confidence in their ability to find services for the child, feelings of closeness to the child, or lack of resentment over their child's caretaking demands. In addition, there were no significant differences between mothers of handicapped children and mothers of normal children in their responses to questions on sibling management or support from maternal and paternal grandparents. However, mothers of handicapped children more frequently reported that their other children understood why this child required extra attention. This was the only significant difference between the two groups on any measure of family support.

These findings indicate that we should modify our picture of the family with a young handicapped child. Past studies have characterized mothers of handicapped children as lacking an understanding of their child's development, making it difficult for them to develop a nurturing relationship with the child and to set limits on the child's behavior. These families have been described as having increased marital problems, increased sibling behavior problems, and decreased support from the extended family and

friends. As a result, the major goal of intervention programmes has been to teach parents an understanding of their child's development, and to provide support to strengthen the family. In contrast, it is clear from our findings that the presence of a handicap in a child need not always mean a deterioration in the parent-infant relationship and family functioning. Mothers in both the IDP and the comparison group reported that they wished that their husband was more supportive, that they had more time to spend with relatives and friends, that their other children would be more helpful around the home, they also reported that their other children were more difficult to manage now, and that their parents and their spouse's parents could be more helpful.

The only area differentiating mothers of handicapped children in the IDP and mothers of nonhandicapped children was on the third factor which involved maternal competence. This finding is comparable to previous research on the effects of interventions on disadvantaged families. It has already been suggested that a longterm dyadic relationship with a home visitor, such as occurs in the B.C. IDP, can foster dependency and increase the mother's feelings of inadequacy (Gray and Wanderman 1980). On the other hand, unlike disadvantaged children, handicapped children do require more specialized care than normal children. The fact that mothers of handicapped children report that they feel less competent in their ability to care for their child, that they play a less important role in their child's life, and that the child does not respond well to their care and attention may be, to some

extent, a realistic response to a demanding situation (Korner 1974).

Without an equivalent group of families with handicapped children not in the IDP we cannot be sure how much of the difference found between families with handicapped and normal children is due to the effects of the IDP and how much is due to the handicapping condition itself. However, since previous researchers have seldom mentioned any increased feelings of incompetence in mothers of handicapped children, it is possible that participation in an infant programme may be one of many factors producing or enhancing these feelings. Given the inherent problems and uncertainties involved in raising a child with a handicap, parents may be that much more likely to want to see the IDP workers as experts who have the solution to all their problems and may in contrast, judge themselves as less competent.

Consistent with assumptions of Bronwich (1976), we found that maternal feelings of incompetence are related to feelings of lessened enjoyment in the child, and feelings that the child is not as responsive to them as they would wish. Given the real difficulties in parenting infants with handicaps, Bronwich feels that it is important that infant intervention programmes support rather than interfere with mother-infant attachment. Mothers who feel competent in their mothering role are more sensitive to their infant's cues and are more likely to have mutually satisfying interactions with their infant.

Since there is a possibility that maternal feelings of inadequacy and reduced enjoyment of her child may adversely affect the mother-child relationship and may be detrimental to the child's development it is important that any infant programme makes this one of its goals. Bronwicz (1981) gives some practical recommendations to increase parental feelings of competence which could be implemented by programmes. For example, one effective way to boost parents' self confidence is for the IDP worker to share with the parents some of the frustrations they feel in interacting with the difficult child, so that parents will realize that their own frustrations are based not on incompetence but on real difficulties in parenting these infants.

The findings of this study were not able to confirm our second set of hypotheses, which predicted that families with handicapped children who have been in the programme more than two years should show better understanding and more family support than families in the programme less than one year. Results showed that there were no significant differences between the two experimental groups on family support or understanding of child development.

Results did support our hypothesis that mothers with long term programme involvement would report feeling less competent than short term mothers. Mothers in the longterm group felt less competent, less important, and enjoyed child-related activities less than did mothers in the short term group. Surprisingly, these short and long term group differences were also present in comparison families. Obviously, the difference between groups could

not be attributed to the length of time families participated in the IDP. It is more likely that some other extraneous variable was responsible for the differences observed across both IDP and comparison families.

Present age of the child and family socioeconomic status (derived from paternal occupation) were found to differ significantly in the short and long term groups. The long term group contained more older children and more lower socioeconomic status (SES) families than did the short term group. Both the child's age and the family's SES were significant predictors of mother's scores on the third factor, maternal competence. In all groups but one (the low SES handicapped group) mothers of older children reported less competence and less enjoyment in activities involving the child than did mothers of younger children. Similarly, mothers from lower SES families reported less competence and less enjoyment of activities involving the child than did mothers from higher SES families. The intriguing finding that both family SES and child's age are predictors of maternal feelings of competence in caring for the child and enjoyment of activities with the child does not seem to have been previously documented in the literature on families with either handicapped or normal children.

