

A CHILD-REARING TRAINING PROGRAM DESIGNED
TO PROMOTE PARENT AND INFANT COMPETENCE

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
LINDA CHRISTINE GIACOMO

1977

ABSTRACT

A CHILD-REARING TRAINING PROGRAM DESIGNED TO PROMOTE PARENT AND INFANT COMPETENCE

By

Linda Christine Giacomo

The purpose of this project was to develop a parent-infant training program designed to compare mothers and fathers concerning their ability to promote infant competence during the first two years of the infant's life. In order to accomplish this task, the available literature concerning parent-infant interaction was reviewed, as were previous attempts at parent-infant intervention. A parent-infant training program was then designed which included educating both mothers and fathers in child-rearing skills which research had shown to be related to the competent development of the infant. The basic form of parent education was to consist of having parents model various child-rearing exercises demonstrated by a tutor in the parent and infant's own home. The parent tutoring was to begin when the infant reached one month of age and end when the infant reached his or her second birthday. A child-rearing manual was developed which outlined each tutoring session, including child-rearing exercises designed to coincide with the infant's chronological age.

In order to assess the effects of training parents in child-rearing skills on parent and infant competence, a number of assessment

techniques were to be administered. The assessment instruments included: (1) The Bayley Mental and Motor Scales of Infant Development; (2) Rubenstein (1967) Bell-Pairs Test; (3) Yarrow (1972, 1975) Observation Scales of the Home Environment; (4) Ainsworth et al.'s (1971) Four Scales of Maternal Behavior, amended to include father ratings; (5) Ainsworth and Bell's (1969) Feeding Scales; and (6) the Neonatal Perception Inventory developed by Broussard and Hartner (1971).

Sixty-four first-born infants divided equally by sex and their parents were to be chosen as the subjects of the parent training project. The families were to be divided into four major groups which represented the type of training each family was to receive. The four training conditions included Mother Training, Father Training, Mother and Father or Parent Training, and Control (no-training). These four groups or training conditions were comprised as a means of comparing the effect of teaching parenting skills to parents on the development of their infants, as well as to compare the child-rearing potential of mothers and fathers. The specific hypotheses that the study was designed to test were that (1) parent training of one or both parents would result in producing infants who were more competent than infants of untrained parents, while (2) mothers and fathers would not differ in their ability to rear competent children, and that (3) child-rearing tutoring of both parents would result in producing infants who were more competent than infants who had a single parent trained.

A CHILD-REARING TRAINING PROGRAM DESIGNED
TO PROMOTE PARENT AND INFANT COMPETENCE

By

Linda Christine Giacomo

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Psychology

1977

ACKNOWLEDGMENTS

I would like to thank a number of people for their help and support throughout this project. First, a great deal of thanks goes to Gary Stollak for his help, guidance, and most of all patience without which I never would have been able complete my thesis. I would also like to thank Helen Benedict for the needed structure which actually enabled me to sit down and write my thesis. I would also like to acknowledge the vast amount of time Helen spent reading, and commenting on my work. Sincere thanks is extended to Ellen Strommen for always being supportive even after my long absence between the time I first mentioned my project to her and its completion. Thanks are also offered to Ellen for her valuable comments during my orals. In addition, I would like to acknowledge with a great deal of gratitude Larry Messé for his time and advice on the methodology and statistical analysis sections of my thesis. Most of all, I would like to thank my mother, father, and brother for their love and support throughout this project without which I never would have been able to have the strength or motivation to complete this arduous task.

TABLE OF CONTENTS

LIST OF TABLES	iv
INTRODUCTION	1
Studies Concerning Parent-Infant Interaction	2
Intellectual Development: Cognitive, Language, and Perceptual-Motor	11
Overall Competence--Social and Intellectual	19
Infant Stimulation or Enrichment Programs	20
The Present Study	29
METHOD	35
Experimental Design	
Experimental Intervention	35
Subjects	36
Assessment Procedures	37
Pilot Testing	39
Tutor and Assessor Training	41
Procedure	42
Data Analysis	42
APPENDICES	44
A. Child-Rearing Manual by Sessions, Age Range: One to Twenty-four Months	44
B. Tutor Training Manual	114
C. Assessment Manual	124
D. Assessor Training Manual	201
REFERENCES	208

LIST OF TABLES

Table

1. Assessment Techniques and Age of Infant When Administered	43
A. Child-rearing Outline of Session Goals	44
B. Schedule for Practicing Child-rearing Exercises and Viewing Videotapes	118
C. Assessment Schedule--Age Range: 1-24 Months	124
D. Yarrow's Sample Recording Sheet	158
E. Assessor Training Schedule	207

INTRODUCTION

One finds in the investigation of infant competence or optimal development that a number of researchers (e.g., Clarke-Stewart, 1973; Beckwith, 1972; Ainsworth, 1973; Yarrow et al., 1972, 1975) have been able to relate various parental practices to different aspects of infant development. However, in all of these studies, parental practices actually represent maternal practices. It appears that one parent is consistently overlooked in infancy, i.e., the father (Lamb, 1975; Nash, 1965). According to Lamb (1975), there have been few attempts in the past to even characterize father-infant interaction or the father's role in the development of the infant.

Recently, an interest in the father has arisen in the form of a growing debate concerning how attached the infant is to his or her father (Lamb, 1977a, b, c; Cohen and Campos, 1974; Williamsen et al., 1974; Spelke et al., 1973). However, the father's role in child-rearing concerning infants in areas other than attachment, such as intellectual development, is still being ignored. This conclusion is particularly evident when one looks at the various child-rearing intervention projects which, if they include the training of a parent, only train the infants' mother in parenting skills (e.g., Gordon et al., 1974; Schaeffer and Aaronson, 1975). It is the purpose of this project to partially fill the void concerning the father's role in infancy by studying the effect of training both mothers and fathers in child-

rearing skills. Of particular interest is whether training both parents will produce a different effect on the competence of their infants than training mothers or fathers alone. In order to carry out this project, the available literature concerning parent-infant interaction will be reviewed. A detailed examination will be made of previous attempts at parent and infant intervention as a means of ascertaining which child-rearing behaviors have been related to infant competence. These behaviors or skills will then be incorporated into the present parent and infant project forming the basis of the parent and infant training.

Studies Concerning Parent-Infant Interaction

It is believed that the manner in which a caretaker, typically the mother, responds to the various needs or signals of an infant determines the quality, i.e., secure or ambivalent, of the infant's attachment to her (Lamb, 1974; Bell and Ainsworth, 1972). Specifically, caretaker responseiveness when feeding an infant, answering his or her cries, or during physical contact, has been related to the overall quality of the caretaker-infant relationship (Ainsworth, 1973). From these studies, one is able in part to delineate a model of optimal caretaking behaviors which have the greatest probability of assuring an optimal attachment of infants to their caretakers.

One of the first and most important opportunities a caretaker has to establish a positive relationship with an infant is when he or she is fed (Ainsworth and Bell, 1969). According to Ainsworth et al. (1971), feeding not only comprises the major proportion of caretaker-infant interaction during the infant's first two or three months of

life, but it is also a situation in which the caretaker's manner of feeding the infant is significantly related to the quality of the infant's attachment to his or her caretaker. This relationship was discovered as a result of a longitudinal study of the development of infant-mother interaction during the infant's first year of life, part of which was focused on interactions during feeding (Ainsworth and Bell, 1969).

Ainsworth and Bell (1969) observed, among other things, mother-infant feeding behavior of twenty-six white, middle-class, American mother-infant pairs who, as a part of the overall study, were observed at home approximately once every three weeks throughout the first year of the infants' lives. Every visit lasted approximately four hours and nearly always spanned a feeding. By observing mother-infant feeding behavior, Ainsworth and Bell (1969) sought to ascertain whether the degree to which a mother was responsive to her infant's rhythms, signals, pacing, and preferences concerning feeding was related to the quality of the infant's attachment to her.

In order to relate the responsiveness of maternal feeding practices to the infant's attachment for the mother, an assessment was also made of the quality of infant-mother attachment when the infants reached their first birthday (Ainsworth et al., 1971). Infant attachment was assessed by means of a laboratory strange situation which measured infant attachment behavior in response to eight episodes in which the baby faced an unfamiliar environment, as well as a stranger, with and without the presence of his or her mother. Of particular interest was the infant's attachment behavior directed towards his or her mother during two reunion episodes in which the

baby and the mother were reunited after a separation had occurred. Attachment behaviors were defined as those behaviors which served to promote the proximity of infant to mother including smiling, crying, vocalizing, approaching, following, reaching, grasping, and clinging (Ainsworth et al., 1971).

As a result of their observations, Ainsworth et al. (1971) were able to discriminate nine patterns of mother-infant feeding interaction, as well as three patterns of infant-mother attachment. According to Ainsworth et al. (1971), the nine feeding patterns fell into three categories, i.e., feeding on demand of the infant, feeding according to a schedule imposed upon the infant, and arbitrary feeding. These nine patterns were then ranked according to the degree to which the infant was allowed a voice concerning feeding (Ainsworth and Bell, 1969). Feeding patterns I-IV represented feeding the infant on demand or by a flexible schedule which responded to the infant's preferences and signals, whereas patterns V-IX were comprised of feeding the infant according to the mother's wishes or in an arbitrary manner (Ainsworth and Bell, 1969).

Ainsworth et al. (1971) found that the manner in which an infant was fed was related to the quality of the infants' attachment to their mothers, represented by three patterns or groups, including subgroups. In particular, the most secure attachments were found in Group B infants who were able to seek the proximity of their mothers after a separation in an unambivalent manner, and who showed an adequate amount of distress when their mothers were absent. Subgroups of Group B were also found which differed as to the amount of distress and proximity seeking they exhibited, i.e., subgroups B1 and B2 exhibited

these behaviors to a much lesser degree than subgroup B3. According to Ainsworth et al. (1971), Group B infants not only represented the largest group of infants, and Subgroup B3 the largest subgroup, but also according to theory, the expected norm in attachment behavior. Less secure, and more anxious attachments were found in Groups A and C, which were characterized by contact avoidance, or resistance, or both, as well as ambivalence.

Ainsworth et al. (1971) predicted that the most securely attached infants, i.e., Subgroup B3, would have mothers whose feeding practices were the most responsive to the infants' signals and preferences, i.e., feeding patterns I-IV. As hypothesized, it was found that, the most securely attached infants had mothers who on all four dimensions of behavior relevant to infant feeding showed a significantly greater amount of sensitivity to infant rhythms, signals, preferences, and paces than did the mothers of the anxiously attached babies. Specifically, all but two of the babies classified in feeding patterns I-IV fell into Subgroup B3, the most securely attached infants, the two exceptions falling into Subgroup B2, whereas all but two of the infants comprising feeding patterns V-IX fell into the anxiously attached Groups A and C, the two exceptions falling into Subgroups B1 and B2 (Ainsworth et al., 1971).

In addition to sensitive maternal feeding practices, the presence of secure attachments was also related to responsiveness to infant crying and bids for physical contact (Ainsworth and Bell, 1969; Bell and Ainsworth, 1972; Ainsworth et al., 1972; Ainsworth, 1973). Concerning crying, mothers responsive to this aspect of caretaking answered all crying behavior promptly and effectively, typically bridging the

distance between their babies and themselves, often coming into physical contact with their infants. These mothers never ignored their babies' cries, nor did they hesitate for a period of time before responding. According to Bell and Ainsworth (1972), prompt and effective responsiveness to infant crying not only resulted in a more securely attached infant than infants receiving less responsive care, but in infants who by one year of age cried less frequently, and for shorter durations. These infants also used alternate and more sophisticated modes of communication (e.g., babbling) to signal their desires (Bell and Ainsworth, 1972).

Other investigators (Schaffer and Emerson, 1964; Beckwith, 1972) have also shown that responsiveness to infant crying is related to secure attachments to caregivers. In an investigation of some of the major parameters of social attachments in infancy, Schaffer and Emerson (1964) found that intensely attached infants had mothers who responded promptly to their cries, whereas weakly attached infants tended to have mothers who generally failed to respond to their cries in a prompt or consistent manner. This result is further supported by another study, which involved observations of mother-infant interactions with their eight and eleven month old infants (Beckwith, 1972). As a result of this study, Beckwith (1972) found that the more a mother ignored her baby's crying, the less her infant was found to orient to her, and the less the infant maintained contact with her, i.e., the less the infant was attached to his or her mother.

It has also been found that mothers who tended to excel in the sensitive and responsive handling of their infants when they cried also tended to physically handle their infants in an appropriate and responsive manner (Ainsworth and Blehar, 1975). These mothers were found to engage

their infants in tender and warm physical contact which was geared to the infants' preferences concerning such things as the frequency and the duration of the contacts. Mothers whose quality of physical contact was especially high engaged their infants in a physical manner during care-taking routines, such as bathing or changing the infant, and they also tended to hold their infants for relatively long periods of time during nonroutine situations. The infants of these mothers appeared to enjoy physical contact to a greater degree than infants of less appropriate mothers, and they also appeared to be more positively attached to their mothers (Ainsworth and Blehar, 1975). This finding is supported by Beckwith (1972) who found that physical contact of a positive or soothing nature was related to infant attachment as represented by smiling and social approaches.

Not all of the mothers in Bell and Ainsworth's (1972) sample were as responsive to their infant's behavior as the mothers described above. One reason for this difference was suggested by Bell and Ainsworth (1972), who hypothesized that the less responsive mothers had been influenced by the belief that if one responded consistently to an infant's signals or desires, the end result would be a spoiled child. Rather than becoming spoiled, the children of sensitive or responsive mothers reciprocate the attention given to them by developing into responsive, well-adjusted, and securely attached infants (Stayton et al., 1971). This conclusion is supported by Stayton et al.'s (1971) research concerning infant obedience in which it was found that the infants of mothers who responded promptly and consistently to their needs and desires tended to obey their mothers' verbal commands and prohibitions to a significantly greater degree than did the infants of less responsive mothers. Therefore, it may be

concluded that if parents desire their infants to be happy, responsive or obedient, and securely attached they must in turn respond to their infants' own needs, signals, preferences, and desires, or else be faced with the kind of child they fear, i.e., spoiled, demanding, and unresponsive.

Up to this point, the literature reviewed has dealt with infants ranging in age from birth to one year of age. According to Clarke-Stewart (1973), the caretaking behaviors and practices which were found to foster secure attachments in the first year of life differ somewhat from those necessary for the older infant, i.e., the one to two year old. Whereas it was of major importance to respond promptly to an infant's distress, as well as feeding and contact desires and preferences during the infant's first year of life, during the second year it was found to be more important to respond to the infant's social behavior, such as play and language, in order to foster secure attachment between infant and caregiver (Clarke-Stewart, 1973). In an observational study of thirty-six infants, followed from nine to eighteen months of age, Clarke-Stewart (1973) found that mothers who not only responded positively to their infants' attempts to engage them socially, but who also made an effort of their own to involve their infants in social interactions produced infants who were much more positively or securely attached than mothers who did not socially stimulate their infants. However, although responsiveness to distress, and sensitive handling and feeding were of less importance to the one to two year old, Clarke-Stewart (1973) found that these practices were still related to infants' overall attachment to their mothers. As a result of her observations, Clarke-Stewart (1973) was able to outline the major ways in which caretakers may engage their infants socially in order to

develop the infants' own social skills. The guidelines suggested by this research include modeling language, engaging the infant in mutual, eye-to-eye contact, and mediating toys and other play materials for the infant.

One major criticism can be made concerning the social responsiveness and attachment literature of the sixties and early seventies reviewed above, i.e., the role of the father in the infant's social-emotional development has been virtually ignored. This appears to be a major oversight since more recently several researchers (Lamb, 1976a, b, c, d; 1977a, b, c; Cohen and Campos, 1974; Williamsen et al., 1974; Spelke et al., 1973) have found that infants are not only attached to their mothers, but to their fathers as well. Specifically, in a study of infant attachment using a laboratory strange situation similar to Ainsworth et al. (1971), amended to include fathers, Lamb (1977a, c) found that infants ranging in age from seven to twenty-four months of age were as attached to their fathers as they were to their mothers. A similar study (Williamsen et al., 1974) conducted with one year old infants and their mothers and fathers also found that infants were equally attached to both parents. Lamb (1977a, c) also discovered that when he subdivided attachment behaviors into more proximal behaviors, i.e., seeking proximity, touching, approach, fuss, reach, and more distal behaviors, which he labeled affiliative behaviors, i.e., smiling, laughing, looking, and vocalizing, that infants exhibited more affiliative behaviors towards their fathers than their mothers, whereas they exhibited an equal amount of proximal attachment behaviors to both parents.

Lamb's (1977a, c) and Williamsen et al.'s (1974) results are contradicted by Cohen and Campos's (1974) study which found that although infants were attached to both parents, they were more attached to their mothers. This discrepancy in results has been addressed by Lamb (1974) who contends that Cohen and Campos's (1974) findings are invalid for a number of reasons. First, Lamb (1974) maintains that since Cohen and Campos's (1974) research was only carried out in the laboratory and not in the infant's natural environment that its results can not be considered as a reflection of real life. Lamb (1974) further criticizes Cohen and Campos's (1974) laboratory procedure for using separation episodes which were not only too brief, only one minute in length, but very stressful and unnatural since they involved placing the infant at a starting point for each episode. According to Lamb (1974), this procedure may have elicited atypical behavior from Cohen and Campos's (1974) infants. This conclusion is supported by the fact that Lamb (1975, 1977c) found that infant behavior in the laboratory differed from behavior in the home. Although infant attachment for fathers was exhibited in the home as well as the laboratory, infant preferences for fathers concerning affiliative behaviors was only found in the infant's home.

Lamb (1974) also questioned Cohen and Campos's (1974) results because their procedure did not include having the infants observed with both parents present, which would have provided the infants with a real choice as to which parent they would attend to. In any event, the major conclusion which arises out of all of the father attachment research is that infants are attached to their fathers. What remains unanswered by all of these studies of maternal as well as paternal

issues is a consideration of which father caregiving variables are responsible for the infant's attachment to him.

It may be assumed that the same caretaking practices found to be related to mother-infant attachment are also related to father-infant attachment. Until the infant's relationship to his or her father is studied further, nothing can be concluded concerning father-infant interaction with any great assurance. In any event, as we will see below, caretaking practices not only have a positive effect on the infant's social-emotional development, but on his or her intellectual growth as well. It appears that social stimulation and general responsiveness play an important role in the intellectual development of the very young child, as do other practices such as object stimulation especially geared to foster intellectual growth.

Intellectual Development: Cognitive, Language, and Perceptual-Motor

Similar to the study of the social-emotional development of infants, an attempt has been made by several researchers (Yarrow et al., 1972, 1975; Clarke-Stewart, 1973; Rubenstein, 1967; Lewis and Goldberg, 1969) to determine the major factors associated with the intellectual development of infants. In particular, the infant's intellectual competence, encompassing cognitive, language, and perceptual-motor skills, has been related to various aspects of the infant's social and inanimate environment such as modeling language, and objects used in play. It is to be noted that the father's role in intellectual development has been completely ignored by researchers. Therefore the literature to be presented below only concerns the mother's role in the intellectual development of her infant.

As part of a study of the effects of various aspects of early stimulation on the intellectual competence of infants, Yarrow et al. (1972, 1975) sought to determine whether inanimate stimulation on the one hand, and social stimulation on the other were related to different facets of intellectual development. In order to answer this question, Yarrow et al. (1972, 1975) observed forty-one lower income black infants and their primary caretakers, i.e., typically mothers, at five to six months of age, and again at nineteen months of age. However, only nineteen of the original forty-one subjects observed at five to six months of age were included in the nineteen month old sample, as a result of subjects dropping out of the study. Eighteen additional subjects were included in the nineteen month old sample who had been observed during the five to six month old observations, but had been excluded from the data analysis because of the lack of the presence of a single, primary caretaker.

In order to ascertain the effects of the inanimate environment on the intellectual advancement of infants, Yarrow et al. (1972, 1975) observed three major dimensions of inanimate stimulation, i.e., variety, responsiveness, and complexity. According to Yarrow et al. (1972, 1975), the variety of the inanimate environment referred to the number of different objects within reach of the infant during the observation period. The responsiveness dimension represented the extent to which objects changed in visual, auditory, and tactile properties as a result of the infant's behavior, whereas the final dimension, complexity, indicated the degree to which objects provided information through the various sensory modalities.

Yarrow et al. (1972, 1975) also divided the social environment into several dimensions including level, variety, contingency, and positive affective expression. The level of social stimulation in the infant's environment was a measure of the intensity and amount of social interaction provided by the caretaker, i.e., the frequency with which the caretaker was within view or reach of the infant, talked to, touched, held or played with the child. The variety of the social environment was determined by the presence of different types of stimulation, such as play, encouraging motor responses, providing play materials, altering the physical setting in which the infant was located, and exhibiting a broad range of affects. Two indices were employed to measure social contingency, i.e., the frequency of contingent responsiveness to positive vocalizations made by the infant, and communications signaling the infant's distress. Finally, the dimension of positive affective expression merely referred to the characteristic level of the caretaker's demonstrativeness or positive emotional utterances.

In order to ascertain the effects of both the inanimate and social environments on the infant's intellectual development, Yarrow et al. (1972, 1975) employed a number of methods to assess the infant's intellectual potential, including a basic measure of cognitive, language, and perceptual-motor development, i.e., the Bayley Scales of Infant Development (Bayley, 1969), as well as a structured situational test of exploratory behavior and preference for novel stimuli. In addition, Yarrow et al. (1972, 1975) also clustered various Bayley items as a means of assessing more specific areas of development including four indices of cognitive-motivational functions, i.e., goal orientation,

reaching and grasping, secondary circular reactions, and object permanence, as well as other areas, i.e., social responsiveness, language, and fine and gross motor progression.

As a result of Yarrow et al.'s (1972, 1975) observations, it was found that the effects of both inanimate and social environment were different for the younger five to six month old sample as compared with the older nineteen month old infants. Therefore, the results concerning each of these samples will be presented separately. Specifically, they found that for five to six month olds, the dimensions of the inanimate environment were largely independent of the dimensions of the social environment, each of which was found to play a separate but important role in fostering intellectual development. Although the inanimate dimensions, i.e., variety, responsiveness, and complexity, were not found to be significantly related to the infant's language or social development, they were highly related to cognitive, and perceptual-motor proficiency. Responsiveness, defined by the feedback potential of objects, was significantly related to the infant's overall cognitive, and motor functioning as measured by the Bayley, and its clusters, i.e., gross and fine motor skills, goal-directed behaviors (e.g., goal orientation, reaching and grasping, secondary circular reactions), and exploration. Complexity, measuring the feedback potential of objects, was highly related to goal-directed, and exploratory behavior. Finally, variety present in the inanimate environment proved to be the most powerful dimension of the three in terms of the number and strength of correlations with intellectual accomplishments (Yarrow et al., 1972, 1975). In particular, variety was significantly related to the Bayley, gross and fine motor ability, goal-directed behavior, problem-solving,

object permanence, and exploratory behavior.

In contrast to the inanimate environment, the social environment proved to have a much broader range of effect on the five to six month old infant's overall intellectual ability (Yarrow et al., 1972, 1975). They found that social stimulation was related to cognitive and perceptual-motor skills, as well as to language proficiency and social responsiveness. Both the level and variety of the social environment were significantly related to the infant's Bayley Mental Development Index, goal-directed behavior, and object permanence. Variety was the only dimension significantly related to language and fine motor development, as well as exploratory behavior. Positive affective expression by the caregiver correlated significantly with social responsiveness, and goal-directed and exploratory behavior. Another dimension of the social environment, i.e., contingent responsiveness to the infant's positive vocalizations, was significantly related to language production, and exploratory behavior. Contingent responsiveness to distress was highly or significantly related to the Bayley, fine and gross motor development, as well as exploratory behavior (Yarrow et al., 1972, 1975).

According to Yarrow et al. (1972), there were fewer significant effects of either the inanimate or social environment when the older, nineteen month old sample was considered. They discovered that only one dimension of the inanimate environment, responsiveness of materials, had a significant effect on the nineteen month old infant's intellectual development. However, as with the younger sample, the social environment proved to have a greater effect on the nineteen month old's intellectual accomplishments than inanimate stimulation. A

significant relationship was discovered between the infant's intellectual development as represented by exploratory behavior and several aspects of the social environment including level, mutual regard, kinesthetic stimulation, and contingent responsiveness to positive vocalization. One explanation for the differences found between the five to six month old and nineteen month old sample is the fact that different subjects comprised the two samples. The two samples also represented two different caretaking experiences. Whereas the younger infants were cared for by one significant adult, the older nineteen month old infants experienced varied caretaking arrangements which included having them cared for by several rather than one single caretaker. Therefore, the differences in the results between the older and younger subjects may have been the result of the different caretaking experiences the infants had when they were younger. In any event, they found support for the hypothesis that the social and inanimate environments play different but important roles in the intellectual development of both young, i.e., five to six month old, and older, i.e., nineteen month old, infants. Yarrow et al.'s (1972, 1975) research also showed that the social environment has a much broader role in infant development than fostering secure attachments: it is also important to the cultivation of intellectual skills.

A number of other studies have shown the importance of social stimulation for intellectual growth in infancy. Rubenstein (1967) found that mothers who were the most socially attentive to their five and six month old infants, i.e., who looked at, touched, held, talked to, offered more toys to, and played with their infants to a greater degree than less attentive mothers, had infants who exhibited a

significantly greater amount of exploratory behavior and preference for novelty than the infants of less attentive mothers. The infants of the more socially responsive mothers also tended to vocalize approximately three times as much as the infants of the less responsive mothers (Rubenstein, 1967). In a similar study, Lewis and Goldberg (1969) found that the cognitive development of twelve month old infants was significantly related to the amount of touching, looking, smiling, and holding exhibited by the infant's mothers. In addition, they found, as did Yarrow et al. (1972, 1975), that contingent responsiveness to infant crying or distress was related to the infant's intellectual or cognitive development. Other researchers have discovered that intellectual development in infancy is also related to social variables such as mutual regard or eye-to-eye contact (Carr et al., 1975), and positive verbalization (Cohen and Beckwith, 1977), again confirming the work of Yarrow et al. (1972, 1975).

One major study failed to confirm Yarrow et al.'s (1972, 1975) conclusion that the inanimate environment played an important part in the intellectual development of the five to six and nineteen month old infant. As part of a study of infant competence, Carew et al. (1975) discovered that for infants ranging in age from twelve to twenty-four months, only the social environment had a significant effect on intellectual growth. According to Carew et al. (1975), the inanimate environment became important only when mediated by people. Essentially, they found that four basic experiences were significantly related to intellectual competence, i.e., verbal-symbolic, perceptual-spatial-fine motor, concrete reasoning, and expressive-artistic. However, these experiences were related to intellectual development only so far

as they involved the infant in reciprocal interactions with another person, i.e., by engaging the infant in reciprocal interactions in which both the infant and adult participated, and by becoming a model for the infant, who was an attentive but passive partner in the experience (Carew et al., 1975). According to Carew et al. (1975), the four intellectually stimulating experiences mentioned above did not necessarily involve lessons or the use of educational materials. They also occurred in the context of any activity as long as the content of the experience related to one of the categories listed above.

Although Carew et al.'s (1975) results appear to contradict Yarrow et al.'s (1972, 1975) findings concerning the importance of the inanimate environment as a separate entity, the discrepancy between the two studies is minimized when one looks at their results more closely. Specifically, although Yarrow et al. (1972, 1975) found that the inanimate environment was strongly related to the intellectual development of five to six month old infants, they discovered that only one variable of inanimate stimulation, i.e., the responsiveness of objects, was related to the intellectual competence of the nineteen month old sample, the age at which Yarrow et al.'s (1972, 1975) and Carew et al.'s (1975) studies overlap. Neither the complexity nor the variety of inanimate play objects correlated with the intellectual skills of the nineteen month old infants (Yarrow et al., 1972, 1975). It is also to be noted that Carew et al. (1975) did not attempt to relate the responsiveness of the inanimate environment to infant intelligence, but used a much broader measure, i.e., solitary infant play, of inanimate stimulation to relate to the infant's cognitive development. Therefore, it is possible that had Carew et al. (1975) implemented a

more precise measure of the inanimate environment, they would have found as Yarrow et al. (1972, 1975) discovered that to a certain degree inanimate stimulation is related to the infant's intellectual competence. In any event, both studies, as well as a number of others (Clarke-Stewart, 1973; Rubenstein, 1967; Cohen and Beckwith, 1977) were in agreement as to the overall importance of inanimate stimulation concerning the intellectual development of the infant, as long as the inanimate objects and materials were mediated by a person other than the infant. Therefore, it is apparent that neither social nor inanimate stimulation should be neglected or absent from the infant's environment. Both experiences play essential roles in the intellectual development of the young child.

Overall Competence--Social and Intellectual

One can conclude from the literature reviewed above that a great deal more than the provision of food, shelter, and clothing is necessary to promote an infant's social and intellectual development. It appears that a number of different aspects of care including social and inanimate stimulation, as well as physical routines combine to form an optimal pattern of infant caretaking (Clarke-Stewart, 1973). According to Clarke-Stewart (1973), an optimal pattern of caretaking has been found not only to exist in theory, but in practice as well. In an observational study of infants studied from nine to eighteen months of age, she discovered that an optimal pattern of caretaking which was significantly related to infant competence was actually put into practice by several of the mothers studied. Essentially, it was found that optimal caretaking included warm, loving, and nonrejecting care,

the provision of stimulating and enriching materials, and contingent responsiveness to the infant's distress and more positive social behaviors. According to Clarke-Stewart (1973), the child-rearing qualities described above were found to be strongly and positively related to the infant's overall competence as represented by such variables as cognitive and language ability, motivation to learn, and positive social attachments.

One may conclude from the literature reviewed up to this point that at least for mothers, certain child-rearing styles or behaviors do have a significant relationship to the development of infant competence. In order to test this relationship more thoroughly, intervention projects consisting of training caretakers in optimal parenting behaviors were carried out (e.g., Gordon et al., 1974; Schaefer and Aaronson, 1975; Karnes et al., 1970). These projects sought to prove that training caretakers in parenting skills would foster the competent development of infants. It is to be noted that mothers were always the focus of training to the extent that a parent was involved in the project. Therefore, although the intervention studies provide further support for the relationship of parent education and infant competence, this is only true concerning mothers since fathers have again been excluded.

Infant Stimulation or Enrichment Programs

Infant stimulation or enrichment programs which have made use of parent participation can in general be differentiated by the degree of parent involvement required, i.e., from little or no interaction with their infants to maximum participation including supervised

parent infant tutoring. Three major types of enrichment programs involving parent participation consisted of home visitations of infant tutors after whom parents could voluntarily model, parent education groups, and home supervision of parent-infant interaction. Although these programs differed in methodology, they all had a similar goal, i.e., to ensure the optimal development of infants.

Infant competence brought about by home tutoring of the child was the major focus of Schaefer and Aaronson's (1975) enrichment program. The enrichment project sought to stimulate the intellectual development or competence of 31, fifteen-month-old black males of the lower socio-economic status by means of a tutor, who met with the infant in his or her home for one hour per day, five days a week, from age fifteen to thirty-six months. Although participation of the infant's mother and other family members was encouraged, it was not required.

After a brief period of training which included lectures on child development and child rearing, observations of children in their homes, and supervised tutoring experiences, the tutors began their visits to the program's infants or subjects. Each tutor was equipped with a kit which contained a few basic toys, picture books, and materials to be used during the tutoring sessions. They also had access to a supply room which contained additional materials to be used at the discretion of the tutor. Although the overall purpose of the tutor's visit was to provide the infant with a number of varied and increasingly complex intellectual experiences, she or he was also required to incorporate the following activities in their sessions:

- 1) to reinforce positive personality characteristics that should help a child succeed in school,
- 2) to encourage the child to develop feelings of competence and of human worth and to assert himself in a positive way,
- 3) to utilize toys, materials, and varied experiences to broaden the child's comprehension and meaningful use of language, and
- 4) to set aside time, preferably at the beginning of the tutoring session, to spend in varied activities with books (Schaefer & Aaronson, 1975, p. 14).

These guidelines served the purpose of not only helping the tutors to structure their infant visits, but also of ensuring the commonality of sessions across tutors (Schaefer & Aaronson, 1975).

According to Schaefer and Aaronson (1975), prior to the implementation of the tutoring sessions, the experimental infants, i.e., those chosen to receive home visits, and thirty-three controls were pretested for differences in intelligence. As a result of the pretesting, it was found that no significant differences in intelligence between the experimental and control groups existed. However, seven months after the institution of the home tutoring, i.e., when the infants reached twenty-one months of age, significant differences in intellectual ability were obtained which indicated that the experimental infants had surpassed their controls. Additional testing at twenty-seven and thirty-six months of age produced similar results (Schaefer & Aaronson, 1975). However, after the termination of the tutoring, at thirty-six months of age, follow-up testing, conducted on the children's fourth, fifth, and sixth year birthday, revealed that the intellectual gains made by the experimental children had quickly eroded, to such a degree that no significant differences remained even one year after the project was

discontinued (Schaefer & Aaronson, 1975).

One may conclude from Schefer and Aaronson's (1975) results that home tutoring of infants did foster intellectual development, at least initially. However, the positive effects of the program proved to be rather short-lived. According to Schaefer and Aaronson (1975), a number of things may have brought about this result. One suggestion was that by fifteen months of age, the infant's intelligence may have become almost fixed, i.e., the infant's intellectual style or skills may have become rather permanent as a result of the influence of his or her intellectual environment, and therefore unamenable to change. Another explanation offered was that the program had not only begun too late in the infant's life but that it also had been terminated too soon, before the effects it achieved had become permanent (Schaefer & Aaronson, 1975). Finally, the fact that only a minority of experimental mothers actually were willing to participate in the tutoring sessions with their infants suggested a third reason why the benefits of the enrichment program eroded, i.e., that the amount of stimulation necessary to elicit enduring changes in infant development required much more than the one hour daily provided by the project tutors, something like the vast amount of time only parents would be able to spend with the child. Therefore, Schaefer and Aaronson (1975) concluded that the most ideal infant enrichment program, i.e., one that would elicit intellectual gains which were stable and lasting, would not only be focused on the youngest of infants, i.e., the neonate, but would require parent participation.

One form of enrichment programs which directed its attention on making use of parents as the major "teachers" of their young was the

parent education group. An example of such a program was carried out by Karnes et al. (1970) in which child-rearing skills were taught to mothers in two hour, weekly group meetings for fifteen months. Their children ranged in age from thirteen to twenty-seven months at the outset of the program. Not only were the infants' mothers required to attend the weekly group sessions, but they were also instructed to apply the skills or techniques learned in the group to their infants at home. In order to help mothers do this, monthly home visits were conducted to reinforce the teaching principles introduced at the group meetings, and to help each mother establish a positive working relationship with her baby.

As a result of Karnes et al.'s (1970) program, the intelligence and linguistic ability (as measured by the Stanford-Binet and the Illinois Test of Psycholinguistic Ability) of the infants whose mothers had experienced the group instruction and home visits was found to be significantly higher than control infants, whose only involvement in the project consisted of intelligence testing. Although this result indicated the feasibility of training parents in child-rearing methods considered to foster competent infant development, the study, itself, was unable to prove that group training comprised the essential ingredient for the success of the project. It is possible that another component of Karnes et al.'s (1970) program, i.e., the home supervisory visits, may have had the most significant effect in achieving the end result of competent child-rearing and infant development, or that an interaction of both group and home instruction were responsible for the results. However, since Karnes et al.'s (1970) study failed to address this issue, one is unable to determine whether or not

parent groups alone could be a successful form of parent training.

The third and final model of infant stimulation projects is the home supervision model typified by the work of Gordon et al. (1974). According to this model, since the family was viewed as the central learning environment and the home as the critical place for infant education, the parent, usually the mother, was seen as the child's first and most important teacher. Therefore, Gordon et al. (1974) devised a program which was designed to promote the optimal development of infants by training their parents in the child-rearing behaviors most likely to achieve this goal. Specifically, their parent-infant project consisted of a longitudinal study of 133 infants and their mothers of lower socioeconomic status, who received varying degrees of child-rearing supervision during the first three years of the infants' lives, i.e., from no supervision at all for the length of the project (i.e., the controls) to supervision during the infants' first, second, or third year of life, or some combination of two or more of these years (while retaining control status during the non-supervised times).

According to Gordon et al. (1974), the first two years of their project, i.e., from when the infants were three to twenty-four months of age, consisted of weekly visits to the infants' homes by home visitors whose major task was to instruct the infants' mothers in various techniques designed to stimulate the intellectual and personality development of their infants. The essential mode of presentation of various stimulating materials was demonstrated by the home visitor or supervisor, and then modeled by the mother. During the second year of the project, a separate group of families received "friendly"

visits in which the visitor neither imparted knowledge concerning child development nor made any suggestions related to child-rearing behaviors or activities. This procedure was included as a means of comparing the effects of friendly versus educative visits. The third year of the program consisted of weekly home visits, as well as the formation of infant groups which were held two times a week in a parent's home. Each group consisted of a project group leader, as well as a parent assistant, in whose home the group met, and five infants. Although the infant groups provided the children with a separate group experience in which they were given an opportunity to interact with their peers, its activities were planned in such a manner as to complement the efforts of the home visitors. Even though the actual project consisting of parent instruction and infant groups, was terminated on the infants' third birthday, follow-up testing was conducted on the infants' fourth, fifth, and sixth year birthdays as a means of assessing the stability of any changes which the program might have elicited.

As a means of assessing the effectiveness of their program, Gordon et al. (1974) not only used basic measures of infant competence, such as the Bayley and Stanford-Binet, but they also employed measures of child-rearing competence of parents, such as the Home Environment Review (HER), a test developed by Garber (1970) and modified by Gordon et al. (1974). According to Gordon et al. (1974), the HER was used to assess a number of parental behaviors and attributes including the following:

- 1) awareness of child's development
- 2) rewards for intellectual achievement
- 3) press for language development
- 4) availability and use of supplies for language development

- 5) learning opportunities outside the home
- 6) materials for learning in the home, and
- 7) reading press (Gordon et al., 1974, Appendix 4, p. 2-8).

The HER was administered orally to the infants' mothers when their children reached six years of age, whereas the Bayley and Stanford-Binet were employed yearly, i.e., the infants received the Bayley at one and two years of age, and the Stanford-Binet at three through six years of age.

As a result of Gordon et al.'s (1974) efforts, mothers were able to successfully and permanently raise the overall competence, i.e., cognitive, language, and personality, of their children. Not all of the supervised mothers achieved this result. Only those mothers who had been involved in the program for all three years, i.e., from when their infants were three months to three years of age, were able to elicit positive developmental changes in their infants by the children's third birthday. By the time the infants reached six years of age, significant differences in competence were achieved both by the infants whose mothers had participated in all three years of the project, and by the children whose mothers had only been supervised for either the first two years, or for only the third and final year of the program (Gordon et al., 1974). Friendly visits proved to be ineffective concerning any gains in competence.

According to Gordon et al. (1974), a significant relationship between maternal competence and the nature or type of involvement in the program was also found. Basically, those mothers who received home visitations for all three years received significantly higher ratings on child-rearing competence, as measured by the Home Environment Review, than mothers who experienced a lesser degree of involvement.

Fewer but still significant relationships between parenting behaviors and competence scores were also achieved by mothers who took part in the project for at least two consecutive years, or only the third year (Gordon et al., 1974).

In conclusion, the various forms of infant enrichment programs cited above have shown that the greater the involvement of the infants' parents, the greater the probability that the program was a success. A comparison of Schaefer and Aaronson (1975) and Gordon et al.'s (1974) projects, in particular provided support for this conclusion. Although the Schaefer and Aaronson (1975) and Gordon et al.'s (1974) program both had the same goal, i.e., to provide infants with a stimulating environment to ensure their optimal development, they differed both in the manner in which they approached this task, i.e., home tutoring versus home supervision, respectively, and in the eventual success of their projects. Whereas Schaefer and Aaronson's (1975) project produced only temporary changes in the competence of their infants, Gordon et al. (1974) was able to elicit much more stable or permanent changes. Therefore, it appears that Gordon et al.'s (1974) success was the result of the practice of using parents as the major teachers of their young. However, the differences in Gordon et al. (1974) and Schaefer and Aaronson's (1975) results might be attributed to differences in the samples chosen. Although both projects included subjects of the same age, and socioeconomic status, they did differ in the distribution of sex, i.e., Schaefer and Aaronson's (1975) subjects were all males, whereas Gordon et al.'s (1974) sample included both males and females. Since not only Gordon et al. (1974) but a number of other infant enrichment programs

(Robinson & Robinson, 1971; Karnes et al., 1970) failed to discover any significant sex differences affecting their results, it does not appear that differences in the sex distribution of Gordon et al.'s (1974) and Schaefer and Aaronson's (1975) subjects was responsible for their differences in success, but rather Schaefer and Aaronson's (1975) lack of results appeared to be caused by their failure to require the participation of parents.

It is evident from the intervention projects reviewed above that the infant's mother can be trained to foster the optimal development of her child. Whether the training of the infant's father will produce the same results remains untested. It is the purpose of this project to determine the effect of training the infant's father as well as his or her mother in child-rearing skills concerning the infant's development.

The Present Study

The purpose of the present study is to contribute to the literature concerning the father's role in child-rearing, i.e., specifically during infancy. Of particular interest is whether fathers can be trained to foster the development of their infants as mothers have been in the studies described above. The present study will also attempt to determine whether tutoring both parents has a greater effect concerning the development of infant competency than educating just one parent in child-rearing skills. In addition, a comparison of the child-rearing capability of mothers and fathers will be made with the expressed purpose of determining whether mothers and fathers differ in any way concerning their styles of parenting.

As a means of comparing the effectiveness of training parents in child-rearing skills, four treatment conditions were developed consisting of tutoring either the infant's mother or father alone, both parents together, or neither parent (no-tutoring control group). Basically, the parent training or major intervention of the study is to consist of weekly tutoring sessions conducted in the infant's home from the time the infant is one month of age until he or she reaches his or her second birthday. In order to control for sex differences in training styles, the tutoring sessions are to be carried out by female college seniors, who have been trained in child development and child-rearing techniques. Each session will have the tutor describe and sometimes demonstrate various child-rearing exercises which the infant's parent(s) will then be asked to model.

The particular timing of the project to coincide approximately with the infant's first two years of life was chosen for a number of reasons. First, it was decided that parent training would be the most effective if it was instituted soon after the birth of the parent's infant before the parent had developed less helpful or even harmful child-rearing practices concerning the development of infant competence. In addition, for a similar reason only first born infants and their parents were chosen as the targets for the present study, so that parents would be truly "naive" or inexperienced. The first two years of the infant's life was also chosen as the target age of the present study since it has been discovered that the infant's first two years of life represent the most crucial time in his or her development, as demonstrated by the following quote from the report of the Joint Commission On Mental Health (1970):

Research reveals that most of a child's future growth and development is shaped by the events that occur from the time of his conception until he reaches the age of two. These very early years are of crucial importance and, for better or worse, the foundation is laid--often irreversibly--for the individual's physical, emotional, social, and intellectual well-being (p. 314).

Not only are the infant's first two years of life the most optimal time for a parent intervention project, but as Gordon et al.'s (1974) research suggests, one of the few time periods when relatively permanent changes in infant development can be elicited.

In order to assess the effect of child-rearing training on parent and infant competence a number of assessment techniques which are designed to measure these variables will be administered. The Bayley Mental and Motor Scales of Infant Development (Bayley, 1969) will comprise the major measure of infant competence or development. These scales will be given to each infant as a means of comparing the effect of the four treatment conditions described above on the cognitive, social, and perceptual motor development of the infants. In addition, the infant's cognitive development will be measured further by means of the Rubenstein (1967) Bell-Pairs Test. According to Rubenstein (1967), the Bell-Pairs Test provides one with a measure of the infant's exploratory behavior as well as preference for novel stimuli. The test records the amount of time the infant spends looking at and manipulating a bell and ten novel items. The bell is first presented alone for ten minutes and then paired with ten novel items for one minute each. The infant's exploratory behavior is defined by the amount of time the infant looks at and manipulates the bell during its first presentation, whereas the infant's preference for novelty is represented by the amount of time the infant looks at and manipulates the novel items.

As a means of establishing the effect of the present intervention on parent-infant interaction, observations of parent-infant behavior in the home will be conducted using the Yarrow (1972, 1975) Observation Scales of the Home Environment, amended to include fathers as well as mothers. The Yarrow (1972, 1975) Observation Scales are composed of three separate scales, one of which measures parent-infant interaction and behavior, while the other two scales assess the responsiveness and complexity of the inanimate environment. These scales will not only be used to compare the effects of the various parent tutoring conditions on how parents and infants behave with each other, and to measure how stimulating an environment parents establish for their infants, but they will be used to differentiate the interactive styles of mothers and fathers.

In addition to the Yarrow (1972, 1975) Scales mentioned above, parent-infant interaction will be measured by means of Ainsworth et al.'s (1971) Four Scales of Maternal Behavior, amended to include fathers, and by Ainsworth and Bell's (1969) Feeding Scales. Ainsworth et al.'s (1971) Four Scales is an observational measure of the degree to which parents are responsive to their infants on four variables including the consistency to which parents respond to their infant's needs, accept their infant's behavior, cooperate with their baby's actions, and make themselves accessible to their infants. A more specific view of parent-infant interaction is provided by the Ainsworth and Bell (1969) Feeding Scales which are an observational measure of the quality of the parent's feeding behavior concerning the infant. The Feeding Scales consist of four items which assess the degree to which parents respond to the infant's preferences concerning the timing, length, and pacing

of the feedings, as well as the kinds of food consumed. As with the Yarrow (1972, 1975) Scales, the Ainsworth et al. (1971) Four Scales, and the Ainsworth and Bell (1969) Feeding Scales will be used to compare the effect of parent tutoring on parent-infant interaction, as well as to compare mothers and fathers concerning the overall quality of their interaction with their child.

As a means of assessing the effect of parent's attitudes towards their infants on the development of their children, the Neonatal Perception Inventory (NPI), developed by Broussard and Hartner (1971), is to be administered to the parents participating in the present study. The NPI is a measure of parent's perceptions of their own infant and what they perceive an hypothesized average baby to be like. It provides one with a way of determining whether parents have a positive perception of their infant, as represented by the parents viewing their child's behavior as equal to or better than the average baby, or a negative perception, comprised of seeing their child's behavior as being worse than the average baby. A measure of parental attitudes was included in the present study as a result of Broussard and Hartner's (1971) findings which indicated that parents who perceived their infants in a negative manner were more likely to have children referred for mental health problems at age four than parents who had a more positive perception of their infants. Therefore, it appears that parental attitudes may effect infant competence as represented by mental health. It is also possible that the manner in which parents perceive their infants may effect their participation in the present study. Therefore, the NPI will be administered to parents in order to

ascertain the effect of parental attitudes on their ability to be trained in child-rearing skills.

In summary, the present study has been designed to measure the overall effectiveness of a parent training program concerning the attainment of infant competence, as well as to compare the child-rearing potential of mothers and fathers. Consequently, the following hypotheses will be tested:

Hypothesis 1. Parent training of one or both parents results in producing infants who are more competent than infants of untrained parents.

Hypothesis 2. Mothers and fathers do not differ in their ability to rear competent children.

Hypothesis 3. Child-rearing tutoring of both parents results in producing infants who are more competent than infants who have a single parent trained.

METHOD

Experimental Design

The basic experimental design of this project will consist of treatment of mother (2) x treatment of father (2) x age of child (whose number will vary from 2-7 depending upon the particular measure and how often it is administered), utilizing a factorial design whose last factor is a repeated measure. Encompassed in this design are four treatment groups which are comprised of training one or both parents, or neither parent in child-rearing skills. Therefore, the four experimental conditions will be mother training, father training, mother and father or parent training, and control, or no training.

Experimental Intervention

The major intervention of this project will consist of sending tutors trained in child development and child-rearing skills (see Appendix B for training procedures) to the infant's home for approximately one hour weekly during which time the tutors will explain, demonstrate, and have the infant's parent(s) model various child-rearing practices which are designed to foster infant competence. In order to assure that each family receives the same training, a Child-rearing Manual (see Appendix A) was developed which presents the tutors with a step by step guide for each parent training session. The parent training sessions will begin when the infants are one month of age and will be discontinued when the infants reach two years of

age, for a total of ninety-three sessions. All of the treatment conditions, excluding the control group, will receive the intervention described above. However, in condition one, only mothers will receive parent training, whereas in condition two fathers will be the only ones trained. In condition three both parents will be trained, whereas in condition four, neither parent will be trained thereby forming the control group.

Subjects

The subjects of the present study will consist of sixty-four intact families which are comprised of first born infants and both parents. The subjects will be selected from Lansing, Michigan and its surrounding communities with the aid of local obstetricians and prenatal clinics. Potential subjects will be contacted by telephone during the third trimester of pregnancy, at which time a brief description of the study will be given. If the family indicated interest in participating in the study, a meeting between the family, the project director, and tutor (except for controls) would be scheduled to be held at the family's home, at which time the project would be described in much greater detail. The families would then be given one week to decide whether or not they wished to participate in the study, after which time they would be contacted by phone for their decision. Those families which agreed to participate in the project are to be contacted one week after the birth of their infant at which time only those infants who were in good health would be chosen to participate in the study.

Assessment Procedures

The Bayley Scales of Infant Development

The Bayley Scales (Bayley, 1969) provide an assessment of an infant's cognitive and perceptual-motor development represented by two scores, a Mental Scale score, and a Motor Scale score. Extensive reliability and validity data have been obtained by Bayley (1969).

Neonatal Perception Inventory

The Neonatal Perception Inventory (NPI) consists of two scales, the Your Baby Scale and the Average Baby Scale (Appendix C). Each of the scales contain the same six items which measure the degree to which subjects perceive certain behaviors such as crying are present for the infant, using a five-point rating scale. The NPI score is derived by subtracting the Your Baby score, i.e., the sum of all six items, from the Average Baby score. Reliability data are reported by Broussard and Hartner (1971).

Feeding Scales

The Feeding Scales (Appendix C) is a four item measure of an adult's feeding style with an infant. Each item is rated by an observer on a nine-point scale representing the quality of the feeding practice, i.e., from poor to excellent. Reliability data are provided by Ainsworth and Bell (1969).

Observation Scales of the Home Environment and Mother-Infant Interaction

An amended version of the Observation Scales to include father-infant interaction consists of three separate scales, the Parent-Infant Scale, the Responsiveness of Objects Scale, and the Complexity of

Objects Scale (Appendix C). The Parent-Infant Scale is a nineteen item event sampling scale which is comprised of various events of parent-infant interaction such as vocalizations and physical contact. After thirty seconds of observation, an observer records for sixty seconds all of the events that were witnessed by placing a check mark under each event observed, thus completing one observation cycle. An even is only checked once per cycle. The observer then goes onto the next cycle, and so on until the observation period is over. The Responsiveness Scale is comprised of four subscales which measure the feedback potential of play objects. Each of the four subscales is rated by an observer on a five-point continuum. The Complexity Scale is a five-point scale which measures the amount of information a play object provides the infant through various sensory modalities. Reliability for all three Observation Scales is reported by Yarrow et al. (1975).

Four Scales of Maternal Behavior

The Four Scales (Appendix C), amended to include paternal behavior, are comprised of four nine-point scales which measure the degree to which parents are sensitive to their childrens' wishes and needs, how cooperative parents are when interacting with their infants, how well they accept their infants, and how accessible the parents are to their infants. The Four Scales are completed by an observer after a predetermined observation period. Reliability on the Four Scales has been established by Ainsworth et al. (1971).

Bell-Pairs Test

The Bell-Pairs Test (Appendix C) is a situational measure of exploratory behavior and preference for novelty. It is comprised of presenting a bell to the subject for ten minutes of free play. The bell is then paired with ten novel items, with each pair presented for one minute for a total of ten consecutive minutes. Four scores are derived from the Bell-Pairs Test including two exploratory scores, and two preference scores. The exploratory scores represent the time the infant looks at and manipulates the bell, whereas the preference scores are comprised of the time spent looking at and manipulating the novel items. Reliability for the Bell-Pairs Test was established by Rubenstein (1967).

Pilot Testing

Pilot testing consisted of two different phases. The first phase involved the administration of all the observational assessment scales described above including the Feeding Scales, Four Scales, and the Observation Scales of the Home Environment and Mother-Infant Interaction. Three pilot subjects comprised of a two, nineteen, and twenty-one month old infants and their mothers were administered these scales in order to ascertain ease of administration. Of particular concern was how the subjects would react to being observed, i.e., would they act naturally? Also of interest was whether or not the measures themselves could be administered without difficulty. It was found that after a few minutes the subjects became oblivious to the observer's presence and acted quite naturally. As a result of this finding, observers will be instructed to wait at least five minutes while they

watch the subjects interact before they begin to officially rate the subjects' behavior. It was also found that all of the scales were easy to administer and posed no rating problems.

The second phase of the pilot testing was to actually tutor a pilot subject or family in child-rearing techniques in order to ascertain how parents would react to being tutored. In order to do this, a mother and her infant were tutored on a weekly basis from the time the infant reached nine weeks of age until the infant was nine months of age. It was found that for the most part the child-rearing techniques and exercises were easily understood and carried out by the infant's mother. However, a problem did arise when a particular child-rearing practice taught to the mother conflicted with a common belief in child-rearing. This problem arose with the pilot mother concerning whether or not one should respond immediately to an infant's cries. The pilot mother had been indoctrinated with the common belief that if she promptly responded to her infant's cries rather than making her child wait for awhile that she would be helping her child to become spoiled. However, after the mother was informed of the research which showed that responding to infant crying not only helps the child not to become spoiled but also fosters her development, she was willing to change her practice and follow the tutor's advice. One may infer from the results of the pilot tutoring that parents can not only be taught how to rear their children but that some of their basic misconceptions concerning parenting are amenable to change.

Tutor and Assessor Training

The Tutors and assessors will be female college seniors who have had at least one course in child development. Approximately three months before the project is to begin, two separate training programs will be instituted, i.e., one for tutors, and one for assessors. Basically, tutor training will be comprised of requiring each tutor to practice every child-rearing exercise (see Child-rearing Manual, Appendix A) with appropriate aged infants at a local day care center. The tutors will be observed by the project director during the practice sessions in order ascertain whether or not the tutors are carrying out the exercises according to standard procedure. Tutors will also meet with the project director weekly at which time they will be shown video tapes of parent-tutoring sessions, and discuss any problems which may have arisen in their practice sessions (see Appendix B for a fuller description of training procedures).

The assessors will be responsible for administering all of the dependent measures. They will meet weekly with the project director to discuss each assessment technique, and to observe demonstrations of the various measures (see Assessment Manual, Appendix C). They will be required to practice each assessment technique with appropriate aged infants at a local day care center. Once the assessors have become thoroughly familiar with every measure, the assessors will be paired for reliability tests. Reliability will be established on ten trial subjects for each assessment technique (see Appendix D for a more detailed description of training and reliability procedures).

Procedure

Sixty-four first born infants and their parents will be randomly assigned to one of four conditions, i.e., mother training, father training, mother and father or parent training, and no training or control. Therefore, there will be a total of sixteen families in each condition. Prior to beginning the home tutoring sessions, pretesting of all four groups will be conducted when the infants are one month of age. Child-rearing sessions will begin one week after the pretesting for all but the control group, and will be held weekly until the infants' second birthday. One week after the infants' second birthday post-testing will be conducted to assess the infants' developmental progress and the parents' child-rearing skill. In addition to pre and post-testing, five additional assessments will be conducted during the project when the infants are three, six, nine, twelve, and eighteen months of age. All assessments will take place on different days than the days with tutoring sessions scheduled. The assessment measures and the times or ages when they are to be administered are presented below in Table 1.

Data Analysis

Two major analysis of the data will be conducted. An analysis of variance of mother training (2) x father training (2) x age of child (Whose number ranges from 2-7 depending on the particular dependent measure) utilizing a factorial design with the last factor as a repeated measure will be conducted. The second analysis of the data will consist of a product-moment correlational analysis of the relationship between the dependent measures both within and across time periods.

Table 1. Assessment Techniques and Age of Infant When Administered

Measures	Age in Months						
	1	3	6	9	12	18	24
Bayley Scales of Infant Development	✓				✓		✓
Neonatal Perception Inventory	✓		✓		✓	✓	✓
Observation Scales of Home Environment and Mother (parent) Interaction	✓	✓	✓	✓	✓	✓	✓
Feeding Scales	✓	✓					
Four Scales of Maternal (Paternal) Behavior	✓	✓	✓	✓	✓	✓	✓
Bell-Pairs Test			✓				

APPENDICES

APPENDIX A

CHILD-REARING MANUAL BY SESSIONS, AGE RANGE:

ONE TO TWENTY-FOUR MONTHS

Table A. Child-rearing Outline of Session Goals.

Goal	Sessions		
	1-3	4-6	7-9
	<u>Age Range 1-3 months</u>		
Crying	A. Prompt Response B. Effective Response		
Feeding	A. Sensitive Pacing B. Prompt Response C. Responsiveness to Infant Desires D. Preferences in Solids		
Contact	A. Tender, Careful B. Nonroutine		
Language		A. Model Infant Sounds B. Adult Verbalization-Descriptive	A. Mediate Toys B. Mutual Visual Regard
Play			
Perceptual & Fine Motor			A. Focusing on colorful and noise producing objects B. Following objects, visually, C. Grasping D. Hold objects briefly
Gross Motor			A. Rotates head B. Lifts head C. Elevates self by arms D. Sits with support E. Holds head steady

Table A. Continued

	Sessions			
	10-12	13-15	16-18	19-21
Crying Feeding Contact Language	<u>Age Range 3-6 Months</u>			
	REVIEW LAST 10 MINUTES OF EACH SESSION			
Play	A. Mediate Play Objects B. Express Verbally Positive Affect C. Descriptive Language	A. Rattle Games for Tracking & Grasping	A. Mouthing Objects for Exploration	A. Touch or Tactile Experience with Verbalization
Perceptual Fine Motor	A. Cradle gyms	A. Reaching and Grasping Objects B. Visually Tracking Objects (mobiles)	A. Viewing World from Parents' Arms: Taking a Walk with Baby	
Gross Motor				A. Stimulate Head Control B. Arm Movement

Table A. Continued

Goals	Sessions		
	22-25	26-29	30-33
Crying	<u>Age Range 6-9 Months</u> A. Use Distal Responses before Contact Responses REVIEW LAST 10 MINUTES OF EACH SESSION		
Feeding	REVIEW LAST 10 MINUTES OF EACH SESSION		
Contact			
Language	A. Imitate or Model Infant Sounds (Adult)	A. Imitate or Modeling of Adult Sounds (Infant)	A. Songs and Rhythm Games
Play	A. Mediation of Play Objects which Change when Manipulated	A. Social Game: Peek-a-Boo Mirror Play	A. Object Permanence
Perceptual Fine Motor			A. Visual Tracking and Search, Reaching & Grasping
Gross Motor	A. Sit unsupported	A. Stand with Help	A. Turn Body from Waist
Body Self Image		A. Mirror Play	

Table A. Continued

Goals	Sessions		
	34-37	38-41	42-45
Crying	<u>Age Range 9-12 Months</u> REVIEW LAST 10 MINUTES OF EACH SESSION		
Feeding	A. Self-feeding with Help	REVIEW LAST 10 MINUTES OF EACH SESSION	
Contact	A. Respond to Infant Signals to be Picked up and Put Down		
Language	A. Label Objects Infant is Looking at, Shown, or Playing with.	A. Language Comprehension: "Where is" Game	A. Teach Simple Commands
Play	A. Allow Extensive Floor Freedom B. Childproof House C. Give and Take Games D. Outdoor Play	REVIEW LAST 10 MINUTES OF EACH SESSION A. Object Permanence Games A. Spatial Relations REVIEW LAST 10 MINUTES OF EACH SESSION	
Perceptual Fine Motor			A. Manipulation of Objects Varying in Size and Shape
Gross Motor	A. Practice Standing With Help B. Sitting to Crawling Position	A. Balancing and Leaning in Sitting Position B. Creeping & Crawling	A. Cruising B. Walking when Led
Body Self Image		A. Where is Baby, Others? B. Hide and Seek C. Mirror Play	

Table A. Continued

Sessions										
Goals	46-47	48-50	51-52	53-55	56-57	58-60	61-63	64-66	67-69	
Crying	Age Range 12-18 Months									
Feeding	A. Verbal Response	REVIEW LAST 10 MINUTES OF EACH SESSION								
	A. Finger Feeds									
Contact	REVIEW LAST 10 MINUTES OF EACH SESSION									
Language	A. "Where is" Game	A. Book Use	A. Label For Infant	A. Action Commands	A. Action Songs	A. What Does Object Say?	A. Who's That	A. What's That	A. Conversations	
Play	A. "Show Me" Game	A. Water Play	A. Knocking Down Things B. Stacking, Nesting Objects	A. Pretend Play B. Showing Affection	A. Puzzle Play With Help					
Perceptual Fine Motor	A. Picking Up Small Objects	A. Turning Pages of Books	A. Placing Objects in, and Taking Out of Containers		A. Puzzle Play	A. Dividing Objects	A. Ordering Objects By Size		A. Wrist Use: Twisting Jar Tops Off and On	
Gross Motor		A. Stand Alone/ Helped	A. Walk Alone		A. Crawl Upstairs	A. Stoop to Pick up Toy		A. Climb Onto Chair	A. Walk Backwards	
Body Self Image	A. Where are Body Parts, Baby						A. Baby Names Self	A. Body Parts	B. Personal Items	

Table A. Continued

Goals	Sessions					
	70-74	75-77	78-80	81-83	84-87	88-91
	Age Range 18-24 Months					
	REVIEW LAST 10 MINUTES OF EACH SESSION					
Crying	A. Use of					
Feeding	Spoon & Fork, REVIEW LAST 10 MINUTES OF EACH SESSION					
	Cup					
Contact	REVIEW LAST 10 MINUTES OF EACH SESSION					
Language	A. Simple Commands			A. Sing Songs	A. Model Pronouns, Infant Imitation	A. Model Prepositions, Infant Imitation
Play	A. Representational Play or Make Believe B. Modeling Parents' Actions	A. Taking Turns	A. Object Performance	A. Singing Songs B. Playing Musical Instruments	A. Dividing Objects By Size & Texture	A. Dividing Objects By Shape and Weight
	C. REVIEW OUTDOOR PLAY LAST 10 MINUTES OF SESSION					
Perceptual Fine Motor		A. One Piece Puzzles	A. Pencil & Crayon Use			A. Dressing and Undressing
Gross Motor	A. Climb Up & Down Stairs on Hands & Knees B. Jumping	A. Running	A. Walk Upstairs Holding Adults' Hand	A. Jump Off a Step	A. Kick a Ball	A. Help Dress Self
Body Self Image			A. Function of Body Parts		A. Use of Pronouns re: Ownership	

Child-rearing Manual
Age Range 1-24 Months
Sessions 1-93

General Instructions

1. Always set up the tutoring appointments one week in advance. Call up the day of the visit to remind families you are coming. Re-schedule, the same week if possible, if baby is sick.
2. If you are going to cover a particular topic during a session, like feeding, make sure the session is scheduled at a time when the families typically feed their babies.
3. Each session is to be approximately one hour long except for the first and last sessions, which are to be one and one-half hours long to give you time to introduce the study to the families and to terminate with them.
4. Four sessions before the last child-rearing session, tell the families that there are only four sessions left, and give them a few minutes to talk about how they feel ending (see Tutor Training Manual).
5. If you are unable to cover all of the goals of a session, cover them the next session. This will be easy to do since all sessions are repeated at least once.
6. Even if a family already does a particular behavior with their infant that you want to teach them, have them practice it anyway. Use it as an opportunity to give them positive feedback, and to see how their infant responds.
7. If at any time a parent tells you that she or he doesn't want to carry out a particular task, ask her or him the reason, but accept her or his wishes. Find out if the parents have any preconceived notions that the practice is bad for their baby.
8. If a parent asks you a question such as about the infant's development, answer it if you can. Otherwise tell the parent that there are a lot of different age ranges when things happen, and that you would like to check up on it before you give an answer. Then tell the parent what you found out next visit.
9. If parents become concerned that their infant is not doing a particular behavior, reassure them that their baby will eventually learn how to do it, and that the purpose of the sessions is to show the parents how to do things with their babies, and not to get the baby to perform immediately. You may need to remind parents of this from time to time.
10. Encourage parents to practice what they learn in the sessions on their own during the week.