The effects of SES and age are most apparent in the handicapped group. When the handicapped child was young the low SES families showed significantly more distress than the high SES families. With the older handicapped child all mothers were more moderate in their responses and differences between the four SES

groups were not significant. Although the low SES families continued to show higher levels of distress than the high SES families, the amount of distress decreased in low SES families. All other families increased in distress, with the higher SES families increasing the most. Results suggest that, for families with handicapped children, the effect of family SES on maternal competence depends on the age of the child.

The finding that high SES mothers reported more distress with handicapped children over one year of age, whereas low SES mothers reported lessened distress with this age group is surprising, but is not inconsistent with a recent study by Affleck, Allen, McGrade, and McQueenly (1981) on parents of one year old developmentally delayed infants. While positive correlations between paternal occupation status and the HOME inventory have been found for parents with normal children (Caldwell and Bradley 1978), Affleck et al found that for families with developmentally delayed children the high SES homes received lower ratings on maternal involvement with the child and on emotional and verbal responsiveness of the mother than did lower SES homes. Unfortunately no explanation was given as to why this might occur.

The possibility of an interaction between family SES and child's age in the handicapped group was not expected. One possible explanation for this variation in responses may be the differing expectancies for success in the high and low SES groups (Expectancy-Value Theory, Tolman 1951). The high SES mothers, having fewer financial stresses, higher levels of education, and

more experiences with success, initially may have seen the handicapping condition as a challenge to overcome, rather than as a burden. High SES families with older handicapped children, as a result of their increased interactions with the handicapped child or as a consequence of involvement in the British Columbia IDP, may have come to realize that they did not have as much power to alter the child's condition as they had thought and that others could care for the child as well as they, leading to increased disillusionment and distress. In contrast, the low SES mothers, with the multiple stresses associated with lower income groups, might have reacted to the birth of the handicapped child as one more in a series of burdens. Without the resources or education of the high SES mothers they may have felt uncertain about their ability to cope with the child's specialized care and found less enjoyment in interacting with the child. With the older handicapped child, as a result of increased exposure to the child or as a consequence of assistance from trained professionals some of their earlier distress was alleviated. In both cases families have had their expectations violated: in a negative direction for the high SES families and in a positive direction for the low SES families.

The findings of this study which indicate that it is high and low SES families rather than middle SES families that are initially most affected by the presence of a handicapped child are consistent with previous research. Farber (1959), Meadow and Meadow (1971), and Simeonson and MacHale (1981) all report that it is the highest and lowest SES families that are most affected by the birth of a

handicapped child; however, they found that both groups reacted negatively to the child's birth. Similar to present speculations, they hypothesized that this was due to a violation of high SES families' expectations and aspirations for the child and to the burden of actually coping which the low SES families experienced in their daily care for the child. In our study the high SES families initially reacted in a positive manner. Perhaps involvement in a programme to promote their child's development led parents to believe their child could become normal, thus delaying their disappointment until later.

The finding that both high and low SES groups become more moderate (but perhaps more realistic) in their perceptions of the handicapped child and their ability to cope, is consistent with other research findings. Matheny and Vernick (1969) found that after experience in a clinical program parents of handicapped children assumed more realistic goals for their child and acted in accordance with those goals. Unfortunately in our study after the effects of the child's age and the family's SES were partialled out, there were too few families left in the short and long term participation group to adequately test this possibility. Further research is needed to determine the specific consequences of participation in intervention programmes. Ideally, families with handicapped children should be randomly assigned to either a participation or a nonparticipation group and followed longitudinally over several years. Since it is seldom possible or ethical to deny a child access to a programme which could be

beneficial, at the least matched families with handicapped children in different programmes should be compared.

Results of this study suggest some modifications that may be beneficial to the B.C. IDP. Low SES parents with handicapped children will likely require more immediate and continued help from a social support system to enable them to cope with initial feelings of incompetence and lack of enjoyment in the child. Having someone available to teach techniques and provide support is essential at the child's birth. As the child grows older, however, these parents increase in competence and enjoyment of child and would require continuing but less extensive support. On the other hand, higher SES families were found to respond favorably to the young handicapped child. For this group the programme could provide more of a resource service helping them to view their abilities realistically, without undermining their sense of primary responsibility for the child. This group might require more extensive servicing later when the child is older and they are faced with the limitations of their own and their child's abilities.

This is an exploratory study designed to investigate the social environment provided by families with handicapped children in the British Columbia Infant Development Programme as compared to families with nonhandicapped children. While initial results are interesting further research is necessary before any conclusive statements can be generated. As mentioned previously, a longitudinal study of families with handicapped children in

different programmes is necessary in order to differentiate the effects of the programme from those of the handicap. The possibility of a relationship among feeling competent in caring for the child, feeling that the child is responsive, and enjoying activities with the child is interesting and needs further clarification, perhaps through an indepth study of parent-infant transactions. The effect of infant programmes on maternal competence also requires further study. One possibility would be to expand the questionnaire to include questions measuring self-comparative competence (e.g., I feel more/less competent now than before) in addition to questions comparing self to others. It may be that while participation in an infant intervention programme causes parents to realize that others are more competent than they, parents still increase in self-competence when compared to how they felt before they were in the programme.