11. Spend the first and last five or ten minutes of each session answering any questions and parents have about past goals or things they have done in the session.
12. The Child-rearing Manual is written to include the participation of both parents. If only one parent is being tutored, then only that parent is to be present and to practice the parenting techniques.
13. Praise all of parent's efforts to carry out child-rearing goals, when they succeed, and when they are trying. However, let them know when they are doing something correctly, and offer them suggestions on how to improve their performance.

Child-rearing Manual
Age Range 1-3 Months
Sessions 1-3

General Instructions

The overall purpose of these first three sessions of home tutoring is to introduce families to what a parent training session is like, as well as to the specific goals of each session. This is also the time during which you and the family will get to know each other, and most importantly, become comfortable in working together. Always remember that each tutoring session is to be scheduled in advance with the families, but that the time of the sessions should coincide with the particular goals of a particular session. Specifically, since infant feeding is one of the major goals of sessions 1-3, these sessions must be scheduled so as to include a feeding. Each tutoring session is to be one hour in length, except for session number one, which will run for 1 1/2 hours because of the additional time needed to familiarize families with the way the sessions are to be carried out. In addition, since sessions are grouped together by childrearing goals, some sessions will repeat the goals taught of previous session, e.g., sessions 2 and 3 repeat the goals taught in session 1. Therefore, the focus of the session in which specific goals are first mentioned will be training parents how to perform the goals, whereas the focus of the repeated sessions will be to review the procedures taught, as well as to solve any problems parents are having carrying out the child-rearing skills taught to them.

Session FormatSession #1

This session is to begin 1/2 hour before the time when the infant is to be fed. Go to the family's home and introduce yourself in the following manner:

Hello, Mr. and Mrs. _____. I'm _____ from the child-rearing project. I spoke to you over the phone and told you a little bit about what the project is about. As I told you over the phone, today is our first session and it will last for about an hour and a half. Basically what we'll be doing is to practice and learn about the kinds of things to do with your baby which research has shown will help her (or him) to grow up knowing how to get along with other people and how to get along in the world, as well as how to learn about and discover new things. The way we'll do this is by my telling you about ways to do things with your baby, by showing you how to do them, and by having you try out the things yourself, and by letting you know how you are doing. But most important is that these sessions are supposed to be fun for both you and your baby. Some of the things we'll be doing will probably be things you already know about. Others may be new. Whatever the case, think of each task as something to learn how to do with practice, and not something which you'll succeed at the very first time you try it. Each new thing we cover will be repeated for one or more sessions to give you plenty of time for practice. Since most of what we'll be doing will directly involve your baby's interest and participation, our goal will be to introduce new things to her (or him) and

attempt to capture her (or his) interest. If there are times when your baby does not become interested in what you're doing, as there certainly will be, we'll just go on to a new task. We want your baby to learn about new things, but at her (or his) own pace. Once you learn how to do a certain thing, such as a game, with your baby, then you can keep trying it out with her (or him) until your baby becomes interested and takes part in the game. Do you have any questions so far? (Answer any questions).

Now that you've had a few weeks to settle in to being parents, is there anything you'd like to know about or questions you have about (baby's name) as you've been getting to know her (or him)? (Answer questions).

I'd now like to go over the things we're going to talk about and do today with (baby's name). First of all, we're going to talk about how to respond when (baby's name) cries. Then we'll go over how to feed a baby to make it fun for both you and your baby, and try it out when its time for (baby's name) to be fed. We'll also talk about how a baby should be touched and held so that your baby will enjoy it. Let's begin with what to do when your baby cries.

Crying

The first way a baby has of letting a parent know how she (he) feels is by crying. A baby cries for a number of different reasons, such as when she's (he's) hungry or in pain or some discomfort. It is the only way a baby is able to signal to a

parent who is some distance away, since a baby of this age cannot get to a parent of her (his) own accord, or by herself (himself). In order to let your baby know that when she (he) calls out for you, you'll be there to comfort her (him) it is important that you respond immediately, within a few seconds (≤ 20 seconds) by going to the baby and picking her (him) up. If your baby continues to cry she (he) might be hungry and needs to be fed. Other ways of responding to your baby's cries are to approach and touch or caress her (him), to offer her a toy to mouth, or to talk to the baby. You'll know you've tried the best thing when your baby stops crying. What I've told you to do may surprise you since most people have heard the old saying that picking up a baby or responding promptly to her (his) cries only spoils her (him). But this saying is totally false since several studies of parents and infants have shown that if parents respond promptly and consistently everytime their baby cries, their child will begin to cry less as she (he) grows older and use other ways to let you know how she (he) feels, such as by using words or gestures. Answering your baby's cries also tells your baby that she (he) can rely on you or trust that you will meet her (his) needs, and that she (he) is able to take part in helping you to know what she (he) wants. It has also been found that babies who have had their cries or needs responded to or fulfilled, when they grow older will be more likely to respond to or follow their parents wishes. How do you feel about what I've just described?

Beginning now, and for the rest of the session, I would like each of you to take turns responding to (baby's name) cries.

Now I'd like to discuss the next topic, feeding your baby.

Feeding

For the first few months of your baby's life, feeding takes up a major proportion of the time you spend with her (him). It is important that this is a pleasurable activity for both you and your baby. Studies of parents feeding their infants have shown that if parents feed their babies in a sensitive way, their babies will not only enjoy the feedings but they will become very attached to their parents. There are 5 basic things to remember when you feed your baby.

#1. The first thing to do is to time the baby's feedings according to when she (he) signals or lets you know that she is hungry, like when she (he) cries. Once you know your baby is hungry, feed her (him) as soon as possible. Do not wake your baby up to be fed. If you want to control how much your baby eats, you may give the baby snacks, such as water or juice.

#2. The second thing to do when you feed your baby is to let her (him) decide how much food she eats, and when the feeding is stopped. Your baby will let you know she's (he's) had enough food by doing things like turning her (his) head away, not sucking on the bottle, or by falling asleep. When she (he) does these things, try not to coax her (him) to eat more. Stop the feeding and wait till your baby signals she's (he's) hungry again.

These practices will make your baby's feeding very pleasurable and will help your baby to learn how to become an active partner in feeding.

#3. Another thing to do when you're feeding your baby is to pace the speed at which she (he) eats according to your baby's wishes. This is more important when your baby begins to eat solids, around 3 months of age. If your baby begins to choke or if more milk is being spit out than swallowed, the milk may be coming too fast. Check the hole in the nipple to see if its too large, or too small if the baby is sucking hard but getting very little milk.

#4. When your baby is around 3 months of age she'll (he'll) probably begin to eat solid food. You'll know she's (he's) ready for this when your baby can swallow the food without choking or sputtering. The way to help your baby accept solid foods is to give her (him) as much choice as is possible as to what foods she (he) eats. Sometimes mixing a favorite food with a disliked food will help. But, please check with your pediatrician for when to begin giving solids to your baby.

#5. The fifth and final thing to remember when feeding your baby is to hold your baby in your arms while feeding her (him), looking into her (his) eyes and smiling and talking to her (him). This will let your baby get to know you, your face, voice, and touch, and make feeding a fun and nice time to be together.

Are there any questions you have about feeding your baby?

When your baby is ready, decide who's going to feed her (him) today. Since we're going to repeat the same topics for the next two sessions, you can take turns practicing feeding your baby. While you're feeding your baby feel free to ask questions, and I'll make some suggestions when necessary.

(One parent will then feed the baby, after which you will talk about contact or holding a baby. If the baby is not ready to be fed, go onto the next topic, contact. If the baby does not signal to be fed for the entire length of the session, tell the parents that you'll wait till the next visit to observe a feeding.)

The last topic we're going to talk about today is how to hold and touch your baby in a way your baby will like.

Physical Contact

The most important thing to remember when you pick up and hold your baby is to do so gently, being careful not to shake or jar your baby. Slow, careful movements are the best. Make sure your baby is well supported, especially her (his) head. Tender caressing and kissing will help your baby enjoy being held even more. It is also important to pick up and hold your baby more than just during some routine, such as feeding or changing. Babies who are held tenderly and often will learn to enjoy being held tenderly and often will learn to enjoy being held by you and will respond by giving you back physical affection, such as by cuddling or "sinking in." Do you have any questions?

I'd like each of you to hold (baby's name = B) for about 5 minutes each, trying to make the time as pleasurable as possible for you and your baby.

(After completing the session's topics or goals, end the session by saying the following:)

Our time is up for today. Next week, and the week after we'll go over what we've discussed and practiced today. Before I leave, do you have any questions or things you're wondering about? See you next week then. (Leave home.)

Session #2 and #3

These sessions will repeat the topics of session 1. Begin the sessions by asking the following questions?

Now that you've had a week to try out the things we went over last session, what has it been like to respond to your baby's cries?

Have there been any problems?

How have the feedings gone? Any difficulties?

How has holding your baby been? Any concern?

Let's spend the rest of the session practicing responding to B's cries, holding her (him), both of you taking turns, and when your baby's hungry, feeding her (him) (have the parent who did not feed the baby last session, feed the baby this session, e.g., #2. Either parent can feed the baby the third session; ask which one wants to). Do you have any questions about what we've done today? We're at the end of our time today. See you next week.

Sessions #4-6

The major goals of these three sessions are to be presented to the families in the following manner:

Session #4: Today we're going to talk about and try some new things with B. Before we begin, do you have any concerns or things you've been wondering about B that you'd like to ask? (Answer questions.)

Let's begin with today's topics. Today we're going to talk about how to talk to your baby, and how to help your baby make sounds which will help her (his) later language development.

Adult Spontaneous Verbalization

One of the most important things a baby must learn in order to get along in the world is how to understand what other people are saying, and how to talk to other people. But learning language or how to understand and speak words is not something a baby can do by herself (himself). She (he) needs the help of the people around her (him). One way to help a baby learn how to talk is by hearing other people talk around her (him). Hearing you talk will help your baby learn the sounds of words, and eventually, when she's (he's) older, the meaning. The easiest way to talk to your baby is to describe what you're doing with her (him) at the moment. Let me show you what I mean. (Go to baby and tell the baby what you're doing such as in the following example:

"Hi B. I came over to say hello to you. I'm going to see if you'll follow my voice when I move around."

You can also talk to your baby and talk about what she's doing at the moment like this:

"You're yawning B. You look sleepy."

Do you have any questions? I'd like you each to spend about 5 minutes talking to B.

Modeling Infant Sounds

Now that you've practiced talking to your baby, let's go over ways to help your baby learn how to in some way "talk back." At this age, the only way a baby "talks" is by making sounds. By encouraging or helping her (him) to use the sounds which she'll need to know to make words and finally to speak or talk. The way we can help B make sounds is to repeat whatever sounds she makes, right after she makes them. I'll show you what I mean as soon as B makes a sound. (Demonstrate modeling the baby's sounds; then have each parent do the same for 5 minutes each.)

By repeating your baby's sounds, as we've just done, we're not only helping her (him) to hear those sounds from another person, but we're also letting her (him) know that when she (he) makes sounds, she'll (he'll) get a response. When she's (he's) older, this will help her learn that when she talks, someone listens, and talks back. It will also encourage her to make more sounds and later on words.

Do you have any questions as to what we've covered today, or in past session? For the next 2 sessions, we'll go over the same things we've practiced today.

Sessions #5 and #6

Repeat the exercises of session 4 and answer any questions the parents may have wondered about. Do not repeat the rationale of

the goals or topics unless the parents ask you to go over them again.

Sessions #7-9

The major goals of these sessions are to be presented as follows:

Session 7: Today we're going to do two things with B. We're going to help her (him) to learn how to use and control her (his) body, such as her (his) hands, arms, and head, and we're going to practice ways of getting B interested in exploring things around her (him).

Perceptual, Fine and Gross Motor Skills

As your baby grows older, she (he) will develop the ability to control various parts of her (his) body. She'll (he'll) learn how to follow objects with her (his) eyes, reach for and grasp or hold objects in her (his) hands, turn her (his) head, lift and support or hold her (his) head steady, lift or raise herself (himself) by her (his) arms, roll part way to the side, and from side to back, and sit with support. There are several things you can do with your baby which will help her (him) to do these things.

Play

All of these things can be done while playing with B.

Visual Tracking:

Let's begin by helping your baby to focus on and watch things, standing still and in movement. Two major things will catch your baby's interest at this age, yourself, especially your face and voice, and colorful and noise producing toys. (Have baby laying on her (his) back in crib or where the parents would like her

(him) to lay).

Let's start with using your face and voice to attract B's attention. I'll demonstrate. (Go over to baby and stand close to her (him) placing your face one foot away from her (his) face. Call out B and smile. When baby looks at you move your face to the left, then the right, continuing to smile and talk to the baby, e.g., "Hi B," slow enough so that the baby can follow you with her (his) eyes.)

I'd like each of you to do what I've just done. Now, instead of using your face and voice, let's use a toy. Do you have a rattle? (If not, provide one.) Use the rattle in the same way as you did your faces, but shake the rattle rather than talk, beginning a few inches in front of B's face and then moving it to the right, then left. (Have each parent practice this a few times.) You can also use other toys or objects to get your baby's attention (e.g., spoon, stuffed toy, plastic measuring cups or spoons, etc.).

Reaching and Grasping:

Now let's try to get B to use her (his) arms and hands. Take the rattle and shake it within reach of the baby's hands. See if she'll (he'll) try to reach it, such as by moving her arms and hands closer to it. Then place the rattle in her (his) hand, until she (he) drops it.

Head and Arm Control:

Now let's focus on helping your baby to control her head. The first exercise we did with moving our faces and the rattle from

side to side let your baby practice turning her (his) head from side to side. Now, to give your baby practice lifting her (his) head begin by placing her (him) on her (his) stomach. I'll now try to get B to lift her (his) head and raise herself by her (his) arms by using my face and voice again, then the rattle (stand at the baby's head and call her (his) name until she (he) looks up, raises her (his) head, and uses her (his) arms to do so. Repeat with rattle). Now I'd like each of you to try the same thing.

Now, let's give B some practice in holding her (his) head steady. Place B on her (his) back. Take hold of each of her (his) hands. Now slowly raise B to a sitting position, placing your hand behind her (his) head so it won't fall back if she (he) doesn't support it. (Have both parents do this.) This exercise gives B a chance to hold her (his) head somewhat steady. You can also give B practice doing this by placing her (him) in a sitting position, supporting her (his) back, and seeing if she (he) can hold her (his) head steady. Why don't each of you try this and see what happens.

End the session.

Sessions #8 and #9: Repeat topics of Session 7.

Age Range 3-6 Months

Sessions 10-12

Session 10: Present the major topics in the following manner:

Today and for the next two sessions we're going to talk about and

practice how to help B to explore different toys, and objects, how to use her (his) hands to do this, how to talk to B while playing with her, and how to let B know that you love her (him).

Play with Baby

Let's begin with how to interest B in exploring or learning about Objects and toys. Two major things are needed to do this. One is to collect a number of interesting objects to present to B such as any of the following things:

1. elastic or rubber bands
2. pieces of clothing such as a glove, mitten, sock
3. plastic measuring cups and spoons
4. bracelets
5. clothespins
6. rattles
7. stuffed toys
8. sound toys
9. pictures with large detail of people, animals, objects
10. rope or elastic to hang items from, or wooden stand

The second thing which is very important in making new objects and toys interesting to your baby is that someone that B cares about is actively involved in showing the items to her, how they work, and the different ways one can play with objects. Your participation will make learning about objects doubly enjoyable for B because it will provide her with time with you, but also with new and interesting things. Any questions? I'd like you both to collect as many of the items I mentioned and any others which

you feel would attract B's attention. (If parents don't have a rope to hang items from, provide them with one). Now, I'd like you to place B in her crib. I'd then like each of you to divide the items in half, each taking half and then first one, then the other presenting your items to B. The way to do this is to show your baby the object, and what it can do. For example, show your baby the rattle, then shake it, showing your baby that a rattle makes noise when it is shaken. If you have a squeak toy, show it to B and squeak it while you're doing it. One other thing I'd like you to do while presenting the toys to B is to talk to her (him) while you're doing this, describing your actions in words. For example, while showing your baby an animal squeak toy you might say the following:

"Hi B. Look at this. It's a dog. It makes noise when you squeak it."

Now, why don't each of you try the things I've talked about with the objects you've collected. (Let parents practice for about 5 minutes each.)

Pictures:

We've just practiced what to do with toys and objects with your baby when you're present. However, since you can't always be with your baby, it's important to make the baby's surroundings, like her room as interesting a place as possible. You can do this in a number of ways. First of all, you can find large, colorful, familiar pictures to put up on B's bedroom walls. Pictures such as of people, especially their faces, animals, and nature, such as trees are some ideas to be used. You can find these pictures

in magazines, or you can draw them yourself, or buy posters in a store. Let's look at B's bedroom and see where we can place some pictures, if you haven't done so already. (Check baby's bedroom. If it needs some pictures have the parents get some old magazines or paper and crayon and make some. Place the pictures on all the walls.) The pictures should be placed where B can see them, at crib height, and a foot from the floor if B plays on the floor.

Cradle Gyms:

Another thing B can explore or play with by herself (himself) is a cradle gym. You can make one by tying a rope across the baby's crib, and then tying various toys and objects to the rope with elastic bands. Place the toys on the rope so that they hang within arm's reach from B when she's (he's) lying on her (his) back. We can use the objects you showed B earlier in the session. It is important to choose objects which are too big to be swallowed if B were to get them loose somehow. Let's make one now and place it on B's crib. Now, wiggle the toys or objects until B looks at them, and tries to reach and grab them.

Positive Affect:

Verbal:

Now let's talk about the final goal for today, letting your baby know you love her (him) in words. A few sessions ago we talked about how to let your baby know you care about her through physical contact, such as by hugging, kissing, caressing her (him). You can also let your baby know you love her (him) through words. One way of doing this is to hold your baby in your arms, look

directly into her (his) eyes, smile and say caring things like the following:

"I love you, you're a nice baby, I like to hold you, I love it when you smile at me."

I'd like each of you to do this with B for a couple of minutes. If you'd like to use your own phrases for telling your baby you love her (him), go right ahead. In fact, it will be better if you use your own words so that you'll feel more comfortable.

Sessions 11-12: Repeat topics of session 10, except for the cradle gym exercise, since you've already made one with the parents. But you can have parents substitute new toys on the cradle gym. Also for the picture exercise, have the parents put up new pictures for the baby to look at.

Sessions 13-15

Session 13: Today we're going to talk about a topic we've discussed before, how to help your baby learn how to use her body, especially her eyes and hands. Before when we went over this topic, we gave B the chance to gain control over her hands and eyes by giving her things to try and reach and grasp in her hands, and things to follow with her eyes. But because her body had not matured very much, she was unable to reach and grasp things very well. Now that your baby is older, and her body has developed to a greater extent, she is able to learn better control of her body. Today we're going to practice ways of helping B to follow things visually, with her eyes, and to reach and grasp objects with her hands.

Visual Tracking: Babies will follow things with their eyes if they are given something interesting to look at. A mobile made up of a few objects hung at various lengths which move with currents of air is something which should attract B's attention. It should be hung from the ceiling where your baby can easily watch it. I brought a mobile today for you to look at, and place in your baby's bedroom. Let's do that now. (Have parents hang mobile over baby's crib, and then place their baby on her back in the crib, if she isn't already there.) Now let's point to, blow on, and talk about the mobile until B looks up at it and watches it for a few seconds.

Reaching and Grasping: Now let's give B practice in reaching and grasping for objects. Let's use B's rattle to do this, or any noise making object which is small enough for your baby to be able to hold it, (e.g., bell, squeak toy). Also, B should be lying on her back.

First, I'd like one of you, then the other to take the rattle, and standing out of your baby's sight, behind her head, to shake the rattle, holding it about one foot over the baby's face, till she looks at it. Then move the rattle down towards the baby's stomach within arms reach of B. Keep shaking the rattle until B grasps it in her hands. Then release the rattle and let B play with it for a few seconds. Then pull on the rattle, raising it slowly until your baby releases it. (Demonstrate for parents, then have each of them copy you.)

Now, let's give B some practice reaching and grasping objects while she's in a sitting position rather than lying on her back. Let's take B to the kitchen table (or any substitute) where you can set down and seat B on your lap so that her head, arms, and chest is above the table. You may need a pillow on your lap to raise her to the height needed so that she can easily reach objects placed on the table. Bring the rattle (or other toy) with you. (Have the parent take baby and seat themselves with the baby and do the exercise. Then have the other parent do it). Now that you're seated place the rattle on the table within B's reach. Shake it till B looks at it, and reaches for and grasps it. (Have each parent do this 2 or 3 times with their baby.) Although we used a rattle for these exercises today, you can use any toy or object which attracts B's interest and is small enough for your baby to hold, such as keys, a small rubber doll or animal, a bell, etc.

Sessions 14-15: Repeat topics of session 13.

Sessions 16-18

Session 16: Today we're going to introduce your baby to new and different things in her surroundings. We're going to do this by giving your baby a number of objects to play with, and by showing your baby her (his) surroundings, from your arms.

Mouthing Objects: At your baby's age, the part of the body through which babies learn about things is the mouth. You may have noticed this already. By mouthing objects, babies learn how they feel, how hard they are, their taste, and shape. It is the best way they have for exploring the world, and learning about

the things in it. You can help your baby to do this by giving her (him) as many different objects to mouth as possible. I'd like you to gather a number of things that we could introduce to B. Be careful to choose toys and objects which are too big to be swallowed. Here are some ideas of what you might select, things like metal and wooden spoons, stuffed toys, plastic or wooden blocks, cups, rattles, rubber toys, and balls. Go ahead and collect some things. Now, place B either in a sitting position on one of your laps, or lying on her back. Then I'd like first one of you, then the other to hand one object at a time to B, and let her mouth it. After a few seconds, show another toy to B while gently taking away the other object, and give it to her (him). But if your baby won't let go, or begins to fuss or cry, let her (him) keep the object because we want her to enjoy this game. To make this game more interesting to your baby, talk to her (him) while you're giving her (him) the objects, describing what you're doing. I'd like each of you to try this now with two or three objects each. (Let each parent try this.) To keep this game interesting to your baby, but not too unfamiliar, mix in some new objects, which your baby has never seen, with some familiar ones, which she's (he's) played with before. You can do this during the week and when we go over this exercise again next week.

Walking with Baby: Now let's do something different. Until babies can move around themselves, such as by crawling, they can only see a small part of the world on their own power. They need the help of others to move them about, showing them things to look at. One

was to do this is to take a walk with your baby in your arms, holding her (him) at your shoulder, with her (his) head high enough to be able to see. Even if your baby could already move about on her (his) own, being held at your shoulder gives her (him) a new view of the world, from a different height. I'd like each of you to take B for a walk through the house, telling her (him) as you go about the things and places you're looking at. (Let each parent do this.) You can also take B for walks outside when the weather permits, and to as many different places as you can think of.

Sessions 17-18: Repeat topics of Session 16.

Sessions 19-21

Session 19: For the last few sessions we've been introducing your baby to different objects and toys to learn about. Today we're going to help your baby begin to learn more about the things she (he) plays with. We're going to help her (him) find out that one way toys and objects differ is by the way they feel.

Tactile Experience: Let's begin by collecting things of various textures or surfaces. Some ideas are different kinds of materials, like nylon, wool, cotton found in stockings, socks, and shirts, silk, leather found in scarves and shoes. Also, toys with smooth and rough surfaces would be good. Let's see what you can find. (After parents collect items continue explanation.) With B seated with support, such as on your lap, or on the couch, held with one of your arms, or lying on her back, I'd like first one, then the other of you to introduce the object to B. Do this by taking your baby's hand and rubbing it on the object, if she'll

(he'll) let you, or by just rubbing the baby's hand with it. I would also like you to talk with B while you're doing this, asking her (him) to feel the things, and telling her (him) what the things feel like, such as soft, rough, smooth. At this age your baby won't understand what you're saying. Connecting words with what you're doing will make it easier for her (him) to learn to talk and understand words when she (he) is older. Talking to your baby while you're playing with her (him) in this way, will also make learning about things feel more fun because it lets your baby know you're there, through your voice. Each of you try this for 5 minutes.

Head and Arm Control: Now, let's use the same exercise to help your baby get more practice using her arms and hands, and controlling her (his) head. Instead of stroking B's hands with the materials, hold them out to her (him) and let her (him) reach for them with her (his) hands and arms. When she (he) gets them, then label how it feels. Also, hold out the objects in different places, such as to one side of the baby and above or below her (his) head, to give her (him) practice turning her (his) head to look at things.

Sessions 20-21: Repeat goals of session 19.

Age Range 6-9 Months

Sessions 22-25

Session 22: Today we're going to give your baby a chance to play with you, using toys and objects which change in some way when played with. We're also going to help B control her (his) body to a

greater degree, to sit alone.

Crying: Before we begin with playing with B, I want to spend a little time talking about how to respond to your baby when she (he) cries. In earlier sessions, we talked about responding immediately to your babies cries, usually by going over to her (him) and picking her (him) up. Now that your baby is older, close physical contact when she (he) cries may not always be necessary. You may begin with more distant responses, such as entering whatever room B is in when she (he) cries, calling out to her (him), or coming into her (his) sight when she (he) cries. Since she (he) is now familiar with your voices and what you look like, the sound of your voice, and your presence may be enough to sooth her (him). But if she (he) doesnt' stop crying in a few seconds, then go to her (him) and touch her (him), or pick her (him) up.

Sitting, Unsupported: Let's go on to the next topic. Now that your baby is older, and has had more time for learning how to control her (his) body, and her (his) body has had more time to mature, she (he) may be ready to practice sitting without anyone or anything holding her (him) up. Is she (he) sitting alone already? (If not, go on to exercises.) You can help your baby learn how to sit alone by giving her (him) brief chances to do so. You can do this by sitting your baby on the floor, with her legs spread a few inches apart in front of her (him). Support her (his) back with your hands, then slowly remove them. If B begins to topple over, put your hands back and keep her (him) from falling. The more chances B has to practice sitting, the easier it will be for her (him) to learn how. But, it's important to

remember that her (his) body has to mature enough for her (him) to be able to sit alone, no matter how much practice she (he) gets. I'd like each of you to try this with B (demonstrate if parents do not understand your verbal instructions) making sure you don't let her (him) fall, and that this is supposed to be fun for you and the baby.

Play With Objects That Vary When Manipulated: Now let's keep B sitting on the floor, in your lap if she needs help sitting up, and introduce her (him) to some toys which she (he) can have some effect on, that is, toys which change in some way when they are played with. For example, toys or play objects which change their shapes or appearance, make noise, and bounce, can be used such as balls, rattles, squeak toys, measuring spoons connected together, cloth, pieces of paper, and anything else you can think of. Go and collect some of these kinds of play objects and bring them to where B is sitting. Then show each object to B, how it can be made to do something or change, like a ball dropped will bounce, or a squeak toy when squeezed makes a sound, then hand it to her (him) and let her (him) play with it. After a minute or two, offer B another toy, showing her (him) again how it works (make sure toys are safe, i.e., can't be swallowed, no sharp points, etc.).

Modeling Infant Verbalizations: Also while you're playing with B in this way, imitate any sounds that she (he) makes. For example, when your baby says "da," say "da," etc. This will encourage her (him) to make more sounds, and when she's (he's) older to speak. I'd like each of you to spend about 5 minutes playing

with B in the way I've just talked about.

Sessions 23-25: Repeat goals of session 22.

Sessions 26-29

Session 26: Today we're going to play some new kinds of games with B.

We're also going to help B practice making sounds which in a few months, she'll (he'll) be able to put together to make words.

Finally, we're going to give more practice in learning how to control her (his) body, by letting her (him) stand with help.

Social Games: One game which babies really enjoy at this age is peek-a-boo, where you hide your face behind your hands, and then remove your hands saying "peek-a-boo." Babies enjoy this kind of game because it involves direct play, without distracting toys, between the infant and someone they care about. This game is also fun for babies because it involves some surprise, like when you're going to say "peek-a-boo." Seat B where she can see you and then each of you do this game a few times with B.

Now let's try another game. Babies of B's age usually enjoy play involving mirrors. Mirror play is not only fun for your baby, but it can help her (him) to know herself (himself), what she (he) looks like, and to learn about what is a reflection and what is the real object. Let's do this by using a large hand mirror or any mirror hung on the wall. I'd like you to take B to the mirror and direct her (his) attention to her (his) image by pointing to the mirror and saying, "Look, there's B. You can see yourself." Also point to B and then to her (his) image while doing this saying, "Look you're here and you can see

yourself in the mirror." Then making sure you can be seen in the mirror too, point yourself out to the baby. To help B learn to understand the difference between things and their reflections, take an object, like a ball, and hold it in front of the mirror, out of reach of B. Then direct her (his) attention to its reflection and to the object, itself. Then have her (him) touch the image in the mirror and then let her (him) touch or hold the ball. Each of you try this for a few minutes.

Sound Imitation by Infant: Now, let's do something different. In the past we've talked about and practiced repeating any sounds your baby makes, as one way of helping her (him) to learn how to talk. Another way of encouraging B's efforts to speak sounds is to try to get her (him) to copy you when you make a sound. At this age, the best way to do this is for you to choose sounds you've heard B make in the past. Some common sounds babies make at this age are ma, pa, fa, da, ba. You can use these if you've heard B make them or others you've heard. Say the sound several times, facing your baby, looking into her (his) eyes, then pause and see if she'll (he'll) imitate or copy you. If she (he) does copy you, smile and hug or caress her (him) to let her (him) know you're pleased. This will encourage her (him) to copy what you say. I'd like each of you to try this 3 or 4 times each.

Standing with Help: The last thing we're going to do today is to help B learn how to stand. At this age, she (he) probably will only be able to do this when she's (he's) held up by someone else. Take B and facing her (him), hold her (him) with your hands placed

under her (his) arms. Pick her (him) up slightly off the floor and then lower her (him) until she (he) supports her (his) weight with her (his) feet and legs. If she (he) cannot support her (his) own weight, just lower her (him) slowly until she's (he's) sitting on the floor. If she (he) looks like she (he) is able to stand with some support to help her (him) keep her (his) balance, you can try letting her (him) go very briefly, but catching her (him) immediately before she (he) falls. I'd like each of you to try this two or three times.

Sessions 27-29: Repeat goals of session 26.

Sessions 30-33

Session 30: In earlier sessions we've practiced talking to your baby and modeling or imitating your baby's sounds. Another way to help B's language development is to introduce her (him) to another form language as found in songs and rhythm games. We'll do that today. Also, your baby is at the age when she (he) can learn about the idea that people, things, or objects are permanent, or still exist even when she's (he's) not looking at them.

Songs and Rhythm Games: A child of B's age usually enjoys songs and rhythm games which are played face to face with people she (he) cares about. Babies of this age also like songs which involve finger play. Songs involving rhythm and order will not only help your baby's language development, but it will help her (him) to learn that things sometimes come in a certain order and amount. Here are some songs which are popular at this age:

This Little Pig

This little pig went to market;

This little pig stayed home;

This little pig had roast beef;

This little pig had none;

This little pig said "Wee, wee, wee!"

All the way home.

In this song, take your babies hand or foot and hold one finger or toe for each little pig verse.

Row, Row, Row Your Boat

Row, row, row your boat,

Gently down the stream.

Merrily, merrily, merrily, merrily,

Life is but a dream!

I'd like each of you to sing a song with B. You can use the songs I've suggested or any of your own that are popular in your family. Go ahead and do this now, with B seated in front of you.

Object Permanence: Let's do something different. For babies of B's age and younger, things out of sight are out of mind. A baby has to learn that people and things exist even when she's (he's) not looking at them. There are some games we can play with B which will help her (him) to learn this idea.

First of all, seat B on the floor. Sit in front of her (him) so that she's (he's) looking at you. Now, crawl around to her (his) back and see if she (he) will turn around to look for you. You can help her (him) if she (he) doesn't turn around by calling

out her (his) name. Soon she (he) will learn that even though she (he) can't see you, you're still around. This game also helps your baby to develop skill turning from her (his) waist. I'd like each of you to try this game twice with B.

Now, for the next game you'll need a blanket, or cloth, or towel, and a toy which B likes. Put the towel and toy in front of B. Now play with the toy until B notices it, then quickly place it partially under the towel, so part of it can still be seen by B. Then say, "Where did it go? Find the toy." These words will attract your baby's attention even though at this age she (he) won't understand what they mean. If B doesn't get the toy, or looks like she (he) doesn't understand what she's (he's) supposed to do, show her (him) by finding the toy yourself. Then repeat hiding it again. If your baby does get the toy, smile and let your baby know in words that you're pleased by saying "Yea, you got it." Then see if B can find the toy when it's completely covered, but its shape can be seen, so that your baby knows there is something under the towel. Hide the toy completely, having your baby watch you as you do this. See if she (he) tries to find it, as before. Find the toy for her (him) if she (he) doesn't get it herself (himself). Each of you try this.

Another form of this game is to get a container with a lid that can be easily removed by your baby, like a shoe box. I'd like you to get a container and bring it to your baby. Then, taking the same toy, place it in the box, so that your baby can see what you're doing, then put the lid on the box, or cover it

with a towel, and see if B will find it. Show her (him) how to get it if she (he) doesn't get it. Then repeat the game.

Each of you try this one or two times.

Sessions 31-33: Repeat topics of session 30.

Age Range 9-12 Months

Sessions 34-37

Session 34: Today we're going to talk about and try out some new ways of playing with B, helping her (him) to learn the names of things as we play. We're also going to give her (him) a chance to practice moving around, by standing with help and moving from a sitting to crawling position. We're also going to talk about how to give B some control in feeding herself (himself), and when she (he) gets picked up and put down.

Partial Self feeding: Now that your baby is able to reach for and pick up things, and bring them to her (his) mouth, she (he) is ready to help feed herself (himself). Feeding herself (himself) will not only help your baby to improve her (his) hand coordination, but it will help her (him) to do things for herself (himself). From now on, whenever you feed B let her (him) hold her (his) bottle herself (himself), if she (he) can. Also, give her (him) finger foods like a crust of bread, piece of apple, piece of cooked carrot or stringbean. Letting your baby feed herself (himself) with her (his) fingers, will make it easier for her (him) to learn how to spoon-feed herself (himself) when she's (he's) older. But at this age, you must also feed her (him) since she (he) won't be able to feed herself (himself) as

much as she (he) should eat. Try this the next time you feed her (him).

Infant Controlled Contact: We've talked about in past sessions how to sensitively hold and touch your baby. Now that your baby is older she (he) can help let you know when she (he) wants to be picked up and put down. She'll (he'll) do this by raising her (his) hands up towards you when she (he) wants to be picked up, and squirming in your arms when she (he) wants to be put down. If you respond to your baby's wishes to be put down or picked up, it will make her (him) enjoy being held by you even more, because she'll (he'll) have had some say in it. During the rest of the session, I'd like you to respond to your baby's wishes or signals to be picked up and put down.

Play and Naming Objects: Now let's talk about playing with a baby B's age. First of all, there are a couple of things to remember when playing with B. The first thing is that since B can now crawl around on her (his) own power, she (he) is more likely to get into things that you'd rather not have her (him) touch. Rather than having to constantly take away things from B that you don't want her (him) to play with, it is better to childproof your house, that is, put all the things you don't want B to play with out of her (his) reach. That way you won't have to discourage your baby's exploration or learning about things by taking things away from her (him). But leave her (him) toys and other play objects within reach. Also, the more floor freedom or space which your baby has to explore or play in, the more she'll (he'll) learn about new things, and her (his) world. She'll

(he'll) also learn more about what's around her (him) if she's (he's) allowed to play in different places, like outdoors as well as inside. There are lots of things a baby sees, and can play outside that aren't usually inside, like trees, grass, flowers, birds, airplanes, rain, and snow. Give her (him) a chance to see these things by taking her (him) outside at times. Now, let's try playing a game which babies B's age usually like a lot. The game is give and take, where you do just what the name says, give your baby toys and objects and then ask for them back or ask your baby to give you something, then give it back to her (him). I'd like you to collect a number of B's favorite play objects and sit B on the couch or on the floor next to you. While you're playing this game, I want you to name the object you give your baby, or she (he) gives you. This will help her (him) to learn the names of things. Also, while you're playing the game, when you want to take a toy from your baby, try asking for it first, letting her (him) give it to you, or pull on the toy gently but don't take it if your baby doesn't want to let it go. Use words or short sentences like "Give me the ball, I'm taking the ball," at times, and just the name of the object too. Also use gestures, like holding out your hand when you say give or take. Go ahead and each of you try this with B for about 5 minutes each.

Gross Motor Skills: The last thing we're going to do today is to give your baby some more practice standing with help, and getting from a sitting to a crawling position. First, let's begin with standing your baby up, with your hands under her (his) arms.

Once she's (he's) standing, see if you can take your hands from under her (his) arms and then take her (his) hands and hold her (him) up that way. Try only holding one hand, but catch her (him) if she (he) begins to fall. Both of you can now try this. But these exercises are very tiring to a baby so only do them for as long as the baby enjoys it and doesn't begin to fuss or protest. Now, I'd like you to place B in a sitting position on the floor. Then move a few feet in front of her (him), calling her (his) name, and see if she (he) can get herself (himself) into a crawling position and come to you if she (he) wants to. You may use an interesting toy to attract her (him), also. Each of you try this once or twice now, with B.

Sessions 35-37: Repeat goals of session 34.

Sessions 38-41

Session 38: Today we're going to help B learn the names of things, and to see how many names she (he) already knows. We're also going to play some more games which will help B learn about the permanence of objects, that they exist when out of her (his) sight. And we're going to give B some more practice in moving around her (his) body.

Language Comprehension: One way of seeing how many names of things your baby knows, as well as teaching her (him) new names is to play the "where is something" game. To do this, all you need to do is to collect a number of objects your baby plays with, and you have named in the past, and then to ask your baby where a particular toy or object is, by saying, for example, "Where is the ball, show

me the ball." You should also ask B where certain people are, like "Where is Daddy, Mommy, Baby." At this age, your baby is not able to tell you in words where things are, but she (he) can show you by pointing to, patting, while the baby is looking at you, touching, or picking up the object. If she (he) picks up or shows you the thing you asked her (him) to find, you'll know she's (he's) learned the name of it. If your baby picks up the wrong toy, or points to the wrong person, smile but tell her (him) the correct name, and then point out or pick up what you asked for. For example, if you ask B where the ball is, and she (he) picks up a block, you might say, "Oh, that's the block, here's the ball," picking up the ball and giving it to B. This game will not only show you how much your baby knows, and teach her (him) names of things, but when you ask her (him), "Where is baby, or B," she'll (he'll) learn to know herself (himself) from others. Another way to help B recognize herself (himself), is to play the "Where is" game in front of a mirror, where B can see herself (himself), and point to herself (himself) when she (he) is asked "Where is B?" I'd like each of you to play the "Where is" game for about 5 minutes each with B.

Object Performance: Now let's do something different. Let's play a game which lets your baby know that things out of his (her) sight, are still around. One popular game which helps babies learn this idea is "Hide-and-Seek," where you hide and have your baby find you. You can begin this game by only hiding part of you, say, behind a chair, with your head held out where your baby can see it. Call to her (him), getting her (his) attention,

and see if she'll (he'll) come and find you. If she (he) does this then try hiding completely out of sight, calling to B to find you, and see if she (he) does. Why don't each of you try this a couple of times with B and see what happens.

Now let's try another "hide-and-seek" game where you hide toys instead of yourself. We've done this before with hiding a toy in only one thing or container. Now let's make it a little harder for B by putting a toy in two containers, like, for example, putting a toy in a small covered box, which is then placed in a larger box with a lid. Go and find some toys and containers and then each of you try hiding something in 2 containers, while B is watching. Then give her (him) the box or container and see if she'll (he'll) look for it. Encourage her (him) to do this by saying such things as "Where is the toy, find the toy."

Gross Motor Skills: The last thing we're going to do today is to help B keep her (his) balance, when she (he) sits and has to bend from the waist, and to practice crawling. First of all, place B in a sitting position. Then get some toys and take one and place it a few inches away from B where she'll (he'll) have to bend forward to pick it up. Call her (his) attention to the toy by showing it to her (him), naming it, and then placing it down in front of her (him), asking her (him) to get it. This game will help B learn to keep her (his) balance and not fall over when she (he) leans. I'd like each of you to do this two times with B. Now let's encourage B to practice crawling. You can do this by placing B on the floor, on her (his) stomach. Then crawl away

from her (him) on your hands and knees, turn around and face B and call out to her (him) to come to you, and see if she (he) does. Once she (he) starts to come to you, you can back up further away, but then after a few seconds let your baby catch you, and give her (him) a hug. I'd like each of you to try doing this.

Sessions 39-41: Repeat topics of session 38.

Sessions 42-45

Session 42: Today we're going to see how far B's understanding of words has come, by asking her (him) to carry out simple requests. We're also going to play some games with B which will give her (him) a chance to play with toys and objects of different sizes which can be put in different positions, and finally, we're going to help B practice cruising, and walking when led.

Language, Simple Commands: For the last few sessions, we've been helping B learn the names of things. Now we're going to see if we can get B to understand and carry out simple requests, and thus increase her (his) language development or understanding. One request you can ask B to carry out is to find someone she (he) knows, like her (his) mother, or father. With both of you in the room, one of you can pick up B and bring her (him) to one side of the room. Then let her (him) go, and tell her (him), the following, "Go find Daddy, or Mommy, go to Daddy." I'd like each of you to try this. A variation of this game is to ask your baby to come to you. Try this too.

Another simple request you can teach your baby is to wave good-bye. You can do this by having B watch someone leave a room, like one of you, who waves good-bye, saying "bye-bye." You can help B learn "bye-bye" by taking her (his) hand and waving it. Try this with B now, taking turns who leaves. But remember that it probably will take a lot of practice before your baby learns how to do this.

Another request game is to ask your baby to go and fetch or get you things. Start out doing this by taking a toy, such as a ball, and rolling it away from your baby while she's (he's) looking at it. Then ask her (him) to get it. Show her (him) how other toys work, and then toss them some distance away and ask B to get them. Once your baby does this, you can then start asking your baby to get you things in the room, without playing with them yourself. I'd like both of you to try this out now.

Play With Differently Shaped Objects, Spatial Relations: Now let's

do something different. Let's give B experience playing with objects or toys which differ in size and shape. This will help your baby learn that things come in different sizes and shapes. Blocks of different sizes and shapes are something which will help get this idea across to B. Also, balls of various sizes, and just assorted toys are good to use. Using various toys together will make this game even more fun for B. One way to do this is to get a container, like a box, and fill it up with different toys and objects in front of B. Then empty the box. See if B will copy you. Babies of this age usually like to empty and

fill things up. Use words when you're doing this like "It's full, or all-gone." Try this with B now for a few minutes each.

Babies of this age also like to open and close things. You can use an old shoe box with an easily removable lid, which is also easy to put back on, or any other kind of thing which can be opened and closed. This game and the emptying, and filling game will help your baby learn that things can be found in different positions, like open or closed, or inside or outside of something. Go ahead and each of you try this a few times with B. Now, let's get some things, like blocks which can be stacked, or made into a tower. Build a tower in front of B and then give B some blocks and see if she'll (he'll) copy you. Also, build your tower, then knock it down. Build it again, and see if B will knock it down. Remember to use words to tell B what you want her (him) to do, even though she (he) may be able to copy you without them. Go ahead and each of you try this 2 or 3 times with B.

Gross Motor Skills: If your baby's body has developed enough, she'll (he'll) be able to practice cruising, that is, stand up while holding onto something like furniture and walking, and walking when led, with you holding her (his) hand. Let's begin with helping your baby "cruise." You can do this by standing your baby up, and then placing her (his) hands on something like the couch. Let go of her (him) and see if she'll (he'll) hold herself (himself) up. If she (he) does, then move a few feet further down the couch and ask her (him) to come to you, and see if she (he) does. Both of you try this, one at a time.

Now, let's give B some practice walking while led. Stand her (him) up again and holding onto one or both hands lead her (him) forward. You can stand behind or in front of her (him) to do this, or if you're just holding one hand, to her (his) side. Why don't each of you take B for a little walk.

Sessions 43-45: Repeat topics of session 42.

Age Range 12-18 Months

Sessions 46-47

Session 46: Today we're going to talk about some familiar topics, like what to do when your baby cries, or eats, and how to increase the number of things she (he) knows by name. We're also going to help her (him) practice using her (his) hands and help her (him) to learn more about herself (himself).

Crying: Now that your baby's word knowledge has increased, you may be able to sooth her (him) when she (he) cries by using words. Whenever B cries from now on, try telling her (him) she's (he's) alright, but describe how she (he) must be upset, or how she's (he's) feeling, such as by saying "You fell down and hurt yourself, but you're alright." Your baby won't understand all of the words you use, but she'll (he'll) be able to tell by your tone that she's (he's) alright, and that you're there. You can also use words to tell your baby to come to you when she (he) cries. But if your baby continues to cry, go to her (him) and pick her (him) up, and try to find out what's wrong.

Feeding: As much as possible now, let your baby feed herself (himself).

At this age you can give her (him) a spoon, and put some sticky

food on it, like mashed potatoes and hand it to your baby. You can also pour some milk, a very little, in a cup and first bring it to your baby's lips yourself, letting her (him) drink from it, and then giving the cup to your baby. You can also drink from the cup yourself, to show B what you'd like her (him) to do. Gradually, your baby will learn to master the spoon and cup, but expect her (him) to be very awkward at first. Also, let her (him) use her (his) hands to finger feed.

Play and Body Knowledge: Now that B is learning the names of things, she (he) can also be helped to learn the names of the different parts of her (his) body, and get to know herself (himself) better. You can do this by first pointing to the different parts of her (his) body, like her (his) hair, eyes, nose, mouth, ears, arms, legs, and so on, and naming them. Then you can see how many names she's (he's) learned by asking her (him) to show you whatever body part you ask for, saying things like "Show me your hair, eyes," and so on. This game is easiest to learn when you begin by doing it in front of a mirror, where B can see what you're pointing to. Once your baby can point to her (his) body parts when named in front of the mirror, you can try it without the mirror. I'd like you both to try this with B using the mirror. Later on, on your own, you can play the "show me" game without the mirror.

Language and Fine Motor Skills: Let's do something different. Babies of B's age like to play with small objects. This kind of play helps them to use their hands and fingers with better and better skill. Collect some small things like coins, marbles, beads, and

whatever else you have around. Then place the objects on the floor with your baby and ask her (him) to pick them up. Show her (him) how to do it yourself if she (he) doesn't respond. Also name all of the things, and when you want B to get them, you can say "Where is" and then their names. The only thing you must be careful of is your baby putting the things in her (his) mouth. Try to stop her (him) from doing this by saying no, and if necessary stopping her (his) hand from going to her (his) mouth, or by taking the object away, but giving her (him) another bigger toy to distract her (him).

Session 47: Repeat goals of session 46.

Sessions 48-50

Session 48: Today we're going to introduce your baby to books, water play, and standing alone.

Book Use: The first thing to help your baby get interested in books is to find some books with lots of pictures, point to the pictures in the book, while B is watching and name them. Try and pick out pictures of things your baby has seen before, that is, the real thing, not a picture. Also, go and find the actual object and then point to the object, then the picture, naming them both. For example, if you found a picture of a ball, you could go get a real ball and show them both to B while saying something like "Here's a ball, and here's a ball." If your baby points to any pictures, on her (his) own, name them, using short sentences, like "That's a ball." Using books in this way will not only help your baby use her (his) hands better, but it

will help her (him) to learn more language, and to learn the difference between something and its picture. I'd like each of you to spend about 5 minutes, showing B a book in the ways I've just talked about.

The next thing which will help B learn how to use books is to show her (him) how to turn the pages. Take an old book or magazine and first give it to B and let her (him) play with it in any way she (he) likes. Now take the book and turn the pages while B is looking, again pointing out pictures, then give the book back to B. She (he) may or may not copy you. But keep showing her (him) how so she (he) can get the idea of what you want her (him) to do. Her (his) first attempts will be awkward, and she'll (he'll) probably use her (his) whole hand to move the page. But after awhile, when she (he) gets more practice with the book, she'll (he'll) eventually use her (his) fingers to turn the pages. Now I'd like you to find a book or magazine and see if B will turn its pages. You may want to get a book with thick or hard pages to make this task easier for your baby. Such books can be found in the infant section of stores.

Water Play: Now I'd like to talk about something else babies of B's age like to do, play with water. Babies can learn a lot of things playing with water, such as that things float, that things can be emptied and filled, and that water changes its shape depending on what container it's in. One easy way to introduce your baby to water play is in the bath tub while you're bathing her (him). Give her (him) toys to float, and a plastic

cup or rubber one. Take the cup and fill it with water, then pour it out while B is watching, then give it to B and see if she'll (he'll) copy you. Do these things the next time you bathe B.

Gross Motor Skills: Now, let's see if we can give B some practice standing alone. Take B and stand her (him) on her (his) feet, holding her (his) hand. Then let go and see if whe'll (he'll) stand alone. If she (he) sits down, just laught and make it into a game. Then try it again. I'd like both of you to try this two or three times with B.

Sessions 49-50: Repeat topics of Session 48.

Sessions 51-52

Session 51: Today we're going to have B play some games she's (he's) done before, but because she's (he's) older, they should be easier for her (him).

Play: Building and Knocking Down: The first game involves building things, like a tower out of blocks, and knocking them down. You can use blocks, or small boxes, or cans, or jars, or anything else that can be stacked. Collect some of these things now. Let B sit on the floor, then I'd like each of you to take turns building something for B, then letting her (him) knock it down. Label or name whatever you play with, and use short sentences to ask B to build a tower, like you, and to knock it down. This game will not only help your baby's coordination, and use of her (his) hands and eyes, but it will also show her (him) that she (he) can make new things out of old things, like a tower out of

blocks. Go ahead and try this with B.

Play: Filling and Emptying: Now, another game we've played with B before is filling things up and taking them out, or pouring them out. Gather some toys or objects and something to put them in, like a box or can. Now, put the toys in the box, one by one, naming them as you do. When the box is full, say "it's full" to B. Then pour the toys out. Show B the empty box and say "All gone, or empty." Then see if B will copy you. You can also vary this game by taking turns with your baby putting things in the box, but don't expect B to wait for her (his) turn. Try this with B for 2 minutes each.

Now, collect some small things like marbles or coins or poker chips, and we'll make this game a little harder for B. Then get a coffee can with a lid or a closed box and make a small opening in the top of it. Then take one of the coins or whatever and drop them through the slot. Ask your baby to do the same thing. Show her (him) again if she (he) doesn't copy you. If she (he) wants to shake the box let her (him), or if she (he) looks like she (he) wants to see where the coin went, open the box and show her (him). Each of you try this with B for a few minutes.

Remember to label all of the things you're playing with.

Gross Motor: The last thing we'll do today is to help B to practice walking, alone if possible. You can do this by standing B up and then holding her (his) hand and walking with her (him). Then let her (his) hand go and see if she'll (he'll) take some steps on her (his) own. Then try another way of doing this. Stand B

up in front of you then, while you're facing each other, let go of her (him) and back up a couple of feet. Call to B and see if she'll (he'll) walk to you. Each of you try this now with B for a few times each.

Session 52: Repeat topics fo Session 51.

Sessions 53-55

Session 53: Today we're going to show B how to play pretend games, and how to follow requests that ask her (him) to do some action.

Language--Action Commands: One way that makes it easier and fun for a baby to learn words is to be able to act them out. You can help your baby to understand these words by putting them in the form of a request. We've done this before with B when we asked her (him) to get things. Now let's ask B to do some more things. If your baby doesn't do what you've asked her (him) to, repeat the request 3 or 4 times. Then if she (he) still doesn't do it, show her (him) what you want her (him) to do by doing it yourself first. Then try just using words, and hugging her (him) to show her (him) what you mean if she (he) doesn't understand. Now, ask her (him) to kiss you. These requests will also show her (him) how to show affection or that she (he) loves you. Now see if she'll (he'll) do the same things with a toy, like a doll. Ask her (him) to hug the doll, then ask her (him) to kiss the doll. Show her (him) what you mean if necessary. Now try some other requests like "give the toy to Mommy," or "Daddy." You can use some of your own ideas, too, if you'd like. Go ahead and each of you do this for 2 or 3 minutes each.

Pretend Play: Now let's show your baby something new. One kind of game which you can play with your baby at this age is pretend play or make-believe. This kind of game will help your baby learn that things can be made into something else in make-believe. First of all, you can take a stuffed animal and pretend it's alive by making it run, bark like a dog, or meow if it's a cat. Try this with B. Another form of make-believe is using puppets to imitate real things. If you don't have puppets, you can easily make one by getting some small paper bags or boxes which will fit over your hand. Draw faces of different things like cats, dogs, and people, and then place one of the puppets over your hand. Show it to B and make it speak, or bark, or whatever it should say. Let's make some puppets and then both of you try this with B.

Sessions 54-55: Repeat goals of Session 53.

Sessions 56-57

Session 56: Today we're going to help B's language development and body control, and show her (him) how to do a simple puzzle, and practice going upstairs.

Language-Action Songs: Now that your baby has learned to move around better, and she (he) has a better understanding of what words mean, she (he) should enjoy what we call action songs, songs which have you do some action or more in some way when they are sung. One song like this is "Ring Around the Rosie." The words are:

Ring around the rosie
A pocket full of posie
Ashes, ashes;
All fall down.

To do this song, you take your baby by the hands, dance around with her (him), then sit down, or gently fall down with the last line of the song. I'd like each of you to try this with B. However, if you have your own songs you'd like to sing that involve some action, use them instead.

Puzzle Play: At B's age, she'll (he'll) have the hand control to do very simple puzzles. One piece puzzles will be the easiest for her (him). If you have puzzles we'll use those, otherwise you can make one with cardboard by cutting out a shape from the middle of it, like a circle. Show the puzzle put together to B. Then while she's (he's) looking at it, take out the piece then put it back in. Then take the piece out again and hand it to B. Point to the piece then the hole in the puzzle, asking B to put the piece in while B is holding onto it. Try this now with B.

Gross Motor Skills: The last thing we'll do today is to help your baby learn to crawl upstairs (or just talk about it, if there are no stairs in home). This exercise will help your baby to eventually learn how to walk upstairs. You can do this by bringing B to the stairs and then placing an interesting toy several steps up, and see if she'll (he'll) try to climb up the stairs. Stay right behind her (him) to catch her (him) if she (he) slips or falls. Try this and see what happens.

Session 57: Repeat topics of session 56.

Sessions 58-60

Session 58: Today we're going to have your baby practice using words herself (himself). We're also going to show her (him) how to

divide things which look the same, and how to stoop down and pick up something while she's (he's) standing.

Language--What Sound Objects Make: One way to encourage your baby to talk and help her (him) to talk better and better is to ask your baby what different things say or the sounds they make. You can do this by pointing to the thing, like a dog, real or toy one, and saying "What does the dog say?" Your baby is supposed to make some sound like "ruff, ruff." If she (he) doesn't then make the sound yourself, and then see if she'll (he'll) copy you. You can point to any thing that's familiar to your baby and ask her (him) to make its sound. For example, you might see if she'll (he'll) say "moo" for a cow, "meow" for a cat, "tick-tick" for a clock, "Rmm, Rmm" for a car. Try this for a minute or two each with B.

Play--Dividing Objects: Now let's do something else with B. Let's introduce her (him) to the idea that things can be divided by what they look like. We can do this by you first finding four each of two different objects, like four balls of the same size, and four blocks. Give them to your baby and let her (him) play with them for awhile, for two or three minutes. Then, with B watching you take the four balls one by one, name them, and describe them, by saying they're round, they roll, and then put each ball down together. Then a foot away from the balls do the same with the blocks. Then collect the balls and blocks into one pile. Take one ball and put it down on the floor, starting its own pile, then put one block a foot away, asking B to copy you. Do not stop your baby if she (he) puts the wrong

thing in a pile, but just take it out again, saying, this goes with these, because they are the same. Just watching you divide the objects will help your baby learn about how things are the same and different. At this age she (he) probably won't be able to do it right herself (himself). But in a few months she (he) will.

Gross Motor: The last thing we'll do today is to see if we can help

B learn how to bend or stoop over and pick up something while she's (he's) standing up. She (he) may bend her (his) knees while she (he) does this. Begin by standing B up. Then place a toy on the floor and ask her (him) to get it. Do this a few times each with B.

Sessions 59-60: Repeat goals of session 58.

Sessions 61-63

Session 61: Today we're going to see how many names of people your baby knows and can say, and show B how to order objects by size.

Language--Naming People: The first thing we're going to do today is see how many names of people your baby can speak. We can do this by having you point to yourself and say "Who's this?" and wait and see if B will say your name. You can also play this game by getting out pictures of people your baby knows, showing them to her (him) and saying, while pointing to the picture, "who's this." You can also see if your baby can say her (his) own name by pointing to her (him) and saying "Who's this?" I'd like each of you to try this with B for a couple of minutes. If she (he) can't name something, name it for her (him).

Play--Ordering Objects by Size: Let's play a different kind of game with B. This game will help B to learn that things can be ordered by size, like from big to little. A fun way to show your baby this is by building a pyramid or a tower with different sized blocks, or objects, beginning with the largest block, and placing the blocks one by one, on top of each other, from the largest to the smallest. See if B will copy you with another set of blocks. She (he) probably will just stack the blocks without placing them in the right order, but eventually, as she (he) gets much older (around 42 months), she'll (he'll) learn to understand the idea, and do it correctly. Try this game with B for five minutes each.

Sessions 62-63: Repeat goals of session 61.

Sessions 64-66

Session 64: Today we're going to see how many names of things your baby can say, and help her (him) learn to climb onto things.

Language--Naming Things: For the past few sessions we've had B naming people, now let's see how many things she (he) can name. You can do this by giving B different toys and things and saying, "What's that?" You can also take her (him) in your arms and carry her (him) around the room saying "What's that?", as you point to different things. Remember to ask your baby "What's that?" a few times for each thing, and name it yourself if she (he) doesn't say its name. Also, take your baby to a mirror and pointing to various parts of her (his) body, such as her (his) eyes, nose, mouth, head, arms, and so on, ask her (him) to practice saying words, but it will also help her (him) to learn

to connect more and more names with the objects they represent.

Try this now with B for a few minutes each.

Gross Motor Skills: Now let's do something different. Bring B to a couch or chair and ask her (him) to climb onto it. Show her (him) what you mean by doing it yourself. Also, if she (he) tries to climb up onto the couch, help her (him) up as she (he) does this. Try this with B.

Sessions 65-66: Repeat goals of session 64.

Sessions 67-69

Session 67: Today we're going to have your baby engage in small conversations with you. We're also going to show her (him) how to use her (his) hands and wrists, and how to walk backwards.

Conversations: At your baby's age you can have small conversations with her (him) by answering her (his) questions, like when she (he) points to something and says "What?", or "What's that?", or its name. Answer her (him) in small sentences, such as by saying "It's a girl," or "Yes, it's a dog." By answering in sentences, your infant will learn that words go together to form a new meaning, and when she's (he's) a few months older, she'll (he'll) begin to combine words herself (himself). She'll (he'll) also learn that when she (he) talks to someone, that person talks back. You can also leave blanks open in sentences for B to fill in, such as "This is a _____," point to a dog, and see if your baby will fill in the sentence with "dog." You can also use prompts when your baby points to something she (he) wants by saying "What do you want?" If your baby says "more," say "More what?"

Throughout the rest of the session, try small conversations with B by answering her (his) questions, or by responding to anything she (he) says. You can also ask her (him) questions.

Fine Motor Skills: Now let's do something new with B. At your baby's age, babies not only have learned to use their hands well, but they are beginning to use their wrists, as well, such as when they twist things like jar tops on and off. I'd like you to collect some things, like jars with twist-on lids, or toys with knobs that can be turned. Bring them to B and then show her (him) how the lid or knob can be twisted. Then give the jar with a partially loosened lid, or the toy with the knob, and see if B will twist it. Use words to tell your baby what you want her (him) to do, to help her (him) learn the words connected with her (his) actions. Go ahead and try this with B for two or three minutes.

Gross Motor: Now let's see if your baby will do something more active, like walking backwards. You can help her (him) do this by getting a large pull toy and show your baby how to pull it while walking backwards and see if she'll (he'll) copy you. Try with with B now for a few minutes.

Sessions 68-69: Repeat goals of session 67.

Age Range 18-24 Months

Sessions 70-74

Session 70: Today we're going to talk some more about feeding your baby, and how to teach your baby to carry out some more simple requests. We're also going to show her (him) some new

make-believe games, and try and get her (him) to copy whatever you do. Finally, we're going to give her (him) practice climbing up and down stairs and jumping.

Feeding: By now B is able to feed herself (himself) to a greater degree.

She (he) should be able to use her (his) fingers, as well as a spoon and cup with some skill. You can now introduce her (him) to a fork, the next time she (he) eats. Show her (him) how to use it and then sticking some food on its prongs, give the fork to B. Then see if she'll (he'll) eat from it and copy its use.