In conclusion, the present study suggests that the reports of mothers of handicapped children involved in the British Columbia IDP do not differ from those of mothers of nonhandicapped children on either the support they receive from family and friends, or their understanding of child development and ability to set reasonable limits on their child. These groups do differ, however, on their feelings of competence in caring for the child, their importance in the child's life, and their enjoyment of activities involving the child.

This study also suggests that family SES (as derived from paternal occupation) is a strong predictor of maternal responses

concerning competence in care-taking and enjoyment of child related activities. For all families, the higher the SES of the family the more competence and enjoyment the mothers expressed. For families of handicapped children, the effect of SES was strongest when the child was young, with high SES families feeling extremely competent (even more than their controls) and low SES families feeling very inept (even more than their controls).

Intervention that helps parents to enjoy the child and strengthens their responsiveness and skills creates a parent-child system in which parents experience success and the infants progress to maximum potential (Browlich 1981; Bradley and Caldwell 1976b; Clarke-Stewart 1973; Clarke-Stewart 1979; Elardo, Bradley and Caldwell 1977; Bee et al 1969). Thus, it is important for any infant programme to offset the declines found here and encourage mother's feelings of competence, feeling of importance in the child's life, and enjoyment of activities with the child. To do so, the programme could be modified to incorporate some of the suggestions mentioned in Browlich (1981). These modifications would involve: supporting and encouraging parent infant interactions that are mutually pleasurable and therefore reinforcing, encouraging and helping parents to gain skills in observing their infant, and enabling mothers to gain a sense of adequacy in the mothering role. In addition, periodic re-assessment of families in the program (especially higher SES mothers and mothers who begin the programme feeling extremely competent and capable) would allow the programme to identify those families who are becoming increasingly distressed

and would allow for intervention before a negative transactional
pattern is set up between mother and child.

REFERENCES

- Affleck, G., Allen, D., McGrade, B.J. and McQueenly, M. Home environment of developmentally disabled infants as a function of parent and infant characteristics. American Journal of Mental Deficiency, 1981, 56, 445-452.
- Baum, M. Some dynamic factors affecting family adjustment to the handicapped child. Exceptional Children, 1962, 28, 387-392.
- Baumeister, A. Mental retardation: Appraisal, education, and rehabilitation. Chicago: Aldine, 1967.
- Beckwith, L., Cohen, S., Kopp, C., Parmelee, A. and Marcy, T. Caregiver-infant interaction and early cognitive development in pre-term infants. Child Development, 1976, 47, 479-587.
- Bee, H., Van Egeren, L., Streissguth, A., Nyman, B. and Leckie, M. Social class differences in maternal teaching strategies and speech patterns. Developmental Psychology, 1969, 1, 726-734.
- Bee, H., Farnard, K. and Eyres, S. Prediction of IQ and language skill from perinatal status, child performance, family characteristics, and mother-infant interaction. Child Development, 1982, 53, 1134-1156.
- Beqab, M.J. The mentally retarded child and the family. In I. Phillips (Ed.) Prevention and Treatment of Mental Retardation. New York: Basic Books, 1966.
- Birenbaum, A. On managing a courtesy stigma. Journal of Health and Social Behavior, 1970, 11, 196-206.
- Bradley, R. and Caldwell, B. The relation of infant's home environment to mental test performance at 54 months: A follow-up study. Child Development, 1976a, 47, 1172-1174.
- Bradley, R. and Caldwell, B. Early home environment and changes in mental test performance in children from 6-36 months. Developmental Psychology, 1976b, 12, 93-97.
- Bricker, D. and Casuso, V. Family involvement: A critical component of early intervention. Exceptional Children, 1979, 46, 108-116.
- Browich, R. Stimulation in the first year of life? A perspective on infant development. Young Child, 1976, 32, 71-82.
- Browich, R. Working with Parents and Infants: An interactional approach. Baltimore: University Park Press, 1981.