Language--Simple Requests: In past sessions we've had your baby respond

to simple requests. You can continue to give her (him) practice doing this, giving her (him) somewhat more difficult things to do. Some ideas are to have her (him) make a doll sit in a chair, or to put a toy in a container, or to have her (him) climb onto the couch. Try some simple requests now and see what B does. If she (he) doesn't understand or do what you want her (him) to, then show her (him) what you mean.

Play--Make-believe and Imitating: Babies of this age like to copy

what you do. One fun thing to have your baby imitate is make-believe. One idea you might use is to make believe you're talking to someone on a play or real telephone. Then give the telephone, or another telephone to B and see if she'll (he'll) copy you. You can also put two chairs next to each other, seating yourself in one and B in the other, and then pretend you are driving a car. Try these things out now and see if you can make up some of your own games.

Gross Motor Skills: B is now around the age where she (he) will climb up and down stairs on her (his) hands and knees. You can have her (him) do this by going up the stairs with her (him), by her (his) side, or else by putting an attractive toy first at the top of the stairs, then the bottom, while she (he) climbs up, then down. (If parent have stairs). See if you can interest B in climbing today.

Another thing you can do is to teach B how to jump. You can help her (him) learn to do this by showing her (him) yourself and then see if she'll (he'll) copy you. You can jump just on the floor. Go ahead and try this for a couple of minutes. Remember that B's attempts will probably be very awkward and not that accurate.

Sessions 71-74: Repeat goals of session 70.

Sessions 75-77

Session 75: Today we're going to show B how to take turns, play with some different puzzles, and practice running.

Taking Turns: One idea that your baby will need to know to be able to get along with others is how to take turns. You can help her (him) understand what this means by playing a game with her (him) which requires you to take turns. An example of this kind of game is playing catch with a ball. Go and get a ball. Then seat B on the floor with her (his) legs apart and sit the same way in front of her (him). Then take the ball and roll it to her (him) saying "my turn." Then when she (he) gets the ball, see if she'll (he'll) push it back to you, asking her (him) to do

this in words like "push it back" or "give it back," and when she (he) touches the ball say "your turn."

Puzzle Play: We've had B play with one piece puzzles before. Now you can make or buy a puzzle with two separate pieces, not connected. It is helpful if the pieces are of two different shapes, or if they can be put together to make something familiar, like the top and bottom part of a person. You can also make a puzzle with one piece missing, like a circle, then make a different shaped piece, like a square. Give your baby the circle puzzle and the two pieces and see if she (he) can place the correct one in the hole. Show her (him) how to do it first. Go ahead and try some puzzles with B.

Gross Motor: Now that B is walking, she (he) will enjoy learning how to run. You can encourage her (him) to do this by running yourself, seeing if she'll (he'll) copy you, and by asking her (him) to catch you. Or you can try to catch her (him), saying "I'm going to get you!" Go ahead and try this a few times with B.

Sessions 76-77: Repeat goals of session 75.

Sessions 78-80

Sessions 80: Today we're going to help your baby know more about herself (himself) and yourself. We're also going to play some more games where we hide things, and she (he) must find them, and we're going to introduce B to pencil and crayon use, and to walking upstairs.

Language--Function of Body Parts: In the past we've had B name the parts of the body, now let's see if she (he) knows what they do.

You can do this by playing the "stop me from doing something game," like seeing, hearing, talking. Ask your baby to stop you from seeing. What you want her (him) to do is to cover your eyes. It's alright if she (he) covers her (his) eyes instead because it will still show you that she (he) understands you see with your eyes. Cover your own eyes after you ask B to, if she (he) doesn't respond. Then do the same with your ears, asking B to stop you from hearing, and so on. Try this now for a couple of minutes.

Object Permanence: Now let's play some different hide-and-seek games using toys with B. Take 3 cups or open boxes and a small toy, like a ball that can fit under them. Line up the 3 cups in a row and then tell your baby you're hiding the ball. Do this while your baby is watching. Then ask B to get the ball. You can substitute different toys for the ball and hide the toys under different cups. You can also, then, hide the toy using a book to cover up where you hid it. Then remove the book and see if B will search for it. Try this now.

Another form of this game is guess which hand. Place the toy in one hand and close your hand, then hold out your hands to B and say "Find the toy." Do this while your baby is watching. Then try hiding the toy in your hand behind your back and then show your hands to B and see if she (he) looks for it and finds it. Try this now with B.

Crayon and Pencil Play: Now that your baby can hold small objects and knows how to copy you, you can show her (him) how to draw with a

crayon or pencil. Get some paper and crayons. Then while B is watching, take the crayon and make a line on the paper. Then give the crayon to B and see if she'll (he'll) copy you. She'll (he'll) probably only produce faint scribbling. You can also scribble or draw pictures but don't expect your baby to draw that well. Go ahead and draw with B. At some time your baby will learn to recognize drawings and may even ask you to draw a certain picture.

Gross Motor Skills: Let's see if we can improve B's walking and climbing skills by seeing if she'll (he'll) walk upstairs, holding your hand. Go ahead and try this out. You may use words like "let's go up" while you do this.

Sessions 79-80: Repeat goals of session 78.

Sessions 81-83

Session 81: Today we're going to introduce your baby to singing songs and playing a musical instrument, and how to jump off of something.

Language and Play: "Singing Songs": Let's begin first by finding some things that make sounds or music, like a drum, or a make-believe one made out of a pot and a spoon, or a guitar, or a home-made one with a cardboard box and rubber bands. Let's see what you can find or make. Now, take the instrument, like the guitar and strum it. Then see if B will strum it, too. Now, sing a song while strumming it, like songs we practiced before, and we'll see if your baby tries to sing. At this age she (he) may just say one word of the song, or else use short syllables in a singing rhythm, like "da, da, da" to the music. Go ahead

and try this out with B.

Gross Motor Skills: In the past you showed B how to jump. Now let's see if you can get her (him) to jump off of a small step. Begin by showing her (him) how to do this, then hold her (his) hand while she (he) tries. Then let her (him) do it by herself (himself).

Sessions 82-83: Repeat goals of session 81.

Sessions 84-87

Session 84: Today we're going to introduce your baby to the use of pronouns, like I, you, we, and how to divide objects by size and texture, or how they feel.

Language-Pronouns: One way to help your baby to use pronouns is to use them yourself whenever you can to describe what you're doing. For example, you might say "I'm sitting down," "You are sitting down." You can also help your baby to use pronouns by getting a number of items which belong to your baby and other people, like clothing. You can then show B something like one of your shoes and say "my shoe," then you can point to your baby's shoe and say "your shoe." When you both are doing something together you can say "We are playing," or if you are watching two other people playing you can say "They are playing." Try this out now with B and see if she'll (he'll) copy you.

Play--Dividing Objects by Size, Texture: Let's do something different.

I'd like you to get 3 or 4 of the same object, but of two different sizes, like 2 big blocks, and 2 small blocks. Also get 4 things of 2 different textures, like 2 soft things, and two hard

things, like cotton and marbles. Now, beginning with the blocks, put them into two piles, one of the big blocks, and one of the little ones, while saying "The big blocks go here, and the little blocks go here." Then gather the blocks and just put one in each pile. Then give a big block to B and say "Put it with the big one." If she (he) puts it somewhere else, pick it up and match it to the big block and say "See, it goes with this one." Then give your baby the block again. Try this with the small blocks, then with the cotton and marble.

Sessions 85-87: Repeat goals of session 84.

Sessions 88-91

Session 88: Today we're going to teach B prepositions like onto, under, and next to, and how to divide objects by shape and weight, and how to kick a ball.

Language--Prepositions: The easiest way to teach your baby prepositions is to act them out yourself, while B is watching, then asking her (him) to do what you do. At first your baby will only copy your actions and not understand your words. It will take her (him) a long time and a lot of practice to learn this so don't expect too much right away. But later on she'll (he'll) understand the words themselves. You can teach your baby prepositions by setting two different toys, like a block, and a box open on only one side. Then do things, one at a time, giving your baby a chance to copy you like placing the block on top of the box, and saying, "I'm putting the block on the box." Say "on" a little louder to help B notice the word. Do the same thing

but put the block in the box, under something like a chair, and next to the box. Go ahead and try this out for a few minutes. If she (he) does copy you, then try using just the words without showing her (him) what to do.

Play--Sorting by Shape and Weight: Now we're going to give B some more practice sorting or dividing objects by their shape and weight. Get some, 2 of each, round and square toys, and some heavy and light toys. Then, as you've done before, divide the toys into piles in front of your baby, then put them together again, and start the piles again with one item each, like one round ball and one square block. Give your baby another ball and ask her (him) to put it with the other round ones. Remember to use words to describe what you're doing at all times. Now go ahead and try this.

Gross Motor Skills: Now let's see if we can teach B how to kick a ball. First take a ball while your baby is watching you. Place it on the floor and kick it a short distance like a foot or two, saying "I'm kicking the ball." Then stand your baby up and place the ball right in front of her (his) foot and say "Kick the ball." Go ahead and try this and see what happens.

Sessions 89-91: Repeat goals of Session 88.

Sessions 92-93

Session 94: Today we're going to help your baby learn how to divide objects by color, and by who owns them. We're also going to talk about how to help your baby to learn how to help you dress her (him).

Play--Dividing Objects by Color, and Ownership: For the last few times

we've showed your baby how to divide objects by size, shape, texture, and weight. Now, let's show her (him) how to divide objects by color and by who owns them. Get four blocks of one color, like red, and four blocks of another color, like blue. Also get clothing your baby has seen family members wear, like Dad's shoes, socks, shirt, hat, and Mom's shoes, stockings, blouse, and purse. Now, as before show B how to divide the objects, like the colored blocks into separate piles, and see if she'll (he'll) copy you. Go ahead and try this for a few minutes.

Fine and Gross Motor Skills: Now, I'd like to talk about something

different. Now that your baby has learned to control her (his) body better, you can have her (him) do things to help herself (himself), like helping you dress her (him). You can do this by asking her (him) to hold out her (his) arm, or leg, or foot when you're putting on her (his) shirt, or sock. After some practice you can give your baby a blouse with a wide hole for the neck and ask her (him) to put it on, waiting to see if she (he) can put her (his) head through the right hole. You can also have her (him) try and put on her (his) socks, unzip zippers, put mittens on, and pull them off, put a hat on and off. You can help her (him) do this herself (himself), and you can show her (him) how to do it by putting something on yourself. Try these things the next time you dress B.

Session 93: Repeat goals of Session 92. Also, this is the last session. Remember to say goodbye to the family and thank them for

their help. Tell them you'll send them a copy of the study if they'd like it.

APPENDIX B

TUTOR TRAINING MANUAL

Tutor Training Manual

Outline

Session 1

1. Overview of project.
2. Introduction to Child-rearing Manual.

Session 2

1. Discussion of Child-rearing Manual.
2. Set up practice schedules at Infant Day Care Center.
3. Set up schedule for viewing tutoring training videotapes.

Sessions 3-10

1. Review practice sessions with infants.
2. Review videotapes.

Session 11

1. Subject recruitment.
2. Review general guidelines of Child-rearing Manual.
3. Schedule supervisory sessions.

Session 1

As you already know, you have been chosen to work on a parent-infant project which is designed to train parents to become excellent child-rearers. However, before this goal can be accomplished, you must know two essential things, i.e., what is optimal development concerning the infant's first two years of life, and what skills do parents need to learn in order to ensure the optimal development of their children? Fortunately, a number of research projects have already answered these questions for us.

This project is also based on a number of assumptions concerning infant development and parenting. First of all, infants are not born with all the skills necessary to survive in, cope with, or learn about the world, and the people in it. Without the guidance and stimulation of other people, and the environment, the infant would not only be unable to survive, but he or she would accomplish little more than some body control as a result of physical maturation. Cognitive and social-emotional skills, such as how to communicate with others, show affection, and problem-solve must be taught to the infant. Another basic assumption of this project is that parents do not naturally possess the skills or knowledge concerning how to raise their children. In fact, they even behave in ways which negatively effect the development of their children. In addition, parents are typically unaware of developmental norms concerning when their infants should acquire certain behaviors, such as talking. However, you should remember that norms are only the average age when a behavior is seen and not a fixed age. As a result of the fact that parents do not know the best ways to interact with their infants, the major assumption

of this project is that adults need to be trained as parents as if it were any other profession.

A third and final assumption of this project is that parents are the most important teachers of infants since it is they who spend the greatest amount of time with the baby. In fact, research has shown that parents are the most successful teachers of the infant. Therefore, this project will focus on training but not replacing the infant's parents.

The basic design of the project is that parent-infant tutors, your role, will go to the family's home once a week from the time the infant is one month old until his or her second birthday. The major purpose of these visits will be to demonstrate and have parents model various child-rearing exercises. Depending upon which treatment group your family falls in, you will be tutoring either the infant's mother or father, or both parents simultaneously. The goals of each visit have been outlined in a Child-rearing Manual which I will now give each of you. I want each of you to read and become thoroughly familiar with the Manual. You will then get to practice the exercises outlined in the Manual with actual infants. The practice infants are located at a local day care center. You will be required to attend three to five practice sessions per week for approximately eight weeks. We will also meet weekly to review the practice sessions. I would like you to read the Child-rearing Manual for next weeks meeting.

Session 2

The goals of this training session are as follows:

1. Answer questions concerning the Child-rearing Manual.
2. Hand out practice schedules (see attached forms) and explain to the tutors the purpose of these sessions. Specifically, the tutors will be told that the child-rearing practice sessions are designed to thoroughly familiarize the tutors with every exercise that they will be teaching to the actual subjects of the study. The sessions are also designed to give the tutors actual experience in working with infants. All of the practice sessions will be observed by the project director in order to give the tutors feedback on their performance.
3. Inform the tutors that the next eight supervisory sessions will include the presentation of videotapes of training sessions with actual parents. These tapes will be used to familiarize the tutors with what a parent's reaction to tutoring is like. The videotapes will also serve as a model for the way the tutors should interact with the parents.

Table B. Schedule for Practicing Child-rearing Exercises and Viewing Videotapes

Tutors will follow the schedule outlined below which presents when the various sessions incorporated in the Child-rearing Manual are to be practiced. In addition, each practice week a videotape of an actual parent tutoring session will be shown.

[illegible]

Sessions 3-10

The goals of these training sessions are as follows:

1. Discuss practice sessions of infant exercises especially concerning topics such as what it is like to work with an infant, i.e., what problems may arise? Discuss any difficulties the tutors are having administering a particular exercise.
2. Show one videotape per session of a parent tutoring example. Stop the videotape whenever the tutors have questions, as well as to point out the important points of a particular exercise.

Session 11

The goals of this session are as follows:

1. Review the general guidelines of the Child-rearing Manual.
2. Discuss how subjects are to be recruited. Give the tutors a copy of the outline for the recruitment home visit (see attached outline).
3. Give out schedules for recruitment visits and tell tutors that they will be assigned subjects to tutor as the families agree to participate in the study.
4. Set up weekly supervisory sessions to be initiated once tutoring has begun. These sessions will be held until the project is completed.

Home Recruitment Visit

After a brief phone call inviting families to participate in the parent-infant project, a home visit will be made to interested families. The project director and the family's potential tutor will conduct the home visit for all but the control family's (who do not receive any tutoring) who will only be visited by the project director. The general format for the home visit is presented below. It only applies to the families who would receive tutoring. An abbreviated form of this visit which only described the assessment procedures and the time involved in participation in the study would be conducted with the control families.

Home Visit Format

Hello, Mr. and Mrs. _____. I'm _____ (director's name) and this is _____ (tutor's name). We're from the parent-infant project I spoke to you over the phone about. We're here to explain in much greater depth what this project is all about, and to see if you would be interested in participating in the project. Basically, we have found that being a parent is the one job which we never get any training for. We have also found that there are certain things that parents do with their children that actually help the infant to develop to his or her fullest potential. What we would like to do is spend time with you (specify whether it is to be with one or both parents) and your baby talking about the having you practice different things you can do with your baby to help her or him develop. For example, to give your infant practice learning how to control his or her eyes, you would be shown how to hold an attractive toy and have

your baby follow it with his or her eyes (explain other exercises if the parents require more examples). _____ (tutor's name) would be the person who would be doing these things with you. You would be visited once a week for approximately one-and-one-half hours from the time your baby is one month old until his or her second birthday. This means that involvement in the study would be for quite a long time, i.e., almost two years. Although this is a rather long time to participate in any study, parents who have done this in the past have really enjoyed the experience, including having someone knowledgeable in child-rearing to discuss their child with, and having the opportunity to learn new ways of being with their infants, such as by learning new games to play. At no time will you ever be asked to do something against your principles, and you may refuse to do anything which you prefer not to try. You may also drop out of the study at any time. However, we would prefer that this does not happen since it would negatively effect the results of the study. An additional part of the study is to measure your child's development and observe his or her behavior before the tutoring sessions begin as well as during and at the end of the project, for a total of seven times. These observations are held to measure your baby's progress and to see if the things we're teaching you are actually helping your infant to develop and to learn new things. All of the observations would be held in your home and would be carried out by two people, working in pairs, from the project. At the end of the project we will give you feedback on how your baby is doing. We do not want to give you any results during the project because it might effect your behavior and cause you to act unnaturally. In summary then, this project would require two

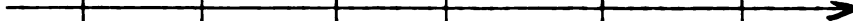
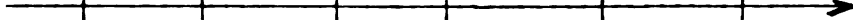
years of your cooperation, hopefully of an enjoyable nature. However, it may involve some inconvenience to have us come into your home and take up your time. I'd like you to take a week to think it over, at which time I'll call you to see if you would like to take part in the study. Do you have any questions? Thank you for your time.

If the family agrees to participate in the project when they are contacted by phone, they will be sent a consent form which they must sign, in which the family agrees to participate in the study including home tutoring (when applicable) and assessment visits. The consent form will also include the statement that the family may withdraw from the study at any time, as well as refuse to participate in a particular tutoring or assessment procedure.

APPENDIX C

ASSESSMENT MANUAL

Table C. Assessment Schedule--Age Range: 1-24 Months

Instruments	Visit						
	#1	#2	#3	#4	#5	#6	#7
	1 Mo.	3 Mos.	6 Mos.	9 Mos.	12 Mos.	18 Mos.	24 Mos.
Bayley Scales					X		X
Neonatal Perception Inventory			X		X	X	X
Feeding Scales	X						
Yarrow Scales							
Ainsworth's Four Scales For Caregivers							
			Rubenstein's Bell-Pairs Test				

General Guidelines for All Assessment Visits

1. Scheduling: One week before each assessment visit, Assessor #1 is to call each family and remind them of the visit's time and date. Assessor #1 should have at hand alternate dates (already agreed upon with his or her partner, Assessor #2) if the appointed date cannot be made by the infant's parents for any reason (i.e., going out of town; one or both parents, or infant sick, etc.), and these dates should then be offered until a definite date is set.

2. Procedures:

a. At all times make sure the infant's parents are ready to begin a particular assessment item. If for any reason they wish to discontinue a particular assessment visit before all the procedures for that visit have been completed, end the procedures immediately and reschedule.

b. If certain procedures require that the infant is to be awake, do not have the parents wake the baby but wait until the baby wakes up by herself or himself.

c. Whenever there is a pause between test items, e.g., because baby fell asleep, sit quietly reviewing test procedures unless the infant's parents engage you in conversation.

3. Conversation with Parents:

a. At no time tell the infant's parents how their child is doing on the tests and observations, explaining to the parents that you want to learn what babies are like and are not comparing their child to any model, and that there are no right or wrong responses, if they ask.

- b. Do not give the parents child rearing advice, explaining to the parents if they ask for advice, that you want to learn how they and their baby live together and therefore, do not want to effect how they act by telling them how other people raise their children.
- c. You may talk with the parents about their experiences with their child, how they feel about children, etc., as long as you do not share your own opinions or experiences.

Assessment Visit #1

General Introductions

Age 1 Month

As soon as you arrive at the infant's home introduce yourself in the following manner to the infant's parents:

"I am _____ (Assessor #1), and I am _____ (Assessor #2)."

Assessor #1:

"We are from the Parent-Infant Project and we are here to observe you and your child ____ (Baby's name), as well as to do a few other things. First of all we would like to see how ____ (baby's name) plays with certain toys which we have brought (the Bayley). We would then like each of you to fill out some questionnaires. After that _____ (Assessor #2's name) and myself will observe you and your infant's behavior for about 3 hours. Do you have any questions?" After their response, and answering any questions say: "I am now going to present _____ (baby's name) with some toys. In order to do this _____ (baby's name) must be lying on his or her back, preferably in a crib or on a mattress, and he or she must be awake, and not eating, or drinking from a bottle. As soon as ____ (baby's name) is ready I will begin." Proceed to administer the Bayley Scales using the Manual provided by Bayley.

This assessment is to be carried out at the infant's home, at a prearranged time in which the following conditions were agreed upon:

1. Both the infant's mother and father are home.
2. The infant is awake.

At this visit, five different assessment procedures are to be carried out by two assessors. These procedures are listed below in the order in which they are to be implemented:

- | | | |
|----------------|---|--|
| simultaneously | [| 1) Bayley Scales of Infant Development |
| | | 2) Neonatal Perception Inventory |
| | | 3) Observation of Caregiver-Infant interaction using Yarrow's Scale |
| | | 4) Observation of Caregiver-Infant feeding practices |
| | | 5) Observation of Caregiver-Infant behavior using Ainsworth's four Scales. |

Assessor #1 is to administer all measures except the Yarrow Scale, which is to be administered by Assessor #2.

Administration Procedures (see General Introductions)

The first procedure to be carried out at this visit is the following:

1. Bayley Scales (Mental and Motor): In order to administer the Bayley at this age, the infant must be placed on his or her back in a crib. Follow Bayley's Manual for administration instructions. The infant must also be awake (i.e., eyes open) and not eating, or drinking from a bottle. If the infant is asleep or feeding do not begin the Bayley, but wait until the infant has woken up and/or his or her bottle has been removed. Do not have the baby woken up, but wait. For those items of the Bayley which require the infant to be held by a caregiver, have infant's mother do the holding whenever possible, i.e., if mother agrees and is not unable to because of her involvement in something she's unwilling to stop, e.g., housework, etc., otherwise have the infant's father hold the infant.

2. Neonatal Perception Inventory: As soon as the Bayley is completed tell the infant's mother and father that you would now like them to fill out a questionnaire, first the father, then the mother.

First have the infant's father go into the kitchen (if kitchen table is available, use any table surface, e.g., coffee table, or else any writing surface), and ask him to sit down. Sit across the table from him and begin to introduce the Neonatal Perception Inventory (see Manual for administration instructions). The above instructions are given to each of the infant's parents reciting the following:

"Now that I have completed giving your child the Bayley Scales, I would like each of you (the infant's mother and father) to fill out a questionnaire. First, I'd like you, Mr. ____ to fill out the questionnaire, while Mrs. ____ entertains ____ (baby's name). After you've completed the questionnaire, I'd like you, Mrs. ____ to also fill out a questionnaire, while Mr. ____ watches ____ (baby's name). If you don't mind, why don't we (directed to father) go into the kitchen where you can be seated while you fill out the questionnaire. As soon as we are done, I'll have Mr. ____ come and get you, Mrs. ____, to fill out your questionnaire."

After both parents have completed the N P I, begin a three hour observation period in which Assessor #1 is to observe caregiver-infant behavior, using Ainsworth's Feeding Scales as well as Ainsworth's four scales for rating caregiver behavior, while Assessor #2 administers Yarrow's Scale (see Appendix, Ainsworth's Feeding and Caregiver Scale Manual for administration instructions, as well as Yarrow's Manual), saying the following:

"We are now going to observe your baby for three hours. Please go about your normal activities."

As soon as the Ainsworth and Yarrow Scales have been completed, i.e., the observation period is completed and scales scored, thank the infant's parents for their cooperation, and inform them of the next assessment date, in the following manner: (Assessor #1 talking)

"We are now through with our observations for today. Thank you for allowing us to observe you and your child, and thank you for your cooperation. We will be back to observe again on ____ if that is convenient for you (if the date offered is not acceptable to the parents, try and arrange another time within the same week as the suggested date, and if that whole week is unacceptable, offer an appointment in the week prior to, or just after). Thank-you again, good-bye!"

Assessment Visit #2

Age: 3 Months

Go to the infant's home at the prearranged time decided upon (assessment visit #1). Reintroduce yourselves (as raters or assessors #1 & 2) and explain to the infant's parents the procedures you are going to carry out at this visit in the following manner:

"Hello, Mrs. and Mrs. _____, I'm _____ (assessor #1) and this is _____ (assessor #2). We met last visit and we're here again from the Parent Infant Project and we're here to observe you and your child today for approximately three hours. Do you have any questions before we begin our observations? (Answer all questions, then say) We are going to stay near your infant for the entire visit. Please go about your normal activities."

The following scales are then to be rated at this visit:

Administrator

Assessor #2 1) Yarrow's Scale of Caregiver-Infant Interaction

Assessor #1 2) Parent-Feeding Behavior Scales ala' Ainsworth

3) Ainsworth's four Scales or Caregiver-Infant
Behavior

The Yarrow Scale is administered during the entire observation period, whereas the Ainsworth scales are completed directly after the observation period is over. See individual scales for specific instructions. See Assessment Visit #1 for departure instructions, including scheduling next appointment.

Assessment Visit #3

Age: 6 Months

Go to the infant's home at the prearranged time, and introduce yourselves (see Assessment #2). Then, describe to the infant's parents what you are going to do today in the following words:

Assessor #1: "Today we are going to do three things, have your infant play with some toys (Rubenstein's Bell-Pairs Test), have each of you fill out a questionnaire (you did before) (Neonatal Perception Inventory) and observe you and your baby in your normal interactions or routines. Any questions? (Answer all questions) (Then say) Let's begin with the first task where we're going to have ____ (baby's name) play with some toys."

See instructions for administering the Rubenstein-Bell-Pairs Test.

Administer it, then when done say:

"Now I would like you both to fill out the questionnaire."

Follow the instructions for the Neonatal Perception Inventory, then when the NPI is completed say:

"We are now going to observe you and your baby for the next three hours. Please go about your normal activities."

Begin the observation period which involves the following two scales:

Administrator

Assessor #2 1) Yarrow Scales

Assessor #1 2) Ainsworth's four Scales

At the end of the observation period schedule the next appointment (see Assessment #1 for instructions).

Assessment Visit #4

Age: 9 Months

Go to the infant's home at the prearranged time and introduce yourselves (ala' Assessment Visit #2). Then, say to the infant's parents:

Assessor #1: "Today we are going to do the three hour observation again. We'd like you to go about your normal activities.

Any Questions? (Answer all questions). Now we'll begin."

The raters are then to observe the infant and parents completing the following instruments:

Administrator

Assessor #2 1) Yarrow Scales

Assessor #1 2) Ainsworth's four Scales

See each scale for specific instructions.

End visit with scheduling (see Assessment Visit #1 for details). The only addition to the scheduling is that at 12 months of age, the infant is assessed two times within the same week, i.e., one assessment

in the home (Assessment Visit #5) and one assessment at the Psychological Clinic at Michigan State University (Visit #6). Give the parents a map of MSU at this visit and give driving instructions.

Assessment Visit #5

Age: 12 Months

This assessment visit is similar to Visit #1, except the feeding scales are not given. Therefore, the following tests are to be administered at this visit following the procedures outlined in Visit #1:

- 1) Bayley Scales
- 2) Neonatal Perception Inventory
- 3) Yarrow Scales
- 4) Ainsworth's four Scales

The only difference in the procedures of this assessment is that the Bayley is to be administered with the infant seated in the mother's or father's lap at a table, where the items will be presented.

Assessment Visit #6

Age: 18 Months

This visit duplicates the procedures outlined in Assessment Visit #1, except the Bayley and the feeding scales are not given. Therefore, the following tests are to be administered at this visit:

- 1) Neonatal Perception Inventory
- 2) Yarrow Scales
- 3) Ainsworth's four Scales

Also, remind the parents that the next assessment visit is to be the last one.

Assessment Visit #7

Age: 24 Months

This assessment visit is identical to Assessment Visit #5, therefore follow the same procedures. The following tests are to be administered at this visit:

- 1) Bayley Scales
- 2) Neonatal Perception Inventory
- 3) Yarrow Scales
- 4) Ainsworth's four Scales

Also, thank the families for their cooperation and remind them that the assessment visits are over, but that they will be visited by the project director to give them feedback on their infant's development.

INSTRUCTIONS FOR EACH ASSESSMENT INSTRUMENT

Paternal and Maternal Feeding Behavior

This rating refers to the caregiver's (C), i.e., the infant's or baby's mother or father, style of pattern of behavior which comprises the manner in which the baby (B) is fed according to four major components of feeding behavior outlined or listed below.

- 1) Synchronization of C's interventions with B's rhythms.
- 2) Determination of amount of food ingested and end of feeding.
- 3) C's handling of B's preferences for kind of food.
- 4) C's synchronization of rate of feeding to B's pace.

In order to carry out this rating, which is done in the infant's home, the observer or rater must carry out the following instructions:

- 1) Bring several score sheets (10 or more) to the infant's home.
- 2) Introduce yourself to the infants parents (see general instructions for Assessment #1)
- 3) In order to remain as unobtrusive as possible while coding, the rater is to sit or stand quietly near the baby; does not move quickly when he or she changes position or location; does not speak to, smile at or otherwise interact with the infant; and, to the extent that is possible (without offending the infant's parents), does not interact with the infant's caregivers (e.g., mother and father) or anyone else present in the home during the observation period.
- 4) Follow the instructions on the score sheet presented below.

Score Sheet for Feeding Ratings

I. General Instructions:

- A. Each of the four items presented below refers to a separate aspect of feeding behavior, and is followed by a 9 point scale representing the actual quality or appropriateness of the caregiver's behavior.
- B. Only 5 points of each scale actually represent different ratings or kinds or types of feeding behavior, i.e., the odd numbers of the scale (1, 3, 5, 7, 9,), whereas the even numbers of the scale represent the inbetween points where a clear discrimination between two consecutive odd numbers, or major definitions of feeding behavior is too difficult to make. See definitions of each point in manual attached to Score Sheet.
- C. After having observed an infant feeding episode, fill out the following score sheet immediately after the feeding is terminated. Whereas a feeding begins when the first swallow of milk (by route of a bottle) or solid food is taken by the infant, a feeding is terminated when the last portion of milk or food is consumed.
- D. Rate as many feedings that take place, rating each feeding separately, on a separate score sheet.
- E. Circle the number or scale point which best represents caregiver feeding behavior for each item.

Score Sheet

Rater: _____ Subject's name (infant): _____

Family's name _____ Date: _____

Who fed infant (mother or father): _____

C = Caregiver or Caretaker

B = Infant or Baby

Item #1: Synchronization of C's Interventions with B's Rhythms

1	2	3	4	5	6	7	8	9
Very Arbitrary Timing		Arbitrary Timing		Some Ad- justment to B's Timing		Flexible Timing		Excellent Adap- tation of Timing

Item #2: Determination of Amount of Food and End of Feeding:

1	2	3	4	5	6	7	8	9
Very Arbitrary Termi- nation		Arbitrary Termina- tion		C Terminates Feeding but Believes that B Does		Flexible Termi- nation		Excellent Adaptation in Regard to Amount of Food

Item #3: C's Handling of B's Preferences for Kind of Food:

1	2	3	4	5	6	7	8	9
Great Disregard of B's Pre- ferences		Disregard of B's Pre- ferences		Some Con- sideration for B's Prefer- ences		Considera- tion for B's Pre- ferences		Excellent Adaptation

Item #4: C's Synchronization of Rate of Feeding to B's Pace:

1	2	3	4	5	6	7	8	9
C interferes unduly with B's pacing		C tends to deter- mine the pacing		C alternates Between Determining Pacing and Letting B Determine it		C is sensitive to B's Pacing		C is very well adapted to B's Pace

AINSWORTH & BELL'S (1969) FEEDING MANUAL**MB-1 FEEDING: SYNCHRONIZATION OF CAREGIVER'S INTERVENTIONS WITH
BABY'S RHYTHMS**

It is assumed that the neonate has an activity cycle in which periods of activity and waking are fairly well coincident with hunger, and periods of inactivity and sleep follow--either because hunger has been satiated or because the baby's activity and crying have exhausted him or simply because of a biological clock which determines the basic cycle of the rhythms themselves. Needless to say, periods of crying tend to coincide with periods of activity, waking and hunger. Interventions of the adult may occur at any point in the activity cycle.