- Caldwell, B. and Bradley, R. Home Observation of the Environment. Unpublished manuscript, University of Arkansas at Little Rock, 1978.
- Cattell, R. The scree test for the number of factors. Multivariate Behavioral Research, 1966, 1, 245-276.
- Clarke-Stewart, K. Interactions between mothers and their young handicapped children: Characteristics and consequences. Monographs of the Society for Research in Child Development, 1973, 38 (6-7, Serial No. 153).
- Clarke-Stewart, K., Vander Stoep, L. and Killian, G. Analysis and replication of mother child relations at two years of age. Child Development, 1979, 50, 777-793.
- Cohen, P. The impact of the handicapped child on the family. Social Casework, 1962, 43, 137-142.
- Conner, P., Williamson, G. and Seipp, J. Program Guide for Infants and Toddlers with Neuromotor and Other Developmental Disabilities. New York: Teachers College Press, 1978.
- Cunningham, C. Early stimulation of the mentally handicapped child. In M. Craft (Ed.) Iredgold's Mental Retardation (12th Edition). Balliere-Tindale, 1979.
- Dalton, J. and Epstein, H. Counseling parents of mildly retarded children. Social Casework, 1963, 44, 523-530.
- Davis, D. Family processes in mental retardation. American Journal of Psychiatry, 1967, 24, 340-350.
- Elardo, R., Bradley, R. and Caldwell, B. A longitudinal study of the relation of infants' home environment to language development at age three. Child Development, 1977, 48, 595-603.
- Escalona, S. The Roots of Individuality. Chicago: Aldine, 1968.
- Escalona, S. and Heider, G. Prediction and Outcome: A study in child development. New York: Basic Books, 1959.
- Farber, B. The effects of a severely retarded child on family integration. Monographs of the Society for Research into Child Development, 1959, 24 (No. 2 Serial 71).
- Farber, B. and Jenne, M. Family Organization and parent-child communication: Parents and siblings of a retarded child. Monographs of the Society for Research in Child Development, 1963, 28, (Serial 7).

- Farber, B. and Ryckman, D. Effects of severely retarded children on family relationships. Mental Retardation Abstracts, 1965, 1.
- Powle, C. The effect of the severely mentally retarded child on his family. American Journal of Mental Deficiency, 1969, 73, 468-473.
- Francis, S. The effects of home and institutional rearing on the behavioral development of normal and mongol children. Journal of Child Psychology and Psychiatry, 1971, 12, 173-190.
- Friedrich, W. Predictors of coping behavior in mothers of handicapped children. Journal of Consulting and Clinical Psychology, 1979, 47, 1140-1141.
- Gath, A. The mental health of siblings of congenitally abnormal children. Journal of Child Psychology and Psychiatry, 1972, 13, 211-218.
- Gath, A. The school-aged siblings of mongol children. British Journal of Psychiatry, 1973, 123, 161-167.
- Gath, A. The impact of the abnormal child upon the parents. British Journal of Psychiatry, 1977, 130, 405-410.
- Gayton, W. Management problems of mentally retarded children and their families. Pediatric Clinics of North America, 1975, 22, 561-570.
- Gayton, W. and Walker, L. Family management of Down's Syndrome during the early years. Family Physician, 1974, 19, 150-164.
- Gil, D. Violence Against Children. Cambridge, Mass.: Harvard University, 1970.
- Gladstone, R. Dysfunction of parenting: The battered child, the neglected child, and the emotional child. In H. Howells Modern Perspectives in International Child Psychiatry. New York: Brunner/Mazel, 1971.
- Graliker, B., Parmelee, A. and Koch, R. Attitude study of parents of mentally retarded children. Pediatrics, 1959, 24, 819-821.
- Gray, S. and Wanderman, L. The methodology of home-based intervention studies: problems and promising strategies. Child Development, 1980, 51, 993-1009.
- Grebler, P. Parental attitudes toward mentally retarded children. American Journal of Mental Deficiency, 1952, 56, 475-483.
- Holroyd, J. The questionnaire on resources and stress: An instrument to measure family response to a handicapped

member. Journal of Community Psychology, 1975, 2, 92-94.

Howard, J. The influence of children's developmental dysfunctions on family interaction and marital quality. In H. Lerner and G. Spanier (Eds.) Child Influences on Marital and Family Interactions: A life span approach. New York: Academic, 1978.

Jeffrey, D. and Cashdan, A. The home background of the severely subnormal child: A second study. British Journal of Medical Psychology, 1971, 44, 27.

Jones, O. Mother-child communication with pre-linguistic Down's Syndrome and normal infants. In H. Schaffer (Ed.) Studies in Mother-Infant Interaction. London: Academic Press, 1976.

Jones, O. A comparative study of mother-child communications with Down's Syndrome and normal infants. In D. Shaffer and J. Dunn (Eds.) The First Year of Life: Implications of Early Experience. New York: Wiley, 1979.

Judson, S. and Burden, R. Towards a tailored measure of parental attitudes: An approach to the evaluation of one aspect of intervention projects with parents of handicapped children. Child: Care, Health, and Development, 1980, 6, 47-55.

Korn S., Chess, S. and Fernandez, P. The impact of children's physical handicaps on marital quality and family interactions. In H. Lerner and G. Spanier (Eds.) Child Influences on Marital and Family Interactions: A Life Span Approach. New York: Academic, 1978.

Korner, A. The affect of infant's state, level of arousal, sex, and ontogenetic stage on the caregiver. In M. Lewis and L. Rosenblum (Eds.) The Effect of the Infant on the Caregiver. New York: Wiley, 1974.

Lavigne, J. and Ryan, M. Psychologic adjustments of siblings of children with chronic illness. Pediatrics, 1979, 63, 616-627.