It is our hypothesis that the optimal timing of the mother's feeding intervention is when the baby is awake, active and hungry, but before he has reached a peak of hunger and crying. Under these circumstances the baby might be expected to feed well since he is hungry enough to be interested and yet not so hungry and upset that it is difficult to calm him down enough to feed. A baby fed with synchronization of interventions to his rhythms might be expected to learn a number of important things: (a) to stabilize his rhythms so that he becomes hungry at regular intervals; (b) to anticipate that slight hunger would be followed by gratification; (c) to be less distressed by slight hunger, to learn the beginnings of frustration tolerance, and to cry less massively; (d) to expect that what he does (i.e., the signals he gives of hunger) has some consequence and thus that he has some control over what happens to him; and consequently (e) to give more clear-cut signals of his state, which in turn makes it easier for his mother to synchronize her interventions to his state.

Interventions of the adult may be quite arbitrary, however, and out of synchrony with the baby's rhythms. Sometimes the intervention may come at the optimum time, but sometimes it may be long delayed, after the baby has reached a peak of hunger and crying and is so upset as to be difficult to feed. And sometimes the intervention may come too early while the baby is sleepy and inactive or so late that he has again fallen asleep; in either case he tends to be unresponsive and might have his natural rhythms disorganized rather than stabilized, for if he has not fed well it might well be expected that he would become awake, hungry and active more quickly than if he had been fed at a time when he was more receptive and could ingest a normal amount. One might further expect that a baby fed arbitrarily would be slower to learn frustration tolerance and to modulate massive neonatal crying, that his signals would continue to be primitive and difficult to interpret, and that he would not come to feel that he had any control over what happened to him.

Mothers who depart from optimal timing are not so likely to be completely arbitrary in their interventions as they are to delay. Let us first consider delays so long that the baby is fed only after he has been crying for some time, and may be presumed to have reached a desperate pitch of hunger. Such babies are difficult to feed because they are too upset and hungry to feed well at first, and they tend to become upset all over again at each slight interruption. One might expect a baby so treated to come to feel that he had some influence over what happened to him, but that he could exert his influence only through screaming or other very intense demands, and that slight hunger would be a cue not for gratification but for something much more painful before gratification might ensue.

Short delays are undoubtedly another matter. A mother may interpose some slight delay between a baby's first signals of hunger and the feeding--either to ensure that he is properly hungry and hence that he will feed well, or to nudge him towards regularization of rhythms, i.e., towards a schedule. These slight delays seem to constitute no departure from optimal timing.

Mention has been made of the baby's hunger signals. These usually include mouth movements, rooting, general restlessness, and eventually fussing and/or crying. The signals are, however, somewhat idiosyncratic. Some babies announce hunger very promptly by crying; others become increasingly restless and increase sucking and rooting responses before they begin to cry. Still others such and root so much when they are not hungry at all that this behavior cannot be taken as a dependable signal of hunger. Because of this, and because crying may obviously occur as an expression of states other than hunger, hunger signals are to some extent ambiguous, and an accurate interpretation of signals requires experience with a particular baby, perception of an undistorted nature, and consideration of the context in which the signals occur.

Whether to wake a baby to feed him is an issue for some mothers, and, even more than delaying feedings, they consider this to be the issue which differentiates demand from scheduled feeding. It appears to us, however, that waking a baby to feed him may not be an arbitrary intervention and that it, like slight delay, may help to stabilize the baby's rhythms. Some babies seem to oversleep--whether because their threshold of arousal is constitutionally high, because they nap in unusually quiet and unstimulating surroundings, or because they have been overfed--and of these the latter is perhaps the most important, for it seems that the baby's hunger cycle is much affected by the amount he is fed. Babies who oversleep are typically eager to be fed when they are awakened. If this is the case, or if the mother wakes the baby tactfully and then waits until he seems ready before feeding him, it does not seem a gross departure from optimal timing to wake a baby to feed him.

Some babies have rhythms which are more clear-cut in the beginning than others. A middle or low rating on this scale might reflect a difficult baby rather than a rigid or insensitive mother; this

might be expected to be the case only at the beginning, however, for a sensitive and flexible mother may help enormously to stabilize the rhythms of even a baby who is initially difficult. On the other hand a rating of 9 might not be achieved, even by a very sensitive mother, until the end of the first quarter-year, since it reflects mutual adaptation.

Two further questions remain. First, how much weight is an observer to give to what the mother says she does if this is at variance with what she was observed to do? If the mother is judged to be an otherwise accurate and credible informant, and implies somewhat more flexibility than she seemed to have when observed, the rating should reflect this somewhat greater flexibility--for sometimes mothers time their feeding interventions to suit the observer, for example, holding a hungry baby off until the observer arrives so that he can witness the feeding. On the whole, however, greatest credence should be given to what is actually observed, for there can be a gross discrepancy between the practices a mother professes to follow and what she actually does.

Finally, one may ask what constitutes a feeding? When feedings are spaced out every three hours or so, they may be demarcated clearly. There are, however, some mothers who conduct feedings in installments--and this practice makes it difficult to demarcate one feeding from another. Some mothers who feed on a very flexible schedule use installment feedings; a feeding given in response to too slight a signal may be discontinued and deferred briefly until the baby is really ready to be fed, or a "snack" may be given to hold a baby off until the more or less scheduled time of his main feeding. Other mothers who use installment feedings are overfeeders; they feed the baby as much as he will take, and then offer him more after some delay, and then perhaps repeat the offerings again and again over an extended period of time. Still other mothers discontinue feeding too soon, but renew the feeding when the baby cries again, and thus feed in installments. For the purpose of this scale, the timing of feeding refers to the first feeding intervention, after a lapse of two or three hours or more, and not to the soon-repeated renewals of feeding that may be described as installment feeding.

1. Very arbitrary timing. M is very arbitrary in her feeding interventions so that they are very badly geared to B's rhythms and disregard his signals. The most conspicuous manifestation of arbitrariness is very prolonged delay, during which M does not respond to B's signals even when they become demanding cries. But even more fundamental than long delay is an essential arbitrariness--an erratic and irregular timing which makes it very difficult for B to adjust his rhythms and/or expectations. Some mothers are arbitrary because they must be in control of B and refuse to adjust to his timing even though his signals may be perceived. Others are arbitrary because they do not allow themselves to perceive B's signals or to perceive them correctly.

3. Arbitrary timing. M's interventions are somewhat more appropriate but there is still considerable arbitrariness. Mothers rated thus are not so much erratic, however, as delaying. There are various patterns which may be given this rating. One pattern is a striving towards a schedule with too widely spaced feedings--which sometimes results in a delay so long that B exhausts himself and falls asleep before being fed, and has to be awakened. Some mothers who delay in this way are well aware of B's signals of hunger but choose to ignore them. Other mothers respond to B's crying with repeated interventions, but either fail to perceive the crying as a hunger signal or determine not to respond appropriately until the pre-determined time for feeding finally arrives. Another pattern which seems to deserve this rating may be described as "pseudo-demand"--without such a long initial delay in the timing of feedings, but with premature terminations which leave B so unsatisfied that he soon demands again. In either case B is gratified only by a very active and vociferous demand, whether the demand is a prolonged and continuous response to a long delay, or a briefer response to a briefer delay but with intermittent and persistent demands to ensure that the feeding persists long enough for gratification.

5. Some adjustment to B's timing. M's interventions have some flexibility and some relationship to B's rhythms, signals, and demands, but they are still not well adjusted to them--and are sometimes sufficiently out-of-phase to interfere with the stabilization of rhythms. Some mothers should be rated thus because they are pushing a schedule too hard, and, although they do not delay as long or intervene as imperceptively as mothers given lower ratings, they still do not advance the time of feeding flexibly enough. Others attempt to feed B when he signals hunger, but whether because they are unprepared for his demand, or interrupted, or too compulsive to interrupt themselves, there is still a delay before feeding--although not as long as in the case of those with lower ratings. Here also belong mothers who, having upset B's natural rhythms by deliberately overfeeding him (in the hope that he will sleep long and thus make no demands), do not seem to be able to establish any cycle of interventions which seems mutually satisfying in regard to timing.

7. Flexible timing. M feeds B with enough flexibility that the external observer would find it difficult to judge whether she feeds by schedule or on demand. Nevertheless M is not guided entirely by B's signals. Sometimes she judges it in time to feed him when he has given no hunger cues, or perhaps she wakes him to feed him. Or sometimes she may delay feeding until after B has become obviously hungry, crying and upset. But, if she delays, it is not for long, and she tries not to let B get into a state of high tension. If she wakes him, she does not actually begin the feeding until he is obviously ready--or else she discontinues the feeding and comes back to it a little later. Although she may be trying to regularize B's rhythms, she gives high priority to gratifying him.

9. Excellent adaptation of timing. M and B are mutually adapted in regard to feeding. B knows what it is to be hungry and to anticipate feedings, but he is not permitted to build up to a state of distressing tension. He is not fed before he is ready and eager, but when he reaches that state there is minimal delay. This adaptation may be the outcome either of thoroughgoing, consistent demand feeding, or sensitive and flexible schedule feeding--but it tends to be achieved only after a period of mutual adaptation.

MB-2 FEEDING: DETERMINATION OF AMOUNT OF FOOD AND END OF FEEDING

Ideally, if the baby is fed when he is hungry but before he gets too hungry and upset, and if he is allowed to feed at his own pace, he can be relied upon to terminate his own feeding, signalling when he has had enough, and still take the optimum amount of food. Some mothers, both from a knowledge of the amount of food a baby of this age is likely to need and to take and from attention to the baby's signals, give the baby the right amount of food. The baby is gratified and does not become hungry soon again, and yet at the same time he is not given more than he needs or more than he can easily digest. Under such circumstances it looks as though the baby terminates the feeding. Either he is content when the food is gone, or his mother stops offering him more when he signals that he is finished.

How does the baby signal that he has had enough? He may drowse off to sleep--but this is not a dependable signal, for often enough he likes to drowse for a moment with the nipple in his mouth, only to rouse and take more; so that mother has to wait to see whether the drowsing is merely temporary or not. Or he may be more active in indicating he is finished. He may fail to swallow milk or solid food, and let it dribble out of his mouth. Or he may spit it out. Or he may close his mouth tightly and refuse the nipple or spoon. Or he may turn his head away. Any of these behaviors may indicate either momentary refusal or a real effort to terminate feeding, and the mother must become sensitive to the signals of this particular baby.

Some mothers press their babies to take more after they have signalled termination of the feeding. This may be done through coaxing, stimulating the lips with nipple or spoon, in an attempt to induce the baby to take more--and sometimes the mother may prolong the feeding a long time, with persistent or intermittent coaxing. Or the mother may resort to forcing the baby to take more. If the baby falls asleep, the mother may inflect painful stimulation in order to wake him up, and if the baby cries, she takes advantage of the open mouth to insert the nipple or a spoonful of food. In the extreme it may be difficult to distinguish between coaxing and forcing, for coaxing may become noxious if it is persistent enough.

The apparent reasons for coaxing or forcing the baby to take more than he spontaneously takes are several. Sometimes this goes

along with badly timed feedings; the baby having been awakened before he is ready to feed is not hungry and stops before he has ingested as much as he might reasonably be expected to want. Or he may have had to wait so long for a feeding that he falls asleep and is not really ready to feed despite his long wait. Other mothers coax or force the baby to take more than the usual amount for a baby this age, and, in effect, overfeed the baby. Overfeeding may come about because of the mother's desire to gratify the baby fully, or because she is anxious about her own capacity to nurture him. Or it may be undertaken deliberately in the hope that the baby, stuffed to full capacity, will sleep soundly and long and be little trouble.

Other mothers follow a reverse pattern, discontinuing the feeding too soon and before the baby has had enough. Such mothers tend to be impatient, and terminate feeding at the first sign that the baby is slackening his pace of intake, or if the baby pauses to look around, or to interact socially, or merely to hold the nipple in his mouth. Some babies, having had to wait too long for a feeding, are over-hungry and fussy; the mother may misinterpret the restless fussiness as refusal. If the feeding is too brief, the baby is likely to cry soon again, demanding more food. Even though this subsequent demand is met, this pattern of feeding tends to be chaotic and the baby find it difficult to regularize his rhythms. In either case the baby tends to be underfed.

1. Very arbitrary termination. It is M who determines the termination of the feeding and she does so in almost total disregard of B's signals, and thus in disregard of any attempt to gratify B optimally. Some mothers so rated force B to feed after he has signalled termination, and may induce pain and thus crying as part of the forcing operation. Others, although they do not actually force-feed, may carry coaxing to the point of noxious stimulation. Still others terminate the feeding much too quickly, either because of impatience or because of distractions, and the baby gets far too little food in the feeding.
3. Arbitrary termination. It is still M who determines the end of the feeding, and this is still with a relative lack of regard for B's gratification, even though M may be somewhat more considerate of B's signals than mothers with lower ratings. M may deliberately overfeed B, for the express purpose of getting him to sleep a long time and be no trouble. But, at this rating-level, it is a matter of coaxing rather than forcing, and nearly always coaxing stops short of noxious stimulation. If M terminates the feeding too soon, so that B is still hungry and soon again demands food, M is at least willing to give him more soon again.
5. M terminates feeding, but believes that B does. Mothers given this rating attempt to gratify B, and underfeed or overfeed him through misunderstanding of his needs. Some mothers overfeed because they misinterpret B's signals, believing he is signalling for more when he roots, mouths or is merely active. Others have an inflated notion of B's needs, prepare too much for him, and then

return to the feeding at the slightest indication that B might be ready to take more. Other mothers underfeed, not because they are impatient or distracted or unwilling to prolong the feeding, but because they miscalculate the amount of food B needs at this age, and prepare too little for him.

7. Flexible termination. M is flexible in terminating the feeding when B indicates he has had enough, but continues it until he so signals. She may coax him a little, offering more two or three times before she is convinced he is finished, and sometimes he may be thus induced to take too much. She may sometimes stop too soon, misreading his signals. But, on the whole, it is B who determines the amount he will take and when he will end the feeding.
9. Excellent mutual adaptation in regard to amount of food. M is flexible and perceptive in meeting B's nutritive needs, gratifying him without giving him too much. She knows approximately the right amount to offer him, and at the same time knows that he may want more at some feedings than at others. If he signals termination, she will wait a little to see if he wants more in a moment, but she neither coaxes him nor terminates abruptly. At another feeding, if he seems to want more than the usual amount, she is flexible in providing it. She is flexible also in "tiding him over" between feedings, and even giving him a "snack" to comfort him if this seems indicated, but she certainly does not confuse hunger signals with other signals, and does not substitute food for interaction.

MB-3 FEEDING: THE CAREGIVER'S HANDLING OF THE BABY'S PREFERENCES FOR KIND OF FOOD

This scale is not pertinent until so-called solid foods have begun--usually commercial baby foods--cereals, and vegetables or fruit purees. The mother has the task of introducing solid foods in a way acceptable to the baby, and some mothers, with or without the encouragement of their pediatricians, begin the task very early.

Most babies, at least at first, prefer the breast (or bottle) to solid foods, and, even after solids have been well started preferences may be manifested. Fruit is usually preferred to cereal, and cereal to vegetables. Familiar foods are usually preferred to new foods. One kind of fruit may be accepted readily, but another rejected.

This scale emphasizes the sensitivity of the mother to the baby's preferences, and her skill in presenting these foods in such a way that the baby accepts them with a minimum of disturbance to the gratification of feeding.

There are several schools of thought about the introduction of solids to the very young baby. Some mothers believe that the solids should be given first, while he is at his hungriest, or else he will not eat them. Some believe that they should be given later in the feeding, after the baby has had the first keen edge of his appetite satisfied by what he likes the best, namely, bottle (or breast). Others practice interspersing sucking and spoonfeeding. Even the practice of interspersing has variations. Some give a period of sucking, then a period of spoonfeeding, and then a final period of sucking. Others give a spoonful or two, and then if the baby seems about to cry, the nipple is quickly popped into his mouth for a moment, and then some more spoonfeeding is tried. Still others are intermediate between these two extremes.

Furthermore, mothers differ in the value they attach to solid foods in the first few months. Some believe that milk is most important, and are content to spoonfeed solids in small amounts and gradually, more to get the baby accustomed to them than anything else. Such mothers tend not to be insistent if the baby rejects a food. Others attach most importance to the solid foods, wishing to have them the mainstay of the diet as soon as possible--either because they are eager to get him onto three feedings a day as soon as possible, or because they wish to fill him so full that he will sleep long and soundly and be little trouble. These attitudes obviously play a part in the way solids are presented.

The following ratings are based on the assumption that a good feeding is a happy feeding, that it is more important to gratify the baby than to get a variety of foods into him, but that the diet can gradually be varied and extended without unpleasantness if the mother is tactful about it. Our observations strongly suggest that most babies are best able to accept new foods when these are presented after a period of breast or bottle feeding. If the solids are presented first, the baby is likely to cry and to refuse them, and this seems especially likely if he is very hungry, perhaps because he has been "staved off" in an attempt to delay the beginning of feeding.

If the baby refuses a particular food, the mother has several alternatives open to her. She may give him something he likes better, and then try the new or disliked food again later. Or she may intersperse foods or modes of feeding. Or she may mix foods, so that a new or disliked food is disguised by mixture with a liked food. Or she may force the feeding, either by forcing the mouth open or by making the baby cry or by taking advantage of his crying to spoon food into the open, crying mouth.

1. Great disregard of B's preferences. M is determined to get B to ingest the foods she chooses for him, regardless of his preferences. She forces solids on him, even though he may protest vigorously, closing his mouth, averting his head, or spitting the food out. She forces his mouth open, or takes advantage of his crying, and shovels the food in so that B has no alternative between swallowing and choking. She may even induce crying so that she can get his mouth open.
3. Disregard of B's preferences. M tends to feed first new foods or disliked foods, despite knowing that B much prefers the bottle (or breast). She is arbitrary about giving him what she (and/or the pediatrician) have determined he should have, without taking his preferences into account. She tends to shovel the food into him despite his protests, but she does not force him if he really refuses. If he protests, she may discontinue the feeding altogether, without turning to food he will accept, and leaving him still hungry.
5. Some consideration for B's preferences. M makes some effort to be tactful in presenting new or non-preferred foods--either by disguising them in a mixture or by interspersing them with preferred foods. But in one way or another she tends to impose her own ideas on him--even though she does not force feeding as do mothers with lower ratings.
7. Consideration for B's preferences. M respects B's preferences to a large extent. If he clearly prefers bottle (or breast) to solids, she gives him what he most wants first. She may then try the less preferred foods, but she does this tactfully, and does not persist long if he still tends to reject them. (If B accepts all foods, seeming to have no preferences his mother would be given this rating, even though she may feed solids first, and shows no special evidence of tact.)
9. Excellent adaptation. M is very tactful in presenting new or disliked foods to B, and ready to assume that he can be nourished adequately even though he eats relatively little of a food she is trying to get him to accept. This policy results in B accepting at least small quantities of everything he is offered, and in the end B gets what he needs, and enjoys what he gets.

MB-4 FEEDING: CAREGIVER'S SYNCHRONIZATION OF RATE OF FEEDING TO BABY'S PACE

Although this variable interacts to some extent with the other three feeding variables, it has its own unique features, and these are considered to be very important. Perhaps the most important aspect of pacing is the extent to which the mother respects the baby's own autonomy and, to the extent that he is able, encourages him to take some initiative in the ingestion of food. Feeding is something that

the mother does with the baby and not to the baby. The extent to which the baby can determine the pacing differs from the sucking part of the feeding (whether bottle or breast feeding) and the spoonfeeding part.

Let us first consider bottle or breast feeding. The baby has innate patterns of behavior which determine his rate of ingestion. He may suck strongly or weakly, quickly or lazily. He may suck for a while without pause, then "stall" with the nipple in his mouth and not suck at all for a while, only to resume sucking later. He may cling to the nipple when his mother tries to remove it, or he may eject it firmly when he wants no more of it, or he can just let go the suction and release it gently. As long as his mode of intake is by sucking, his mother can do little to make him feed, and to force him is likely to arouse resistance. There are, however, ways in which the mother can interfere. She may, whether unwittingly or with intent, provide him with a nipple which delivers milk to his mouth faster than he can swallow it. Although he may learn to cope with a fast nipple, he is likely at first to choke and struggle. Another way in which the mother can try to speed up the baby's pace in sucking is to jiggle the nipple in his mouth whenever he slackens, or to try to remove it.

Most babies, after the first fine rapture of sucking, tend to pause and even drowse. They hold the nipple in the mouth, either quietly or mouthing it gently without sucking. But then, after the pause, they resume sucking, although perhaps less strongly than before. Some mothers recognize this pattern and are tolerant of the drowsing or "playing around," but others are impatient and feel that if the baby is not sucking strongly, he is no longer hungry and terminate the feeding, or, at least, jiggle the nipple to get the baby active again.

If the baby is sucking well, the mother may nevertheless interfere by interrupting the feeding. "Burpings" are a good excuse for interruption. Whereas some mothers manage to time the "burpings" to signals that the baby gives indicating that he is willing to pause, others "burp" the baby arbitrarily, interrupting him in the full spate of sucking. Even though "burpings" are well timed, they may constitute a disruption of the baby's pacing if they are too long. Some mothers interrupt even more arbitrarily, presumably because of their own need to remain in complete control of the situation; at arbitrary intervals they withdraw the nipple from the baby's mouth, only to reinsert it in a moment or perhaps to tease him by putting it to his lips but not letting him have it.

When it comes to spoon feeding of solids the baby has even less control over the pacing of the feeding than when he is sucking. After he has become accustomed to spoon feeding he can indicate that he is ready for more by opening his mouth, or by sucking and rooting behavior. And he can indicate that he is not ready by closing his mouth or by averting his head. Or, if the food is nevertheless given to him,

he can reject it by letting it dribble out or by tonguing it out, or even by spitting up. But, on the whole, the pacing is under his mother's control.

If the baby is extremely hungry at the beginning of a feeding and is spoon fed first, he may fuss unless the spoonfuls come at a very fast rate. Even later in the feeding, he may fuss if there is too much delay between spoonfuls, as there sometimes is if the mother is distracted by some other demand on her attention. A well-timed feeding of solids is, however, marked by fine mutual adaptation. It seems as though the spoonful of food is ready when the baby's mouth opens as a signal that he is ready for it.

Forced feeding of solids, as described in both MB-2 and MB-3, is, of course, an infringement of the baby's autonomy in pacing. Some mothers are so controlling that they insist on setting the pace, and if the baby rebels and refuses they force him to take food, either by squeezing his cheeks so that he must open his mouth or by making him cry or taking advantage of crying to spoon food into the open, crying mouth. In either case, the mother puts the food in his mouth at her own pace and he is forced to accept it or choke.

At the well adapted extreme, the mother not only allows the baby to pace himself, but she also manages spoon feeding so that the baby can display active initiative in ingesting the food. Rather than merely depositing the food in his mouth she presents it in such a way that he must take some initiative in getting it. Some mothers present the spoonful in such a way that in order to get the food the baby must suck or "gum" it from the spoon. Techniques vary, but they have in common the outcome that the baby is active in receiving his solids.

1. M interferes unduly with B's pacing. This occurs in both bottle (or breast) feeding and in the feeding of solid foods. M has no adequate appreciation of B's natural rate of feeding. When B sucks, M either cannot tolerate him drowsing with the nipple in his mouth and forcibly removes it, or she provides him with so fast a nipple that he frequently chokes. When feeding solids M may force feed, opening B's mouth by force, or causing him pain till he cries and the food may be put into his mouth. Or M may feed B so slowly or with so many interruptions that he becomes very frustrated and upset or so distracted that he loses interest in the situation.
3. M tends to determine the pacing. In bottle or breast feeding M tends to let B pace himself, except that she may be impatient if he loafs on the job or she may provide him with such a fast nipple that he occasionally chokes. When feeding solids, however, M tends consistently to interfere with B's rate. She may do this by forcing him to take solids when he does not wish them, or faster than he wishes to go--although not to the extent of forcing used by mothers with a lower rating. Or she may avoid overt

protest by popping the nipple in B's mouth between spoonfuls. Or she may feed slowly and insensitively, perhaps with interruptions to attend to other things, so that the pleasure goes out of the feeding, even though it is not so disorganized as feedings given a lower rating.

5. M alternates between determining pacing and letting B determine it. M lets B determine his own rate fairly well in bottle (or breast) feeding neither withholding the nipple when B wants it nor trying to speed him up. But the feeding of solids, although not exactly forced, is not sensitively attuned to B's rate of ingestion.
7. M is sensitive to B's pacing. In bottle or breast feeding, M lets B drowse and loaf, if he is so inclined, and she neither coaxes him to begin sucking again until he is ready, nor does she cut him short if he is just pausing. Similarly in regard to the feeding of solid foods, she gears herself pretty sensitively to B's rate of ingestion, although the harmony of the interaction is not as impressive as it is with mothers with a higher rating.
9. M is very well adapted to B's pace. M's sensitivity to B's pacing is impressive, both in bottle (or breast) feeding and in spoon feeding. M and B work in harmony. In spoon feeding, the spoon is ready just at the time that B opens his mouth for it. More important, the way M presents the food on the spoon requires initiative from B to get it--sucking or "gumming" it off rather than having the spoonful deposited in his mouth. If B can get the contents of the spoonful at his own rate, this reduces to a minimum the amount he must let overflow and which must subsequently be scraped into his mouth by his mother.

NEONATAL PERCEPTION INVENTORY (NPI)

The NPI is a measure of a parent's perception of the average baby and his or her own baby. The NPI is administered in the following manner:

Begin the NPI by telling each parent the following:

"We are interested in learning more about the experiences of parents and their babies. To do this I would like you to fill out the questionnaire which I'm now going to give you (hand questionnaire NPI to parent) the form. Please open the questionnaire to the first page with the title, "Average Baby" (check to see if the parent has turned to the correct page). Although this is your first baby, you probably have some ideas of what most babies are like. Please check the blank for each of the six items on the average baby form which you think best describes what most babies are like."

As soon as the parent completes the Average Baby Form, the rater is to say the following:

"Now that you have completed the Average Baby form, I would like you to turn the page to the form entitled, 'Your Baby' (make sure the correct form is turned to). You have had a chance to live with your own baby for a period of time. Please check the blank for each of the six items on the 'Your Baby' form which you think best describes what your own baby is like."

As soon as the parent completes the 'Your Baby' form, collect the entire questionnaire. Look through the questionnaire briefly to see if any items have been missed or not filled out. If you find an unscored item hand the form back to the parent showing them the item they missed and say:

"You have skipped this item. Please fill it out now."

Collect the questionnaire.

QUESTIONNAIRE FORMS

Neonatal Perception Inventory

I. Average Baby

Although this is your first baby, you probably have some ideas of what most babies are like. Please check the blank you think best describes the Average Baby.

1. How much crying do you think the average baby does?

<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
A Great Deal	A Good Bit	Moderate Amount	Very Little	None

2. How much trouble do you think the average baby has in feeding?

<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
A Great Deal	A Good Bit	Moderate Amount	Very Little	None

3. How much spitting up or vomiting do you think the average baby does?

<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
A Great Deal	A Good Bit	Moderate Amount	Very Little	None

4. How much difficulty do you think the average baby has in sleeping?

<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
A Great Deal	A Good Bit	Moderate Amount	Very Little	None

5. How much difficulty does the average baby have with bowel movements?

<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
A Great Deal	A Good Bit	Moderate Amount	Very Little	None

6. How much trouble do you think the average baby has in settling down to a predictable pattern of eating and sleeping?

<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
A Great Deal	A Good Bit	Moderate Amount	Very Little	None

Neonatal Perception Inventory

II. Your Baby

You have had a chance to live with your baby for awhile now.

Please check the blank you think best describes your baby.

1. How much crying has your baby done?

<u>A Great</u> Deal	<u>A Good</u> Bit	<u>Moderate</u> Amount	<u>Very</u> Little	<u>None</u>
------------------------	----------------------	---------------------------	-----------------------	-------------

2. How much trouble has your baby had feeding?

<u>A Great</u> Deal	<u>A Good</u> Bit	<u>Moderate</u> Amount	<u>Very</u> Little	<u>None</u>
------------------------	----------------------	---------------------------	-----------------------	-------------

3. How much spitting up or vomiting has your baby done?

<u>A Great</u> Deal	<u>A Good</u> Bit	<u>Moderate</u> Amount	<u>Very</u> Little	<u>None</u>
------------------------	----------------------	---------------------------	-----------------------	-------------

4. How much difficulty has your baby had in sleeping?

<u>A Great</u> Deal	<u>A Good</u> Bit	<u>Moderate</u> Amount	<u>Very</u> Little	<u>None</u>
------------------------	----------------------	---------------------------	-----------------------	-------------

5. How much difficulty has your baby had with bowel movements?

<u>A Great</u> Deal	<u>A Good</u> Bit	<u>Moderate</u> Amount	<u>Very</u> Little	<u>None</u>
------------------------	----------------------	---------------------------	-----------------------	-------------

6. How much trouble has your baby had in settling down to a predictable pattern of eating and sleeping?

<u>A Great</u> Deal	<u>A Good</u> Bit	<u>Moderate</u> Amount	<u>Very</u> Little	<u>None</u>
------------------------	----------------------	---------------------------	-----------------------	-------------

RUBENSTEIN'S BELL-PAIRS TEST (B-P-T)

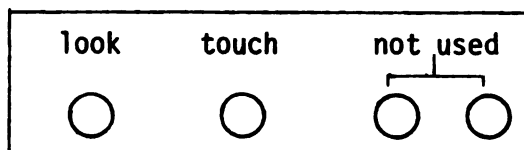
This test is designed to measure an infant's exploratory behavior and preference for novelty or new stimuli.

In order to administer the Bell-Pairs Test the following steps must be carried out:

- 1) Seat infant on mother's lap at a table, preferably the kitchen table. Sit directly across from the mother and infant, on the opposite side of the table.
- 2) Explain the purpose of the B-P-T to the infant's mother by saying the following:

"This is a task which will show us how your baby plays with different toys, and which toys he prefers. While I am giving the toys to your infant, please try not to interact or respond to your baby, such as by talking or by taking the toy he or she might offer to you. I am now going to begin the task."
- 3) Take out a bell, which had been in a bag in the rater's possession. Ring the bell and then place it on the table within reach of the baby for 10 minutes. If the infant knocks the bell off of the table or out of reach, retrieve the bell and place it once again within the infant's reach (as often as necessary during the 10 minutes).
- 4) Remember to note the time the bell was presented and when the 10 minutes have elapsed.
- 5) In order to determine the infant's exploratory behavior, two specific behaviors are to be measured, and no others, i.e., the following:
 - a) Looking at the bell without touching or making any physical contact with it.
 - b) Actively manipulating or touching the bell.