Lewis, M. and Goldberg, S. Perceptual-cognitive development in infancy: A generalized expectancy model as a function of maternal infant interactions. Merrill-Palmer Quarterly, 1969, 15, 81-100.

Lewis, M. and Rosenblum, L. (Eds.) The Effects of the Infant on the Caregiver. New York: Wiley, 1974.

Lewis, M. and Rosenblum, S. (Eds.) The Child and Its Family. New York: Plenum, 1979.

Lonsdale, G. Family life with a handicapped child. Child: Care, Health, and Development, 1978, 4, 99-120.

- McAndrew, I. Children with a handicap and their families. Child: Care, Health, and Development, 1976, 2, 213-237.
- Matheny, A. and Varnick, J. Parents of the mentally retarded child: emotionally overwhelmed or informationally deprived. Journal of Pediatrics, 1969, 74, 953-959.
- Meadow, K. and Meadow, L. Changing role perceptions for parents of handicapped children. Exceptional Children, 1971, 38, 21-27.
- Miranda, S. Visual attention in defective and high-risk infants. Merrill-Palmer Quarterly, 1976, 22, 201-228.
- Miranda, S. and Fantz, R. Visual preferences of Down's Syndrome and normal infants. Child Development, 1973, 44, 555-561.
- Miranda, S. and Fantz, R. Recognition memory in Down's Syndrome and normal infants. Child Development, 1974, 45, 651-660.
- Peck, J. and Stephans, W. A study of the relationship between the attitudes and behavior of parents and their mentally defective child. American Journal of Mental Deficiency, 1960, 64, 839-844.
- Prechtl, H. and Steiner, C. The choreiform syndrome in children. Developmental Medicine and Child Neurology, 1962, 4, 119-127.
- Roos, P. Parents of mentally retarded children: misunderstood and mistreated. International Journal of Mental Health, 1977, 6, 95-119.
- Sameroff, A. Caretaking or reproductive casualty. In P. Horowitz (Ed.) Early Developmental Hazards: Prediction and Precautions. Colorado: Westview, 1976.
- Sameroff, A. and Chandler, M. Reproductive risk and the continuum of caretaking casualty. In P. Horowitz (Ed.) Review of Child Development Research, Volume 4. Chicago: University of Chicago Press, 1975.
- Schaeffer, H. Mothering. Cambridge, Mass.: Harvard University Press, 1977.
- Schaeffer, E. and Bell, R. Development of a parent attitude research instrument. Child Development, 1958, 29, 339.
- Schell, G. The young handicapped child: A family perspective. Topics in Early Childhood Education, 1981, 1, 21-28.
- Siegel (1965 NORC) Prestige. In R. Hauser and D. Featherman (Eds.) The Process of Stratification. New York: Academic Press, 1977.

- Sigman, M. and Parmelee, A. Visual preferences of 4 month old premature and fullterm infants. Child Development, 1974, 45, 959-965.
- Simeonson, R. and MacHale, S. Review: research on handicapped children: sibling relationships. Child: Care, Health, and Development. 1981, 12, 19-31.
- St. James-Roberts, I. Neurological plasticity, recovery from brain insult, and child development. In H. Reese and L. Litsitt (Eds.) Advances in Child Development and Behavior, Volume 14. New York: Academic Press, 1979.
- Tew, B., Payne, H. and Laurence, K. Must a family with a handicapped child be a handicapped family. Developmental Medicine and Child Neurology, 1974, 16, 95-98.
- Tew, B. and Laurence, K. Mothers, brothers, and sisters of patients with Spina Bifida. Developmental Medicine and Child Neurology. 1973, 15, 69-76.
- Thomas, A., Chess, S., Birch, H., Hertzog, M. and Korn, S. Behavioral individuality in early childhood. London: University of London, 1963.
- Thomas, A., Chess, S. and Birch, H. Temperament and Behavior Disorders in Children. New York: New York University, 1968.
- Tisza, D. Management of the parents of the chronically ill child. American Journal of Orthopsychiatry, 1962, 32, 53-59.
- Tolleson, B. Parent's beliefs, attitudes, and values and their relationship to the home environment provided for developmentally delayed infants involved in a home-based intervention program. Unpublished Masters Thesis, University of British Columbia, 1978.
- Tolman, E. Collected Papers in Psychology. Berkeley: University of California Press, 1951.
- Travis, G. Chronic illness in children: Its impact on child and family. California: Stanford University Press, 1976.
- Wachs, T. Proximal experience and early cognitive development: The physical environment. Merrill-Palmer Quarterly, 1979, 25, 3-41.
- Waisbien, S. Parents' reactions after the birth of a developmentally disabled child. American Journal of Mental Deficiency, 1980, 84, 345-354.
- Wentworth, D. Listen to Your Heart: A Message for Parents of Handicapped Children. Boston: Houghton-Mifflin, 1974.

Whyler, A., Masuda, M. and Holmes, T. The magnitude of life events and seriousness of illness. Psychosomatic Medicine 1971, 33, 115-122.

Wolfensberger, W. Counseling the parents of the retarded. In A. Baumeister (Ed.) Mental Retardation: Appraisal, Education, and Rehabilitation. Chicago: Aldine, 1967.

Wolff, P. Mother-infant relations at birth. In H. Howells (Ed.) Modern Perspectives in International Psychiatry. New York: Brunner/Mazel, 1971.

Yarrow, L., Rubenstein, J., Pedersen, F. and Jankowski, J. Dimensions of early stimulation and their differential effects on infant development. Merrill-Palmer Quarterly, 1972, 18, 205-217.

APPENDIX A

Mean Scores For Each Group On All Questionnaire Items
 *Items have means reflected

Question	Short EXPER.	Short COMP.	Long EXPER.	Long COMP.
1. I feel that I have control over my child's life.	4.45	4.26	4.07	4.04
2. I try to encourage my other children to bring their school friends home to play as much as they did before this child's birth.	4.50	3.66	4.40	4.00
3. I love talking about my child to anyone who will listen.	3.97	3.97	3.57	3.85
4. Most people don't know as well as I do how to deal with my child.	2.17	2.28	2.74	2.54*
5. I feel capable of adequately looking after my child.	4.72	4.52	4.57	4.65
6. I feel confident in my ability to find services to meet any needs my child may now have or later develop, if those services exist.	4.55	4.48	4.07	4.54
7. My other children could be more help to me at home than they are now.	3.08	3.00	4.16	3.11*
8. My other children are more difficult to manage now than they were before this child's birth.	3.71	3.44	4.33	3.83*
9. My spouse's parents have been invaluable in the help and advice they've given to me since my child's birth.	2.39	2.09	2.63	2.00
10. I wish my child would learn to sit still and not be constantly into everything.	4.28	3.48	4.00	3.54*
11. I believe in praising my child when he/she is trying especially hard.	4.90	4.93	5.00	4.80
12. I feel I play an important role in this child's life.	4.72	4.83	4.86	4.62

13. I wish I had more time to spend with my husband and/or other children.	2.83	2.41	3.11	3.04*
14. My parents have been invaluable in the help and advice they've given me since my child's birth.	3.30	2.71	3.42	2.88
15. Children frequently cry for no reason; therefore it is best to just leave them alone until they stop.	4.03	4.00	4.21	4.04*
16. I find that with the birth of this child I no longer have the time to spend attending activities important to my husband and/or other children.	3.62	3.48	3.92	3.65*
17. I feel confident that I can choose activities that will interest my child over long periods of time.	3.72	3.69	3.25	3.62
18. I find that I still have time to do the little things I've always enjoyed doing.	3.14	2.70	3.07	3.11
19. When other children are around my child I cannot relax; I must always be on guard.	3.45	3.52	3.75	3.89*
20. My child has difficulty adjusting to new situations.	4.00	3.93	3.89	4.00*
21. My child doesn't really like having strangers around him/her.	4.24	4.10	3.77	4.15*
22. I find it more difficult now to have friends and neighbors over to visit us.	4.52	4.17	4.29	4.04*
23. My babysitter understands and can cope well with my child.	4.61	4.50	4.28	4.38
24. I wonder what other people think of my child.	3.10	3.35	3.07	3.31*
25. I feel that my parents approve of the way I'm raising their grandchild.	4.23	4.38	4.57	4.18
26. I find it difficult not to resent the amount of time and attention my child requires.	4.31	3.90	4.18	4.04*
27. I worry about my child's future if anything were to happen to me.	2.69	2.76	2.46	2.73*
28. I enjoy the time I spend with my child.	4.62	4.59	4.43	4.54

29. I find myself preoccupied with trying to provide my child with the right care.	3.14	2.97	3.00	3.23*
30. I find it difficult not to interfere when other children tease my child (such as taking his/her toys or calling him/her names).	3.24	2.86	2.93	2.92*
31. I make a special attempt to have the whole family together at mealtimes.	4.38	4.14	4.43	4.39
32. I find myself wishing my husband were more supportive and/or encouraging of me.	3.76	3.59	3.89	3.31*
33. My other children resent the amount of time I must spend with this child.	3.47	3.63	4.00	3.77*
34. I can discuss my child easily with my parents.	4.59	4.47	4.50	4.44
35. My child responds to my care and attention as much as I would like him/her to.	4.52	4.59	4.36	4.35
36. I find it difficult to punish my child and instead I tend to look for excuses for his/her misbehavior.	3.86	4.07	3.64	3.62*
37. I can discuss this child easily with my spouse's parents.	3.52	3.81	3.43	3.50
38. I feel that things have become too much for me, and that I have reached my limit.	3.97	4.03	4.14	3.81*
39. New acquaintances take quickly to my child.	4.48	4.28	4.14	4.39
40. My husband and I disagree about how to best deal with minor childhood crises, (for example: crying, tempers etc.)	3.76	3.93	4.07	3.65*
41. I feel that my spouse's parents approve of the way I'm raising their grandchild.	4.14	4.12	4.27	4.13
42. I find it difficult to discuss my feelings with my husband.	3.97	4.03	4.11	3.65*
43. I find that when I go to discipline this child the rest of the family tend to make excuses for him/her.	4.10	4.30	4.00	3.88*
44. I love my child but it is difficult for me to express this love to him/her.	4.79	4.79	4.79	4.35*