Each of these two behaviors, i.e., looking and touching are to be recorded by pressing two pushbuttons, one for measuring looking, the other touching, which activate electric clocks (specifically the Rustrak Model 9L, four channel event recorder). Holding the button down will activate the clock, i.e., making it run, while releasing or taking one's finger off of the button will stop the particular clock. Sample panel of the recorder looks like this:



- 6) At the end of the 10 minute Bell presentation give the infant a "buffer" toy and remove the bell, letting the infant play with the buffer toy, in this case a rubber doll, for 5 minutes.
- 7) On a score sheet (see below) record the time spent looking at the bell, and the time touching or manipulating it, while the infant plays with the buffer toy, i.e., the rubber doll. Reset the two clocks used to zero.

Pairs Test

- 8) After 5 minutes of play with the buffer toy, take it from the infant and begin the test of preference for novel stimuli, which is comprised of presenting the now familiar bell with each of 10 novel objects listed below:
 - 1) necklace of blue and pink beads
 - 2) long narrow red balloon, deflated
 - 3) whistle
 - 4) yellow comb
 - 5) fat, round, blue balloon, deflated
 - 6) shiny metal bracelet
 - 7) red plastic ring
 - 8) square 2"x2" piece of multicolored plastic cloth
 - 9) a curve, orange balloon, deflated
 - 10) gold change purse.
- 9) Present each pair, i.e., the bell and the novel toy for 60 seconds. With each pair, alternate the position of the bell and novel toy. Remove both the bell and the novel toy before presenting the bell and another novel toy. Follow the schedule listed below for the presentation and positioning of each pair:

Infant's:	<u>Right</u>	<u>Left</u>
Presentation:	#1: Bell	necklace
	#2: red balloon	Bell
	#3: Bell	whistle
	#4: comb	Bell
	#5: Bell	blue balloon
	#6: bracelet	Bell
	#7: Bell	red ring
	#8: multicolored cloth	Bell
	#9: Bell	orange balloon
	#10: purse	Bell

- 10) During the Pair's Test, four behaviors are to be measured as listed below:
- a) looking at the bell, but not touching it.
 - b) touching or physically contacting the bell.
 - c) looking at the novel object, not touching it.
 - d) touching the novel object.
- 11) In order to record the total time the infant spent looking at or touching the bell and the novel objects during the 10 presentations, a four channel even recorder or electric clock is to be used, which requires the rater to depress the buttons corresponding to the four behaviors listed above. Below is a sample panel of such a recorder:

looking/ bell	touching/ bell	looking novel	touching novel
☐	☐	☐	☐

- 12) If the infant looks at both object, the novel and the bell, or touches both objects at exactly the same time, do not record any response. However as soon as one object is released or not looked at, but the infant still looks at or is touching the other, begin to record.
- E.g., the infant picks up the bell and the whistle at the same time. Do not press the buttons for "touch bell and touch novel." The infant drops the bell but continues to hold the whistle. Press the "touch novel" button the moment the bell is released.
- 13) Record the total amount of time during the 10 presentations spent in touching and looking at the bell and the novel objects in seconds on the score sheet presented below:

BELL-PAIRS TEST SCORE SHEET

I. Bells Test

Total number of seconds: (1) Looking at bell: (e.g. 160')

(2) Touching bell: (e.g. 300')

II. Pairs Test

Total number of seconds: (1) Looking at bell: (e.g. 50')

(2) Touching bell: (e.g. 20')

(3) Look at all 10
novel objects: (e.g. 200')

(4) Touching all 10
novel objects: (e.g. 300')

YARROW ET AL. (1975)
MANUAL FOR OBSERVATION
OF THE HOME ENVIRONMENT
AND MOTHER AND FATHER-INFANT
INTERACTION

The coding system presented in this manual was designed to describe selected experiences of 5-month old infants observed in the course of a day in their homes. This time-sampling procedure provides scores for a variety of aspects of the infant's environment and some aspects of infant behavior, as well as for selected sequences of events, e.g., infant cries. . . mother offers toys.

The categories in this manual are listed in the order in which they appear on the time-sampling form (see Table D, Yarrow's Sample Recording Sheet). To look up the definition of a code, one should refer to its column number on the time-sampling form, and look for the corresponding column number in the manual.

General Instructions for Observers

1. The time-sampling cycle is 90 seconds in length and consists of a 30-second observation period and a 60-second recording period. A home observation consists of 120 units (3 hours) each day.
2. Coding is discontinued when the baby falls asleep. The observer should stop coding after scoring three consecutive time-sampling units during which the following criteria are met:
 - a. Infant's eyes are closed.
 - b. Breathing pattern is regular.
 - c. The infant is not eating or drinking.
3. In order to remain as unobtrusive as possible while coding, the observer sits or stands quietly near the baby, does not move quickly when she changes position or location; does not speak to, smile at or otherwise interact with the infant; and, to the extent that it is possible, does not interact with the caregivers. Behavior directed to the observer by either the caregivers or the infant is not scored.
4. The following general rules apply when coding a time-sampling unit:
 - a. Certain columns are coded in every time-sampling unit:
 - 1) Context (column 1)
 - 2) Proximity of mother & father (column 2)
 - b. Certain columns are coded only in time-sampling units in which relevant behaviors occur, and these columns are scored independently of all other columns:
 - 1) Infant behaviors (columns 3-13)
 - 2) Background vocalization (column 48)

Table D. Yarrow's Sample Recording Sheet

SUBJECT		BEGAN		AWAKE	
OBSERVER		ASLEEP		ASLEEP	

	CONTEXT	PROX-M&F	EATS	FOC EXPL	VOC	LOOKS AT	VISUAL FOCUS	SOURCES ATT	ATT-1
	1-Non CA 2-CA 3-Mixed 4-No att scored	M&F: 1-WR 2-Int 3-R-WV 4-R-OV		1-Toy 2-HO/CO 3-Person 4-Self 5-Other	1-Non Dis 2-Dis	1-Mother 2-Father 3-Per 0	1-M-MFB 2-M-FE 3-F-MFB 4-F-FE	1-Mother 2-Father 3-Child 4-CA	1-Look 2-MR 3-Holds 4-T-Pass 5-T-Pass-/ Obj.
	1	2	3	4-9	10-11	12-13	14-15	16-18	19-23
1									
2									
3									
4									
5									
6									

- 3) Change of container or room (columns 49-51)
- 4) Aspects of the inanimate environment (columns 52-55)
- c. The remaining columns are scored only when some person is attentive, she is scored in columns 16-18, Sources of Attentiveness, and her visual focus is scored in column 14. If the father and any other person other than the mother and father is also attentive, that person is also scored in columns 16-18. The behavior of one of the people scored in 16-18 is coded in detail in columns 19-47. Preemption rules for making this choice are listed in Sources of Attentiveness.

DEFINITIONS OF CATEGORIES

COLUMN 1: CONTEXT

This column describes the setting in which the infant is being observed. Only one context category is coded in each time-sampling unit. If any person is attentive to the baby in the unit, noncaretaking, caretaking or mixed is scored. If both caretaking and noncaretaking behavior are directed toward the baby in the same unit, caretaking should be scored. If no person is attentive during the unit, no attentiveness is scored.

1. NONCARETAKING (NON C). Attentiveness occurring in any context other than one in which the baby's physical needs are being met. This category also includes preparations for caretaking events, and transitions between caretaking events.
2. CARETAKING (CA). Attentiveness to the infant directed toward meeting his physical needs. Includes activities such as feeding, burping, diapering, bathing, dressing, wiping his face. Also includes attentiveness to the infant in units during which the primary caregiver is not directly responsive to the physical needs of the infant, but the meeting of these need is the primary concern, e.g., when the infant is eating a meal, falling asleep, or waking up.
3. MIXED. A brief caretaking act interjected into an essentially noncaretaking context, e.g., wiping the baby's nose while playing with him or checking briefly to see if his diaper is wet.
4. NO ATTENTIVENESS (NO SCORED ATT). No person is attentive to the baby.

RULES

1. ONSET OF CARETAKING. Coding of caretaking does not begin until the baby has been involved in a caretaking procedure, e.g., the diaper is being removed, the first spoonful of food has reached his mouth. If the baby is simply placed on the changing table or seated in a high chair, caretaking is not scored.
2. INTERRUPTIONS OF CARETAKING PROCEDURES. If a caretaking procedure such as a meal or bath has begun and is interrupted for further preparations, score caretaking throughout the interruption. If a social interlude occurs with a caretaking context,

i.e., the caretaking is discontinued briefly and purely social interaction occurs, score three time-sampling units of caretaking and then change to noncaretaking for the duration of the interlude.

3. TRANSITION BETWEEN CARETAKING PROCEDURES. If one caretaking procedure ends, score noncaretaking until the baby's body is positioned and actually involved in the next caretaking procedure regardless of the length of time elapsing before the onset of the second procedure.
4. SELF-FEEDING. If attentiveness is scored in a time-sampling unit in which the baby feeds himself any foods except a bottle, score caretaking at mealtime and score mixed at all other times. If attentiveness is scored in a time-sampling unit in which the baby is feeding himself a bottle, score caretaking.

COLUMN 2: PROXIMITY OF THE MOTHER AND FATHER

This column describes the physical and visual accessibility of mother and father to the infant. One code, for each parent describing the closest proximity during the observation unit, is scored, preceded by an M for mother's proximity, and an F for father's proximity.

1. WITHIN REACH (WR). The primacy caregiver is able to reach the baby by stretching her arm forward, backward or to the side, by bending over or by stooping down.
2. INTERMEDIATE (Int). The primary caregiver cannot reach the infant but is less than 10 feet from him.
3. REMOTE-WITHIN VIEW (R-WR). The primary caregiver is 10 feet or more from the baby and can see him or could if she turned in his direction.
4. REMOTE-OUT OF VIEW (R-OV). The primary caregiver is 10 feet or more from the baby and cannot see him even when facing in his direction.

Example of coding: M1, F2. Remember to code both mother and father.

COLUMN 3: EATS

The baby is ingesting fluids from the bottle or breast or is eating solid foods. Sucking on a bottle without ingesting fluid is not scored as eating. Ingesting medicine is not scored unless the medicine is mixed into a full bowl of food or a full bottle of liquid.

COLUMNS 4-9: FOCUSED EXPLORATION (FOC EXPL)

Focused exploration is the simultaneous visual and haptic exploration of an object or person by the infant. Haptic exploration is holding or manipulating the object. Focused exploration is scored only when the baby's hand is involved in manipulation, although other parts of his body may also be involved. Merely resting the hand on or against the object is not sufficient. Persistent reaching for an object beyond reach is not scored unless the infant succeeds in touching the object at least once.

The categories below define the types of objects with which focused exploration may occur. These categories are not mutually exclusive. Score all objects which are explored.

1. TOY. An object made for children to play with. Detailed definition in columns 52-55.
2. HOUSEHOLD OBJECT/CARETAKING OBJECT (HO/CO). Objects in the environment which may serve as toys although they are primarily for adult or caretaking purposes. Detailed definition in columns 52-55.
3. PERSON. Simultaneous looking at and manipulating the same part of the body of a person. Manipulating one body part while looking at another is not scored. Simultaneous visual and haptic exploration of clothing or jewelry being worn by a person is scored.
4. SELF. Simultaneously looking at and manipulating the same part of the infant's own body or clothing. Hand regard, the infant moving his hand while looking at it, is scored.
5. OTHER. Simultaneously looking at and manipulating an inanimate object that is not a toy, HO/CO, or something worn by a person. Play with water is an example.

COLUMNS 10-11: INFANT VOCALIZATION (VOC)

All sounds, positive, neutral, and negative, by the infant except vegetative (burps, choking) or respiratory (coughs, heavy breathing) sounds are scored. If there is doubt about whether a vocalization is positive or negative, nondistress should be coded. A single fragile peep is not scored.

1. NONDISTRESS VOCALIZATION (NON D). Coos, gurgles, and grunts. Vocalizations other than whimpers, fusses or cries which are not accompanied by an unhappy facial expression.
2. DISTRESS VOCALIZATION (DIS). Whimpers, fusses, and cries, and vocalizations that are accompanied by an unhappy facial expression.

COLUMNS 12-13: LOOKS AT PERSON (LOOKS AT)

The infant looks directly at a person's face at any other part of a person's body, or at the clothing or jewelry worn by a person. Fleeting glances are not scored. There must be a pause during which the baby's eyes fix on a person.

1. MOTHER. The infant looks at the mother.
2. FATHER. The infant looks at the father.
3. PERSON OTHER THAN MOTHER OR FATHER (PER O). The infant looks at a person other than the primary caregiver, or the infant looks at himself in a mirror.

RULE

If the infant looks at a group of people, but it is not clear who the infant is looking at, no person is scored.

COLUMN 14: VISUAL FOCUS OF MOTHER AND FATHER.

The length of time that the mother and/or father looks at the baby's face or at any part of his body is scored in this column.

1. MOTHER MAJOR FOCUS ON BABY (MFB). The primary caregiver looks at the baby for half of the time-sampling unit or longer (15-30 seconds).
2. MOTHER FOCUS ELSEWHERE (FE). The primary caregiver looks at the baby for less than half of the time-sampling unit (0-14 seconds).
3. FATHER MAJOR FOCUS ON BABY (MFB).
4. FATHER FOCUS ELSEWHERE (FE).

COLUMNS 16-18: SOURCES OF ATTENTIVENESS (SOURCES ATT)

Any person who is attentive to the infant beyond merely looking is recorded in columns 16-18. Three sources of attentiveness are distinguished.

1. MOTHER
2. FATHER
3. CHILD. Any person 16 years of age or younger, other than the primary caregiver.
4. OTHER ADULT (OA). A person 17 years of age or older, other than the primary caregiver.

RULES

1. MULTIPLE SOURCES OF ATTENTIVENESS. Each category of persons attentive to the infant is scored only once during a time-sampling unit, regardless of how many individuals actually stimulated the infant. For example, if the primary caregiver, two adults and four children are all attentive to the baby in one time-sampling unit, columns 16-18 are scored with a 1, a single 2, and a single 3.
2. CHOICE OF THE PERSON WHO BEHAVIOR IS CODED IN COLUMNS 19-47. When there are multiple sources of attentiveness scored in columns 16-18, the behavior of only one person is scored in columns 19-47. The code number for that person is entered in column 16. Criteria for selecting the primary source of stimulation are:
 - a. the person who most actively stimulated the baby, as defined by the following rating scale, is scored. If several people are stimulating the baby at an equally high level, the person who is holding the baby is chosen. If more than one person holds the baby, the person holding him the longest is scored.

If two or more people hold him equal lengths of time, the last person to hold him is scored. The rating scale for determining level of stimulation follows:

- 1) MINIMAL: PASSIVE CONTACT. Passive contact between person and infant, without trying to direct the infant's attention and activities, e.g., looking at baby without mutual regard; passive holding or touching.
- 2) VERY LOW: PASSIVE PHYSICAL CONTACT WITH BRIEF, PERFUNCTORY STIMULATION. Sustained passive physical contact between person and infant with a brief and perfunctory active stimulus, e.g., a pat or two, shifting the baby's position, saying a few words.
- 3) LOW: BRIEF ACTIVE STIMULATION WITHOUT SUSTAINED PHYSICAL CONTACT. The attentive person actively stimulates the baby briefly without mutual visual regard.
- 4) INTERMEDIATE: ACTIVE STIMULATION WITHOUT ATTEMPTED ELICITATION. The stimulation involves a substantial degree of stimulus change (active touching, talking to, moving the baby), but there is no obvious attempt to elicit a response from the baby.
- 5) HIGH: ACTIVE ELICITATION. The attentive person actively attempts to elicit a response from the infant in any of the following ways:
 - a) Engaging the baby's visual attention socially or with a toy.
 - b) Active encouragement of motor skills.
 - c) Responding to the infant's vocalization; any response to distress except check/acknowledge, columns 34-40.
 - d) Active encouragement of social responsiveness, i.e., broad smiling and play.

COLUMNS 19-23: ATTENTIVENESS I (ATT I)

Two classes of attentiveness are distinguished: passive and active. Passive attentiveness describes situations in which there is no rapid onset-offset or stimulus change. The passive attentiveness codes are looking, holding, touching passively and touching passively with an object. Active attentiveness involves stimulus change. The active attentiveness codes are mutual regard and all of the codes in columns 24-31.

1. LOOK. The person looks at the infant's face or at any part of the infant's body for any period of time, regardless of whether or not the infant looks back.
2. MUTUAL REGARD (MR). The person and the infant have direct eye-to-eye contact.
3. HOLDS. The person wholly or partially supports the infant's weight or maintains the infant's balance. Do not score if the baby is held just long enough to move him from one place to another.
4. TOUCH PASSIVELY (T-PASS). Some part of a person's body is resting, at that person's initiative, against the baby without moving. This person is not supporting the baby's weight

- or balancing him. Do not score a touch initiated by the baby.
5. TOUCH PASSIVELY WITH AN OBJECT (T-PASS/OJB). A person is resting some object on or against the baby's body or in his mouth for at least five consecutive seconds, without moving it, e.g., holding a bottle quietly in the baby's mouth.

RULE

Holds preempts touch passively if they occur simultaneously. However, if they occur at different times in the same time-sampling unit, score both.

COLUMNS 24-31: ATTENTIVENESS II (ATT-II)

Active attentiveness is stimulation in which stimulus change or movement is a principal feature. Active attentiveness codes are mutual regard in columns 19-23 and all codes in columns 24-31.

1. VOCALIZATION TO THE BABY (VOC TO B). The person speaks or sings to the baby or directs a nonspeech sound (whistling, laughing, other sounds such as "ouch" related to interaction with the baby) to him. All contingent and imitative vocalizations directed to the baby (defined below) are also scored vocalization to the baby (code 1).
2. VOCALIZATION TO THE BABY CONTINGENT UPON THE BABY'S NONDISTRESS VOCALIZATION (VOC C ND). The person vocalizes to the baby following a nondistress vocalization by the baby in the same time-sampling unit. Both infant and adult vocalization must occur in the same observation unit. The contingent vocalization need not be logically related or apparently in response to the infant's vocalization; it need only follow the baby's vocalization in time.
3. VOCALIZATION TO THE BABY CONTINGENT UPON THE BABY'S DISTRESS VOCALIZATION (VOC C DIS). The person vocalizes to the baby following or during a distress vocalization by the baby in the same time-sampling unit. Both infant and adult vocalization must occur in the same observation unit. The contingent vocalization need not be logically related or apparently in response to the infant's vocalization; it need only follow the baby's vocalization in time.
4. IMITATIVE VOCALIZATION (VOC-IMIT). The person imitate the sounds made by the infant. Spontaneous baby talk, such as "goo-goo", is not scored.
5. TOUCH ACTIVELY (T-ACT). The person touches the infant actively, with movement, but without moving the infant's whole body and without an inanimate object, e.g., pats, rubs, tickles, kisses. The touching may occur through clothing such as rubbing the baby's back when he has a shirt on.
6. TOUCH ACTIVELY WITH AN OBJECT (T-ACT/OBJ). The person touches the infant actively, with movement, with an inanimate object. Examples include giving the baby an object or taking an object from the baby; dressing, diapering, moving a bottle or spoon in

and out of the baby's mouth; jiggling the nipple of the bottle when it is already in the baby's mouth.

7. MOVES BABY (MOV B). The person moves the baby's whole body or at least half of it. Examples include picking the baby up, raising the baby's lower trunk for diapering, changing the baby's position, righting the baby when he falls over from a sitting position, rockin, bouncing, jiggling.

RULE

If touch actively and touch actively with an Object occur simultaneously, score only touch actively with an object. If they occur at different times in the same time-sampling unit, score both.

COLUMNS 32-33: ANIMATION (ANI).

The face of the person attentive to the baby is lively and spirited. There may be high activity of other parts of the person's body as well.

1. BROAD SMILE WITHIN REACH (BR SM). A person who is within reach of the baby smiles broadly while looking at the baby, in response to something the baby has done, or as a result of interaction with the baby. The smile must be clear and full. Half smiles, little smiles and ambiguous smiles are not scored.
2. PERSONAL-SOCIAL PLAY (PL). The person engages in animated play that has a "fun" quality, where the apparent object is to amuse the baby, to play a game with recognizable rules or to act out a fantasy situation. To score the code, one of the following criteria must be met:
 - a. Facial-vocal play
 - 1) Smiling or laughing in one of the following contexts: the person is trying to amuse each other in a reciprocal play situation; there is a game acted out; or there is a fantasy situation acted out.
 - 2) Making fun-like sounds, e.g., boo, tsk-tsk-tsk; sing-song sounds accompanying a game.
 - 3) Making faces in a playful context.
 - b. Find body play. Limb movement, as in patticake when the hands are patted together; tickling.
 - c. Gross body play. The infant's whole body is moved in play, e.g., jiggling, bouncing on the knee, throwing the baby in the air, holding the baby overhead, rolling him on the bed.

RULES

1. SMILING DURING PLAY. If the person smiles broadly in the context of personal-social play, only personal-social play is scored.
2. INANIMATE OBJECTS INVOLVED IN PLAY. Personal-social play should be distinguished from encouragement of attentiveness to inanimate stimuli, columns 41-45, which describes how inanimate objects are presented to the baby. The major element of personal-social play

is the personal aspect of it. The person playing with the baby is not primarily presenting a toy, but is presenting herself or part of herself in a playful fashion. Although an inanimate object may be involved in personal-social play, it is not a criterion for scoring the interaction as playful. If an object is presented during the course of play, both personal-social play and the relevant codes in columns 41-45 should be scored.

COLUMNS 34-40: RESPONSE TO DISTRESS (R TO DIS)

Response to distress is scored if a person attempts to soothe the baby following a distress vocalization by the infant in the same time-sampling unit. Score only those adult responses which are clearly elicited by infant's fussing and crying.

1. SOCIAL SOOTHING ALONG (S SOO AL). An individual tries to soothe the infant by social stimulation. One of the following criteria must be met:
 - a. Vocalizing to the baby (more than minimal acknowledgement of distress).
 - b. Holding the baby (exclude transitional holding or carrying to a new position).
 - c. Rocking or jiggling the baby.
 - d. Encouraging the baby to look at mother or sibling, or otherwise trying to focus the baby's attention on a person.
 - e. Encouraging the baby to sit up or crawl as a means of diverting his attention from his discomfort.
 If any of the categories listed below (2 to 6) occur simultaneously with social soothing, they are scored rather than social soothing.
2. PLAY OBJECT (PL OBJ). The person attempt to divert the infant by giving him an object to play with or by highlighting an object to catch his attention.
3. FEEDS. The person feeds the baby in order to soothe him.
4. OTHER CARETAKING RESPONSE (OTH CA). The person changes the baby's diaper or engages in some caretaking activity other than feeding.
5. PACIFIER (PACIF). The person gives the baby a pacifier.
6. CHECKS AND/OR ACKNOWLEDGES THE BABY'S DISTRESS MINIMALLY (CH/A). The person checks with a brief glance to see why the infant is crying or acknowledges verbally and briefly the fact that the infant is crying, e.g., "Oh, you're hungry," or "Wait a minute, I'm coming."
7. OTHER. The person responds with any clear response other than those listed above, e.g., changes the baby's location or position.

RULE

MULTIPLE RESPONSES. All discrete responses occurring in the time-sampling unit are scored, with the following exception. When social soothing accompanies a change of position or location, social soothing

is scored instead of other is the social components are the principal means by which the person is trying to soothe the baby. Other is scored, however, if the change in position or location is the primary means of effecting the soothing and the accompanying social soothing is incidental.

COLUMNS 41-45: ENCOURAGEMENT OF ATTENTIVENESS TO STIMULI (ENC ATT STIMULI)

These columns describe behavior in which the primary intent of the attentive person is to encourage or discourage the infant's visual and tactile exploration of objects.

0. SEPARATING INFANT FROM OBJECT (SEP). The person either purposefully or accidentally separates the infant from an inanimate object, part of another person's body, or part of the infant's own body. The infant must be actively reaching for or exploring the object when the separation takes place. Separation is not scored if the infant is only mouthing the object.
1. POSITIONING AN OBJECT WITHIN VIEW (POS W VIEW). The person purposefully positions the infant or an object so that the object is within view but not within reach of the body.
2. POSITIONING AN OBJECT WITHIN REACH (POS F REACH). The person purposefully positions the infant or an object so that the object comes within the baby's reach.
3. POSITIONING AN OBJECT IN THE BABY'S HAND (POS I HAND). The person purposefully puts an object directly into the baby's hand.
4. ENTICING, HIGHLIGHTING (ENT-HI).
 - a. ENTICING. The person purposefully directs the infant's attention to an object to which he is not attending by making the properties of the object salient to him, e.g., banging a rattle on a surface.
 - b. HIGHLIGHTING. When the infant is attending to an object, the person manipulates the object in such a way as to bring specific properties of the object (visual, tactile, auditory) to the infant's attention, e.g., rattling a rattle, winding up a music box, showing the clapper of a bell.

RULES

1. POSITIONING
 - a. The positioning codes are scored more than once if the behavior continues into succeeding time units.
 - b. Positioning includes: placing the baby so that he can see himself in a mirror (because positioning of the mirror, an inanimate object, is involved); moving parts of the baby's own body to bring his attention to them, e.g., wiggling the baby's toes; placing a pacifier within view, within reach, or into his hand.

- c. Do not score any positioning where the primary intent is other than to encourage attentiveness to the object. Examples: positioning of caretaking objects in use, such as spoon of food, bottle of milk; placing a pacifier directly in the baby's mouth; moving the baby or another person so that the person is within the baby's view, his reach or in his hand.
- 2. ENTICING, HIGHLIGHTING
 - a. Highlighting includes moving parts of a person's body other than the face, if the purpose is clearly to bring the baby's attention to them.
 - b. Do not score highlighting parts of the person's face, such as wrinkling the nose, covering the face during peek-a-boo, or highlighting parts of the infant's body, e.g., clapping his hands together.

**COLUMNS 46-47: ENCOURAGEMENT OF EMERGENT GROSS MOTOR RESPONSES
(ENC EM GROSS MOTOR RESP)**

The person directly encourages the baby to engage in behaviors involving control of posture and locomotion. Simply verbalizing to encourage postural or locomotor responses, if unaccompanied by a gesture or other nonverbal communication, is not scored. Hovering in the vicinity of the baby merely to prevent him from falling is not scored.

- 1. POSTURE (POST). The person actively encourages the baby to develop postural control, e.g., sitting, standing. Placing the baby in a sitting position is scored when there is active encouragement of his continuing to maintain that position partially by himself and when the focus is primarily on his motor performance. Holding the baby in a standing position is scored when there is some weight supported by his legs and feet, although focus on the infant's performance in supporting his weight is not required.
- 2. LOCOMOTION (LOC). The person encourages the baby to develop independent locomotion by helping him to walk, coaxing him to move in his walker by himself, pushing him in his walker, encouraging him to crawl.

COLUMN 49: SALIENT VERBALIZATIONS NOT DIRECTED TO THE BABY (SAL VOC B)

This column describes verbalizations directed to someone other than the baby when either the speaker or the person spoken to is within 10 feet of the baby. Human voices emanating from a television or radio are not scored.

COLUMNS 49-51: CHANGE IN CONTAINER OR ROOM (CHANGE C/R)

Change is scored when the infant is in a new container or room, one he was not in during the previous time-sampling unit, or if he is in two containers or rooms in the same time-sampling unit. Containers include an infant seat, a crib, a playpen, a person's lap, etc.

RULE

TRANSITIONS. Transition points are not scored, such as a room passed through on the way to another room. Arms or lap are not scored if the infant is picked up and held just long enough to be carried to another container.

COLUMNS 52-55: NUMBER OF OBJECTS WITHIN REACH (NUMBER WR)

An object is within reach if the infant can touch it with his hand by moving his arm forward, up or to the side. The number of objects within reach of the infant is counted and recorded for each time-sampling unit. Each object within reach is counted separately, whether or not it resembles or is a duplicate of another object within reach.

1. .TOY (COLUMNS 52-53). A toy is an object made for children of any age to play with, including teething rings, but excluding pacifiers and toy-like parts of infant furniture. Broken-off pieces of toys are scored as separate toys, e.g., a detached wing of a bird is scored as a separate toy. A toy with a string attached, when both toy and string are within reach or when only the toy is within reach, is scored as one toy. A toy with the string attached, when only the string is within reach, is scored "string" (see HO/CO, below).
2. HOUSEHOLD OBJECT/CARETAKING OBJECT (HO/CO) (COLUMNS 54-55). Household objects are objects in the environment which may serve as toys although they are primarily for adult use. Caretaking objects are objects made or bought to meet the physical needs of the baby. Examples of objects included in the category, HO/CO, are newspapers, ashtrays, cigarette cartons, wallets, telephones, telephone wire, pets, string, jewelry, pots and other utensils used to prepare and store food. Excluded from the HO/CO count are objects which are so common in our culture that infants are likely to habituate to them.

Objects excluded are:

- a. Food and bottles.
- b. Table utensiles (silverware, cups, plates, baby food jars).
- c. Other caretaking objects when they are in use, e.g., a powder can from which powder is being shaken, a comb being used to comb the infant's hair, a tissue used as a bib. When not in use, these items are scored.
- d. Linen (bedclothes, tablecloths, facecloths, towels, etc) and all similar fabric items.
- e. Clothing.
- f. Structural features of the room, e.g., windows, sills, floor.
- g. All adult and infant furniture, including toy-like parts of the furniture.

VARIETY OF OBJECTS WITHIN REACH (OBJECTS WR)

In the blanks on the right of the observation sheet, the observer records each toy or HO/CO by name. Each object is listed only once, regardless of the number of time-sampling units in which it is within reach of the baby. The measure, variety, refers to the number of different objects within reach of the baby during the home observation.

RULES

1. IDENTICAL OBJECTS. Items identical in appearance are listed only once, e.g., two yellow kleenexes are listed only once.
2. PARTS OF OBJECTS. If a part of an object is not the same as the whole in appearance, texture, or functional possibilities, e.g., wing of bird and bird, score two different objects. If part and whole are essentially the same except for size, score one object.
3. ESSENTIALLY IDENTICAL OBJECTS EXCEPT FOR MINOR VARIATION. If two or more objects are alike except for minor variations, score one object, e.g., playing cards; pastel pink tissue and white tissue. If, however, there is a major color difference, score two different objects.
4. DIFFERENCES IN CONFIGURATION. An object seen under different conditions, e.g., a hard cover book open and closed, is considered as one object.
5. A single giant plastic bead is scored separately from a strand of two or more beads.

CHARACTERISTICS OF THE INANIMATE ENVIRONMENT

After the home visit, return directly to the office and score each play object or toy listed on the event sampling code sheets for responsiveness and complexity as defined below.

- I. **RESPONSIVENESS OF OBJECTS WITHIN REACH.** This is a rating of changes in stimulation that can be produced by the average infant interacting with the object. The essential element of "responsiveness" is the object's capacity to respond contingently to the infant's manipulation, so that the infant receives feedback in the form of changes in visual, auditory or tactile stimulation. Thus, the structure of the object, as well as its size, are considered in relation to the average infant's motor skills as these limit his ability to manipulate, retrieve, and control the object.

Four dimensions of responsiveness have been distinguished: moving parts, reflected image, change in shape and contour, and noise production. Each should be rated independently of the other.

- A. **MOVING PARTS.** The extent to which the object consists of distinct parts which can be moved (independently of each other) by the infant.