45. Because of my child I feel that I have a purpose in life.	2.07	2.31	2.75	2.39*
46. If parents play a lot with young babies, the babies will want their parents around all the time.	3.35	3.79	3.89	3.77*
47. My child gets more attention than is good for him/her, therefore it is best to ignore it when he/she is just looking for more.	4.24	4.35	4.18	4.15*
48. It is important for my child to know that he/she is loved and has a special place in the family.	4.76	4.79	4.89	4.89
49. I don't feel that it is important to talk to my child until he/she can talk back.	4.97	4.97	4.93	4.77*
50. One of the most important things I can do for my child is to encourage him/her to be curious about his/her surroundings.	4.48	4.31	4.54	4.46
51. Young babies are fragile and delicate, and must be handled extremely carefully.	3.79	3.62	3.57	3.92*
52. I believe that a child's parents can do little to influence the rate of their child's development.	4.66	4.52	4.32	4.62*
53. One of the most important things that parents can teach their children is how to keep still.	4.35	4.45	4.25	4.23*
54. I would like to meet other parents who have children similar in age to this child.	3.93	4.41	4.00	4.04
55. My other children do not understand why this child is receiving so much more attention than they are.	3.63	3.2	3.69	3.58*
56. I believe that children should have their own special toys and/or books.	4.24	4.00	3.93	4.08
57. I never really understood the importance of being a mother before my child's birth.	2.93	2.69	3.14	2.39*
58. It is important for my child to get out of the house and meet new people.	4.45	4.69	4.39	4.46

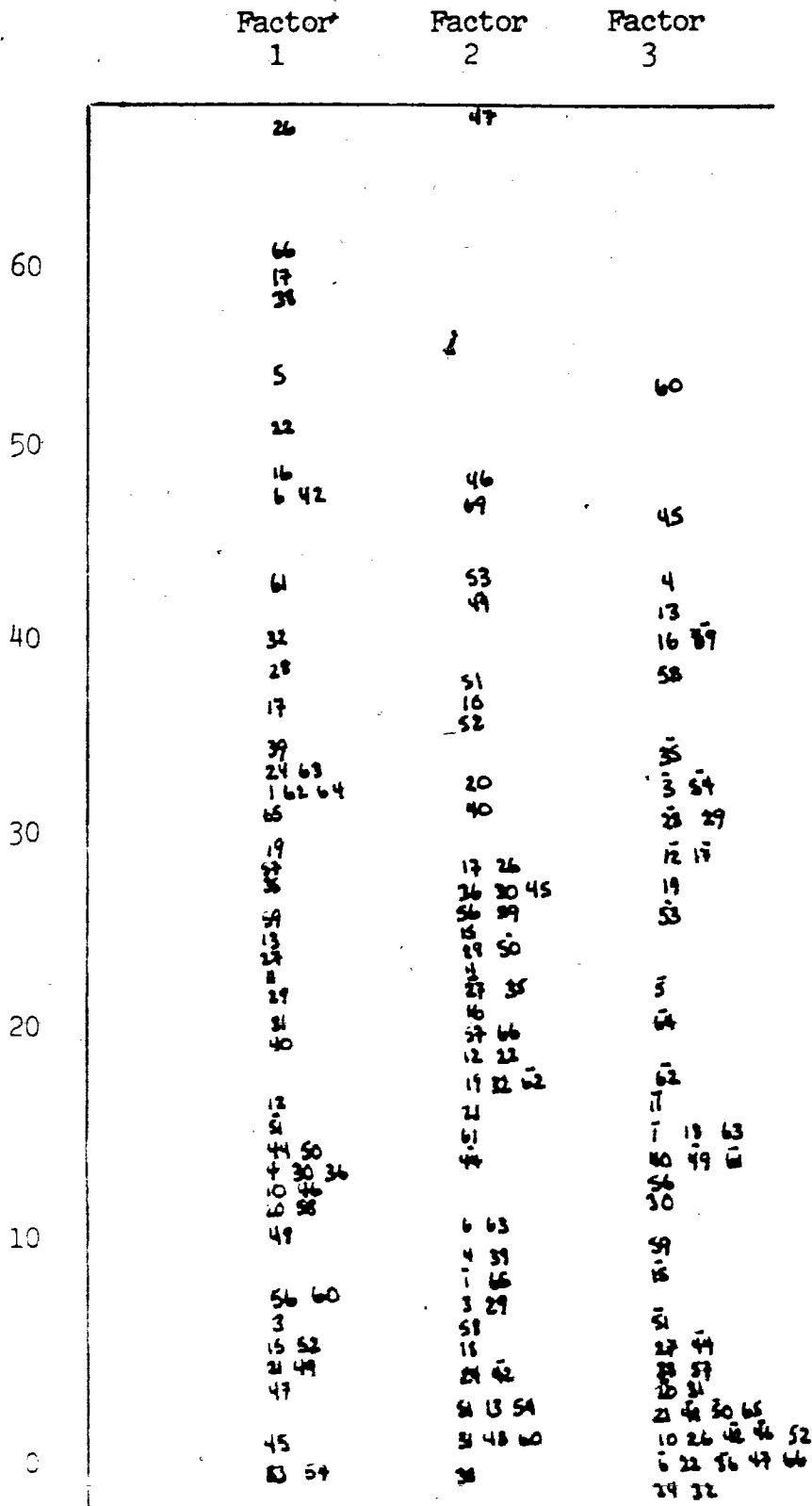
59. I'm not sure I understand what my child should be doing at the various stages of development.	3.414	3.69	3.21	3.89*
60. My child gives my life a meaning it never had before.	1.97	1.79	2.61	2.11*
61. I don't take my child out with me as often as I should.	4.03	4.07	3.93	4.27*
62. There are a lot of services in our community in which my child can participate (for example, play schools).	3.76	3.76	3.57	4.12
63. This child has made an important contribution to our family life.	4.35	4.59	4.39	4.35
64. I find it difficult to get as close to this child as I would like.	4.45	4.41	4.50	4.35*
65. This child is cared for equally by all members of the family.	3.03	3.41	3.25	3.42
66. Our family still does as many things together now as it ever did.	3.72	3.41	3.79	3.89

APPENDIX B

Variance Explained by the 19 Unrotated Factors with Eigenvalues
Greater Than 1.00

<u>Factor</u>	<u>Variance Explained</u>
1	6.852
2	2.858
3	2.716
4	2.446
5	2.265
6	2.124
7	1.997
8	1.776
9	1.726
10	1.711
11	1.599
12	1.511
13	1.485
14	1.391
15	1.236
16	1.151
17	1.100
18	1.073
19	1.016

Variable Loadings



Variable Loadings on the Three Rotated Factors

Overall Analyses of Variance for Condition and Participation on
Each of the Three Factors

Factor 1: Support from Husband and Friends

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Participation	1	0.03	0.03	ns
error	54	1.11		
Condition	1	0.25	0.27	ns
PxC	1	0.66	0.72	ns
error	54	0.92		

Factor 2: Physical Care Taking

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Participation	1	0.12	0.08	ns
error	54	1.34		
Condition	1	0.01	0.65	ns
PxC	1	0.91	1.35	ns
error	54	0.69		

Factor 3: Maternal Competence

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Participation	1	7.15	6.28	0.015
error	54	1.14		
Condition	1	2.80	3.83	0.055
PxC	1	0.33	0.46	ns
error	54	0.73		

Analysis of Variance for SES, Age, and Condition on Maternal
Competence

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
SES	3	3.88	3.86	0.015
Age	1	3.79	3.70	0.060
SES x age	3	0.87	0.87	ns
error	48	1.00		
Cond	1	1.57	2.06	ns
Condition x SES	3	0.20	0.02	ns
Condition x Age	1	0.34	0.45	ns
Cond x SES x age	3	0.84	1.11	ns
error	48	1.00		

Summary of Multivariate Analysis of Variance for Items Pertaining
to Siblings

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>P</u>
Participation	1	10.19	4.55	0.054
error	12	2.24		
Condition	1	4.19	3.76	0.076
PxC	1	5.42	0.49	ns
error	12	1.11		
Dependent Variable	3	1.03	1.36	ns
DC	3	3.17	4.19	0.010
error	36	0.76		
DYP	3	0.44	0.65	ns
DCxP	3	0.22	0.33	ns
error	36	0.57		

Multivariate Analysis of Variance for Items Pertaining to Maternal
Grandparents

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p,</u>
Participation	1	0.17	0.09	ns
error	25	1.98		
Condition	1	0.46	0.23	ns
PxC	1	0.60	0.31	ns
error	25	1.96		
Dependent	2	26.47	27.67	<.000f
DxP	2	0.13	0.01	ns
error	50	0.96		
DC	2	0.42	0.64	ns
DCxP	2	0.23	0.36	ns
error	50	0.65		

Multi-variate Analysis of Variance for Items Pertaining to Paternal
Grandparents

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Participation	1	4.08	1.02	ns
error	16	0.40		
Condition	1	0.75	0.25	ns
PxC	1	0.75	0.25	ns
error	16	3.00		
Dependent	2	26.51	34.03	<.0001
DxP	2	0.36	0.46	ns
error	15	0.78		
DC	2	3.86	6.91	0.005
DCxP	2	0.13	0.35	ns
error	32	0.56		