Three major classes of moving parts are distinguished:

1. Exterior parts which can be manipulated independently of each other by the infant; the parts in motion can be both seen and touched by the infant, e.g., cradle gym.
2. Interior parts which move when the infant manipulates the object; the distinct parts in motion can be seen but not touched by the infant, e.g., a ring filled with particles floating in fluid.
3. Objects which are weighted, suspended or affixed by suction so that they return to the infant after he moves them, e.g., a "battable" roly-poly clown.

(Objects which may or may not be affixed by suction are rated in the state in which they are observed; ratings for objects which are affixed by suction part of the time and free part of the time are averaged.)

Moving parts which can be both touched and seen by the infant (class 1) are rated higher on responsiveness than are parts in motion which can be seen only (class 2). Class 3 objects are given a rating of 3 for the characteristic of "battableness;" any additional moving parts on the object may serve to raise the overall rating for the object. The moving parts must be visible to be scored at all. Whether or not the moving parts produce noise is not relevant for this rating; this property is rated separately under noise production.

MOVING PARTS (RATINGS):

1. VERY LOW RESPONSIVENESS

no moving parts, e.g., cup, block, string, paper, ashtray.
a part capable of minimal movement, with little likelihood of the infant's discovering this movement, e.g., trigger of pistol.

2. LOW RESPONSIVENESS

Class 1

- a. one minor part that moves freely, e.g., clapper of bell.
- b. several minor parts that move slightly, e.g., ears and tail of stuffed animal.

Class 2

- c. internal parts that are not salient when in motion, e.g., small plastic duck with beads, saltshaker with salt.

3. MODERATE RESPONSIVENESS

Class 1

- a. one major part that moves freely, e.g., bluehead rattle with ruffled collar, red ring with string.
- b. several parts, some major, that move moderately, e.g., beads on stroller, pages of magazine.

Class 2

- c. internal parts that are very salient while in motion, e.g., hourglass.

Class 3

- d. a "battable" object, e.g., roly-poly clown, object suspended in a transparent ball.

4. HIGH RESPONSIVENESS

several parts that move freely, e.g., 4-duck ferris wheel with visible marbles, 3 plastic balls on chain, and large fabric clown.

4. VERY HIGH RESPONSIVENESS

many major parts that move very freely, e.g., mobile, cradle gym, plastic keys or disks on a chain.

B. REFLECTED IMAGE. The extent to which the object reflects an clearly visible to the infant and contingent upon his action.

1. LOW RESPONSIVENESS-reflects no image, or hardly any, e.g., plastic rattle.

2. MODERATE RESPONSIVENESS-reflects hazy or distorted image, e.g., window glass, metal pencil sharpener, aluminum foil.

3. HIGH RESPONSIVENESS-reflects clear, sharp undistorted image, e.g., mirror.

- C. **CHANGE IN SHAPE AND CONTOUR.** The extent to which changes in the configuration of the contour or geometric shape or boundary of the object are responsive to the infant's manipulation. These changes in contour, shape and boundary exclude those due to "Moving Parts." They are produced primarily by bending, crumpling, squashing, crumbling.
1. **VERY LOW RESPONSIVENESS**
no change e.g., ceramic mug, beads on a stroller, hourglass.
minimal change: either the object as a whole is quite, but not completely, resistant, or only a relatively minor part is responsive, e.g., white plastic imitation coke bottle, suction cup on free suction toy, small ears of a large stuffed animal.
 2. **LOW RESPONSIVENESS-limited change**
 - a. the object as a whole is subject to limited change, e.g., rubber teether, clothespin, squeaker toy, empty Marlboro flip-top box.
 - b. parts of the object are subject to some change, e.g., long string on taut cradle gym.
 3. **MODERATE RESPONSIVENESS**
 - a. object as a whole is moderately responsive, e.g., long strand of giant plastic beads (5-11 beads).
 - b. one major part is responsive, e.g., string attached to non-responsive object (red ring with string); keys on 6 inch chain.
 - c. several secondary parts are very responsive, e.g., strings of umbrella mobile.
 4. **HIGH RESPONSIVENESS**
 - a. object as a whole is highly responsive, e.g., very long strand of giant plastic beads (12 beads or more).
 - b. a major proportion is very responsive, e.g., large fabric clown, 3 plastic balls on 12-inch chain.
 5. **VERY HIGH RESPONSIVENESS-very highly responsive, e.g., newspaper, magazine, string, ribbons, tissue, empty Tarryton pack, soft cookie.**
- D. **NOISE PRODUCTION.** The extent to which the object has intrinsic or structural noise-making potential which can be activated by the infant's manipulation. The potential for noise must be inherent in the construction of the object, and not the result of banging the object against another object.
1. **LOW RESPONSIVENESS-produces no noise in response to the infant's manipulation, e.g., pacifier, telephone wire, teaspoon.**

2. MODERATE RESPONSIVENESS-may produce noise on occasion, but not consistently, because the required manipulation is difficult for a typical 5-month-old, e.g., most squeaker toys, telephone with dial.
3. HIGH RESPONSIVENESS-easily produces significant distinct sounds, e.g., rattle, cradle gym, giant beads, disks on chain, newspapers, beads on stroller.

II. COMPLEXITY OF OBJECTS WITHIN REACH. The extent to which the object provides "information" to the infant via his various modalities.

A. There are five components in this rating:

1. NUMBER OF COLORS- the extent to which the object is multi-colored.
2. AMOUNT OF PATTERN
 - a. Visual Pattern-amount of pattern printed on the surface of the object, e.g., pictures, lettering.
 - b. Tactile Pattern-small scale variation in the contour, usually decorative in purpose, e.g., closely spaced ridges, ruffles, etc.; or variation in texture, e.g., plastic with areas of fur.
3. NUMBER OF DIFFERENT SHAPES-number of different geometric shapes comprising the object; also large-scale variation in contour, usually defining the object, e.g., small sphere (head) plus large sphere (torso) plus narrow cylinders (limbs) comprise stringdoll.
4. SIZE-amount of area to be looked at or touched before the infant can identify or recognize the object.
5. EXTENT OF RESPONSIVENESS-extent to which feedback in the form of changes in stimulation can be produced by a 5-month infant interacting with the object (see "Responsiveness of Objects Within Reach" for details); responsiveness comprises the number of dimensions (of the 4 rated) on which it is responsive on each dimension.

B. SCORING CRITERIA:

1. VERY LOW

All the following apply:

 - a. Monochromatic.
 - b. No visual or tactile pattern.
 - c. One or two different shapes, or one or two "turns" in the contour defining the object.
 - d. Small.
 - e. Lowest scores on all responsiveness dimensions or quite responsive on only one dimension.

Examples: One smooth giant bead, a plastic doughnut, yellow block, pink plastic cup, telephone cord, ribbon, Kleenex.

2. LOW

Class a:

1. Small.
2. Basically monochromatic.
3. May or may not have minor color or tactile accents.

Must have at least one, may have as many as two of the following:

4. Fairly responsive but on one dimension only.
5. Has a good deal of repetitive TACTILE, but not VISUAL pattern.
6. Several different shapes, or some large scale variation in contour.

Examples: Fork, hammer, telephone & Barbell rattles, pacifier, pretzel teether, pink key teether, textured fruit with ridges, blue rubber keyhole teether.

Class b: All the following apply:

1. Medium to large.
2. Basically monochromatic.
3. Small amount of visual or tactile pattern.
4. Minimally responsive on all dimensions.
5. Very few different shapes; very little large scale variation in contour.

Examples: White imitation coke bottle, brown glass ashtray, Johnson's Baby Powder, aluminum ashtray.

3. MODERATE- Only one of the following applies:

- a. Multicolored- at least two major colors with strong color accents, or three or more major colors.
- b. Highly patterned-much visual and/or tactile pattern; (must have some of both visual and tactile pattern; must have high degree of at least one of them).
- c. Many different geometric shapes and/or much large scale variation in contour.
- d. Moderate to high responsiveness*

Examples: Doll with diaper, ceramic mug, small plastic duck.

*Responsiveness should not be the major criterion for moderate complexity. If the object is utterly "simple" except for its responsiveness (i.e., if it is very low on the other 3 criteria, e.g., plain sheet of paper), its complexity rating is 2 rather than 3. Only if the object just misses meeting the other 3 criteria is "moderate to high responsiveness" sufficient to score 3 on complexity.

4. HIGH- Any two of the following apply:

- a. Multicolored-at least two major colors with strong color accents, or 3 or more major colors.
- b. Highly patterned-much visual and/or tactile pattern; (must have some of both visual and tactile pattern; must have high degree of at least one of them).
- c. Many different geometric shapes and/or much large scale variation in contour.
- d. Moderate to high responsiveness.

(The components not meeting the above listed criteria are present to a lesser degree or not at all.)

Examples: Disks on a chain, keys on a chain, blue face rattle on a collar, lamb squeaker, tiger squeaker, Bozo, face rattle on clear handle, balls and rings on suction stick, telephone with coiled wire, colorful magazine.

5. VERY HIGH-All the following apply:

- a. Multicolored-at least two major colors with strong color accents, or three or more major colors.
- b. Highly patterned-much visual and/or tactile pattern (must have some of both visual and tactile pattern; must have high degree of at least one of them).
- c. Many different geometric shapes and/or much large scale variation in contour.
- d. Medium to large in size.
- e. Moderate to high responsiveness.

Examples: Umbrella mobile, doll with patterned dress, cradle gym, ducks on wheel, large red clown.

AINSWORTH ET AL.
FOUR SCALES FOR RATING CAREGIVER BEHAVIOR
(Amended Form)

The four scales are designed to measure the quality or appropriateness of caregiver behavior on the following general qualities:

1. Sensitivity versus insensitivity to the baby's communications.
2. Acceptance versus rejection.
3. Cooperation versus interference
4. Accessibility versus Ignoring and Neglecting.

In order to be able to fill out or complete these scales, the rater must carry out the following steps:

1. Bring 2 sets of each scale, one for the infant's father, one for the mother, to the infant's home.
2. Introduce yourself to the infant's parents and then observe the baby's mother and father's interactions with the baby from the moment you position yourself near the baby (see feeding instructions step #3) until 3 hours of observation time has elapsed.
3. Complete the 4 rating scales for each parent as soon as the observation time, i.e., 3 hours are up, while still in the home.

SCORE SHEET FOR CAREGIVER QUALITY SCALES

I. General Instructions:

- A. Each of the four scales presented below refers to a separate area or category of caregiver behavior towards an infant.
- B. Each scale contains 9 points which range from 1, the least appropriate, to 9, the most appropriate. Only the odd-numbered points, i.e., 1, 3, 5, 7, 9 are defined, whereas the even-numbered points are provided in case the rater is unable to make a clear discrimination between the defined points. In other words, if a caregiver's behavior represented points 1 and 3, then the rater should score that behavior as 2. See attached manual for scale definitions.
- C. Fill out all four scales for each parent, i.e., one for the infant's mother, and one for the infant's father, by circling the number or scale point which best represents or describes the caregivers behavior.

SCORE SHEET

Rater: _____ Subject's name (infant): _____

Family's name _____ Parent observed: (mother or father)

Time rating began: _____ Time rating ended: _____

Scale #1: Sensitivity VS Insensitivity of the Baby's Communications:

1	2	3	4	5	6	7	8	9
Highly Insensitive		Insensitive		Inconsistently Sensitive		Sensitive		Highly Sensitive

Scale #2: Acceptance VS Rejection:

1	2	3	4	5	6	7	8	9
Highly Rejecting		Substantially Rejecting		Ambivalent		Accepting		Highly Accepting

Scale #3: Cooperation VS Interference:

1	2	3	4	5	6	7	8	9
Highly Interfering		Interfering		Mildly Interfering		Cooperative		Conspicuously Cooperative

Scale #4: Accessibility VS Ignoring and Neglecting:

1	2	3	4	5	6	7	8	9
Highly Inaccessi- ble, Ignor- ing, or Neglecting		Often In- accessible, Ignoring, or Neglecting		Inconsistently Accessible		Usually Accessible		Highly Accessible

SENSITIVITY VERSUS INSENSITIVITY TO THE BABY'S COMMUNICATIONS

This variable deals with the mother's ability to perceive and to interpret accurately the signals and communications implicit in her infant's behavior, and given this understanding, to respond to them appropriately and promptly. Thus the mother's sensitivity has four essential components: (a) awareness of the signals; (b) an accurate interpretation of them; (c) an appropriate response to them; and (d) a prompt response to them. Let us consider each of these in turn.

The mother's awareness of her baby's signals and communications has two aspects. The first is the same as the issue covered in the scale "accessibility versus ignoring and neglecting." In other words, the mother must be reasonably accessible to the baby's communications before she can be sensitive to them. Accessibility is a necessary condition for sensitive awareness. It is not a sufficient condition, however, for a mother can maintain the "baby" in her field of awareness without fulfilling the other condition for sensitive awareness. The second aspect of awareness may be described in terms of "thresholds." The most sensitive mother--the one with the lowest threshold--is alert to the baby's most subtle, minimal, understated cues. Mothers with higher thresholds seem to perceive only the most blatant and obvious communications. Mothers with the highest thresholds seem often oblivious, and are, in effect, highly inaccessible. This second aspect is very closely related to the question of interpretation of the baby's signals, for usually the mother who is alert to minimal cues also interprets them correctly. This is not invariably the case, however. For example, some mothers are alert to the slightest mouth movements, and sometimes incorrectly interpret them as hunger--or they notice minimal tensions or restlessness and incorrectly interpret them as fatigue.

The mother's ability to interpret accurately her baby's communications has three main components: (a) her awareness, as previously discussed; (b) freedom from distortion, and (c) empathy. An inattentive, "ignoring" mother is, of course, often unable to interpret correctly the baby's signals when they break through her obliviousness, for she has been unaware of the prodromal signs and of the temporal context of the behavior. But even a mother who is highly aware and accessible may misinterpret signals because her perception is distorted by projection, denial, or other marked defensive operations. Mothers who have distorted perceptions tend to bias their "reading" of their babies according to their own wishes, moods, and fantasies. For example, a mother not wishing to attend to her baby might interpret his fussy bids for attention as fatigue and, therefore, put him to bed; she being in a hurry, might perceive any slowing down in the rate of feeding as a sign of satiation; or a mother who is somewhat rejecting of her infant might perceive him as rejecting and aggressive towards herself. Mothers who least distort their perceptions of their babies have some insight as to their own wishes and moods, and thus can more realistically judge the baby's behavior. Furthermore, they are usually aware of how their own behavior and moods affect their infant's behavior.

The mother must be able to empathize with her baby's feelings and wishes before she can respond with sensitivity. That is, a mother might be quite aware of and understand accurately the baby's behavior and the circumstances leading to her baby's distress or demands, but because she is unable to empathize with him--unable to see things from the baby's point of view--she may tease him back in good humor, mock him, laugh at him, or just ignore him. The mother's egocentricity and lack of empathy may also lead to detached, intellectual responses to the baby rather than to warm, sensitive interactions with the baby.

A high threshold of awareness and inaccurate perceptions certainly lead to insensitive responses. Nevertheless, the mother may be highly aware and accurate in her interpretation and still be insensitive. Therefore, in the last analysis, the appropriateness and promptness of the mother's response to communications are the hallmarks of sensitivity.

The quality of the mother's interaction with her infant is probably the most important index of her sensitivity. It is essential that the mother's responses be appropriate to the situation and to the baby's communications. Often enough, at least in the first year of life, the sensitive mother gives the baby what his communications suggest he wants. She responds socially to his attempts to initiate social interaction, playfully to his attempts to initiate play. She picks him up when he seems to wish it, and puts him down when he wants to explore. When he is distressed, she knows what kind and degree of soothing he requires to comfort him--and she knows that sometimes a few words or a distraction will be all that is needed. When he is hungry she sees that he soon gets something to eat, perhaps giving him a snack if she does not want to give him his regular meal right away. On the other hand, the mother who responds inappropriately tries to socialize with the baby when he is hungry, play with him when he is tired, or feed him when he is trying to initiate social interaction.

In play and social interaction, the mother who responds appropriately to her child does not overstimulate him by interacting in too intense, too vigorous, too prolonged, or too exciting a manner. She can perceive and accurately interpret the signs of over-excitement, undue tension, or incipient distress and shifts the tempo or intensity before things have gone too far. Similarly, she is unlikely to understimulate the child, because she picks up and responds to the signals he gives when he is bored or when he wants more interaction that has heretofore been forthcoming.

In the second year of life, and sometimes also toward the end of the first year, it is maximally appropriate for the mother to respond to the baby's signals not so much in accordance with what he ostensibly wants in terms of a compromise between this and what will make him feel most secure, competent, comfortable, etc. in the long run. This is a tricky judgment to make, for so much that is done "for the baby's own good" is done both contrary to his wishes and according to the mother's convenience, whim, or preconceived standards. Nevertheless,

there are situations in which limit-setting, even in the first year, clears the air even though it is initially contrary to the baby's wishes. Similarly there are situations in which the baby's signals might lead the mother to increase the tempo of interaction to the point of discomfort for him, and in which it is appropriate gradually to diminish intensity. Furthermore, there is a fine point of balance at which the mother can begin to show the baby that she is not an instrument of his will, but a cooperative partner whose participation must be elicited appropriately. In such instances the mother will slightly frustrate the baby's imperious demands but warmly encourage (and reward) behaviors which are inviting or requesting rather than demanding. Nevertheless in such interactions the sensitive mother acknowledges the baby's wishes even though she does not unconditionally accede to them. The chief point is that a sensitive, appropriate response does not invariably imply complete compliance to the baby's wish--although very frequently compliance may be the most appropriate response.

The final feature of appropriate interaction is that it is well-resolved, or well-rounded and completed. For example, when the baby seeks contact the sensitive mother holds him long enough to satisfy him, so that when he is put down he does not immediately seek to be picked up again. When he needs soothing, she soothes him thoroughly, so he is quite recovered and cheerful. When he seeks social interaction she enters into a more or less prolonged exchange with him, after which, often enough, he is content to entertain himself. In contrast, some mothers with low sensitivity seem to be fragmented and incomplete, these mothers may try a series of interventions as though searching for the best method or solution. Highly sensitive mothers have completed, easily and well resolved interactions.

Finally, there is the issue of the promptness of the mother's response to the baby's communication. A response, however appropriate, which is so delayed that it cannot be perceived by the baby as contingent upon his communication cannot be linked by him to his own signal. On the assumption that it is a good thing for a baby to gain some feeling of efficacy--and eventually to feel cumulatively a "sense of competence" in controlling his social environment--it seems a part of sensitivity to acknowledge the baby's signals in some effective way and to indicate that one is at least preparing to accede to them. During the first quarter of the first year, a mother's sensitivity is most easily judged by her latency in response to the baby's distress signals such as hunger. However, during the last quarter, the mother's prompt response to the baby's social communication and signals is probably a more critical measure. A mother is inevitably insensitive when she fails to respond to the baby's outstretched arms, to his excited greeting, or simply to his smile or gentle touch.

An issue which cuts across the various components of sensitivity concerns the timing of routine activities and play. In general, arbitrary or very rigid timing of major interactions cannot but be insensitive to the infant's signals, moods, and rhythms. The mother who

arranges and organizes day by day activities with her infant in order to most convenience herself, or the mother who thinks by the clock, has little or no consideration of the infant's tempo and current state.

In summary, highly sensitive mothers are usually accessible to their infants and are aware of even their more subtle communications, signals, wishes, and moods; in addition, these mothers accurately interpret their perceptions and show empathy with their infants. The sensitive mother, armed with this understanding and empathy, can time her interactions well and deal with her baby so that her interaction seem appropriate--appropriate in kind as well as in quality--and prompt. In contrast, mothers with low sensitivity are not aware of much of their infant's behavior either because they ignore the baby or they fail to perceive in his activity the more subtle and hard-to-detect communications. Furthermore, insensitive mothers often do not understand those aspects of their infant's behavior of which they are aware or else they distort it. A mother may have somewhat accurate perceptions of her infant's activity and moods but may be unable to empathize with him. Through either lack of understanding or empathy, mothers with low sensitivity often have inappropriate responses in kind as well as quantity, i.e., interactions which are fragmented and poorly resolved.

- 9 Highly sensitive. This mother is exquisitely attuned to B's signals, and responds to them promptly and appropriately. She is able to see things from B's point of view; her perceptions of his signals and communications are not distorted by her own needs and defenses. She "reads" B's signals and communication skillfully, and knows what the meaning is of even his subtle, minimal, and understated cues. She nearly always gives B what he indicates that he wants, although perhaps not invariably so. When she feels that it is best not to comply with his demands--for example, when he is too excited, over-imperious or wants something he should not have--she is tactful in acknowledging his communication and in offering an acceptable alternative. She has "well- rounded" interactions with B, so that the transaction is smoothly completed and both she and B feel satisfied. Finally, she makes her responses temporally contingent upon B's signals and communications.
- 7 Sensitive. This mother also interprets B's communications accurately, and responds to them promptly and appropriately, but with less sensitivity than mothers with higher ratings. She may be less attuned to B's more subtle behaviors than the highly sensitive mother. Or, perhaps because she is less skillful in dividing her attention between B and competing demands, she may sometimes "miss her cues." B's clear and definite signals are, however, neither missed nor misinterpreted. This mother empathizes with B and sees things from his point of view; her perceptions of his behavior are not distorted. Perhaps because her perception is less sensitive than that of mothers with higher ratings, her responses are not as consistently prompt or as finely appropriate--but although there may be occasionally little "mismatches," M's interventions and interactions are never seriously out of tune with B's tempo, state and communications.

- 5 Inconsistently sensitive. Although this mother can be quite sensitive on occasion, there are some periods in which she is insensitive to B's communications. M's inconsistent sensitivity may occur for any one of several reasons, but the outcome is that she seems to have lacunae in regard to her sensitive dealings with B--being sensitive, at some times or in respect to some aspects of his experience, but not in others. Her awareness of B may be intermittent--often fairly keen, but sometimes impervious. Or her perception of B's behavior may be distorted in regard to one or two aspects although it is accurate in other important aspects. She may be prompt and appropriate in response to his communications at some times and in most respects, but either inappropriate or slow at other times and in other respects. On the whole, however, she is more frequently sensitive than insensitive. What is striking is that a mother who can be as sensitive as she is on so many occasions can be so insensitive on other occasions.

- 3 Insensitive. This mother frequently fails to respond to B's communications appropriately and/or promptly, although she may on some occasions show capacity for sensitivity in her responses to and interactions with B. Her insensitivity seems linked to inability to see things from B's point of view. She may be too frequently preoccupied with other things and therefore inaccessible to his signals and communications, or she may misperceive his signals and interpret them inaccurately because of her own wishes or defenses, or she may know well enough what B is communicating but be disinclined to give him what he wants--because it is inconvenient or she is not in the mood for it, or because she is determined not to "spoil" him. She may delay an otherwise appropriate response to such an extent that it is no longer to his state, mood, or activity. Or she may respond with seeming appropriateness to B's communications but break off the transactions before B is satisfied, so that their interactions seem fragmented and incomplete or her responses perfunctory, half-hearted, or impatient. Despite such clear evidence of insensitivity, however, this mother is not as consistently or pervasively insensitive as mothers with even lower ratings. Therefore when the baby's own wishes, moods, and activity are not too deviant from the mother's wishes, moods, and household responsibilities or when the baby is truly distressed or otherwise very forceful and compelling in his communication, this mother can modify her own behavior and goals and, at this time, can show some sensitivity in her handling of the child.

- 1 Highly insensitive. The extremely insensitive mother seems geared almost exclusively to her own wishes, moods, and activity. That is, M's interventions and initiations of interaction are prompted or shaped largely by signals within herself; if they mesh with B's signals, this is often no more than coincidence. This is not to say that M never responds to B's signals; for sometimes she does if the signals are intense enough, prolonged enough or often enough repeated. The delay in response is in itself insensitive. Furthermore, since there is usually a disparity between M's own wishes and activity and B's signals, M who is geared largely to her own

signals routinely ignores or distorts the meaning of B's behavior. Thus, when M responds to B's signals, her response is characteristically inappropriate in kind or fragmented and incomplete.

ACCEPTANCE VS REJECTION

This scale deals with the balance between the mother's positive and negative feelings about her baby--about having a baby and about this particular one--and with the extent to which she has been able to integrate these conflicting feelings or to resolve the conflict. At the positive pole there is love and acceptance overriding frustrations, irritations, and limitations--or perhaps more accurately, encompassing and defusing the negative feelings. At the negative pole anger, resentment, hurt, or irritation conflict conspicuously with and limit positive feelings and result in more or less overt rejection of the baby. It is assumed that the arrival of a baby poses a potentially ambivalent situation--and that for all mothers there are positive and negative aspects. Among the negative aspects is the fact that the new baby impinges on and limits the mother's own autonomy and interferes with other activities which are important to her in one way or another. Furthermore there are inevitable irritations and frustrations in interacting with this particular baby from day to day. Among the positive aspects is the undeniable appeal a baby makes to his mother--evoking tenderness, protectiveness, and other positive reactions.

It is assumed that there are positive and negative elements in all mother-infant relationships. We are concerned with how the mother, given her present life situation, has been able to balance them. It is assumed that at the desirable, accepting, positive end of this continuum negative components are not so much absent as somehow subsumed within the context of the positive relationship. It is also assumed that at the undesirable, rejecting, "negative" end of this continuum positive components are not so much lacking as they are not integrated with the negative, rejecting components, so that there is an alternation between tenderness, nurturance, and delight on the one hand, and anger, resentment, irritation, hurt, and rejection on the other, without any adequate meshing of the two together. There is a good and lovable baby and a bad and infuriating baby, but the real baby as he actually exists is somehow lost between the two.

The assessment of the balance between positive and negative is not easy. The social norm is that mothers love their babies and do not reject them. The angry, rejecting, negative components of the mother's relations with the baby tend, therefore, to be suppressed or repressed. The positive components are, of course, more acceptable, and the mother usually feels free to express positive feelings openly. She may even feel impelled to put on a show of affection in excess of her real feelings. To complicate things further a baby has much appeal even to an essentially rejecting mother, and she may be genuine in her

positive expressions while trying to hide (perhaps even from herself) her negative feelings. Finally, it is acknowledged to be healthy for a person--even a mother--to give vent to angry feelings rather than trying to submerge them with the consequence that they may simmer for long periods of time during which they color the tone of behavior and interfere with positive feelings. Momentary outbursts of anger or irritation must not be given undue weight if they are embedded in an otherwise clearly positive, warm, loving relationship. On the other hand the rater must be alert to signs of submerged resentment in the case of a woman who finds it very difficult to acknowledge anger, and must give them due weight.

Some mothers clearly have positive feelings uppermost; they express them frequently and spontaneously and without any apparent striving to play a loving role, to make a good impression, or even to be kind to the baby. They acknowledge the baby's exploratory interest, and do not feel hurt when these lead him away from her. They sense and respect the baby's budding desire for autonomy and mastery and understand his anger when he is frustrated; therefore they do not view early conflicts of interests as struggles for power in which they must be aggressive or else be overwhelmed. These are women whose love-hate impulses are well enough integrated that they can feel almost wholly positive toward their babies without danger of repressed hostility. Such a mother, perhaps because she is able to empathize with the baby, does not interpret instances of disruptive, annoying behavior as an indication of a potential character defect in the baby which must be "nipped in the bud." Although sometimes the baby may seem clearly angry at her, she interprets neither such episodes, nor episodes of more diffusely uncooperative or annoying behavior, as adequate reason for her to feel hurt or to institute retaliative measures. She may feel a brief surge of annoyance, but she does not consider the baby himself as a suitable target on which to focus her anger. She may acknowledge his anger. She may openly express her own exasperations. She may discourage the behavior in question. She may deal with her own momentary irritability by some means which gives her a chance to "cool off" before resuming her interaction with the baby. But she does not harbor resentment or hurt, and because she does not "take it out" on the baby, he is unlikely to feel rejected, especially if momentary irritation or behavior-directed disapproval is embedded in general warm acceptance.

Some outwardly accepting mothers are more rejecting than those, described above, who can give brief, healthy, situation-specific vent to annoyance. These pseudo-accepting mothers comply with the baby's demands, but in a way which is in itself inappropriate. They comply masochistically, and in a pseudo-patient, long-suffering way, and usually underneath this type of compliance lies much repressed aggression--which is usually deep-seated and of long standing, and which has little to do with the baby except as his behavior may serve to activate this repressed aggression and threaten the defenses against it. Such a mother cannot give healthy vent to anger occasioned by the baby's behavior. She smothers it, and tries to be patient. Her very defenses against expressing her anger make it impossible for her to be truly responsive

to the baby, and hence he tends to find her compliance unsatisfying. Both this and the often inappropriate outbursts of irritation which inevitably break through the defenses add up to rejection.

Clear-cut, overt rejection is unmistakable. Some highly rejecting mothers are quite open in their rejection. Such a mother may say that she wishes that the child had never been born, or she may be less open but nevertheless say what a nuisance he is and how he interferes with her life. Or she may complain more specifically, pointing out the baby's defects and shortcomings, and dwelling on her problems with him. To be sure, to talk with the observer about concerns and problems does not necessarily imply substantial rejection, but to emphasize these constantly rather than the baby's good points and the pleasure he yields suggests at least an undercurrent of rejection. (In fact, it is well known that damaged or handicapped babies, who obviously present more problems than "normal" babies do, tend to activate more rejection in their mothers. Therefore, whether or not the "problem" has an adequate realistic basis is irrelevant for our purposes.) Another way in which a mother may voice rejecting attitudes, without actually saying that she rejects the baby, is to say, often in a heavy-handed "joking" manner, all sorts of uncomplimentary things to the baby while she is interacting with him--"stinkpot," "fatso," "stupe," and the like--or to comment to the observer, in an apparently "objective" way that this is an ugly baby, uglier than its siblings, or that it has a flat head, protruding teeth, or a nasty temper (just like his father's) and the like. (Such uncomplimentary remarks should be distinguished--although this is sometimes difficult--from "tough" comments made by an essentially accepting mother to disguise from the world just how crazy she is about this baby.)

Rejection is of course expressed in behavior as well as verbally. When it is overt, it is unmistakable. The highly rejecting mother may show her rejection by constantly opposing the baby's wishes, by a generally pervasive atmosphere of irritation or scholding, by jerking him about with ill-concealed anger, and by joining battle with him whenever he seems to challenge her power. Less obvious--and perhaps less highly rejecting--is chronic impatience, or a punitive or retaliatory putting of the baby away or deliberately ignoring his overtures as though the mother were trying to say to the baby "you snubbed me, didn't do what I wanted you to do, rejected my overtures, and now I will "show" you!" Teasing is sometimes a less obvious way of expressing negative feeling-components. Even when the baby responds positively to teasing there seems to be some negative, aggressive component in the teaser's behavior--and in extremes teasing is obviously sadistic, even though the sadism may be veiled by seeming warmth and good humor.

This scale is related to the first quarter scale--Mother's Acceptance of the Baby--which dealt with the mother's acceptance-rejection in terms of the degree to which the baby is felt to interfere with her own autonomy. This emphasis seemed appropriate during the first three months when the chief issue of acceptance seemed to be one of the mother's autonomy. In the latter part of the first year, however, the

baby has emerged as more of a person in the mother's eyes--a person who can be sometimes entrancing or appealing and sometimes irritating and even infuriating. The present scale, therefore focuses chiefly on the balance between positive and negative feelings. Nevertheless the previous issue of the mother's acceptance or resentment of the degree to which the baby infringes on her own autonomy is still relevant and will be taken into consideration.

The chief difficulty in rating is expected to occur in trying to distinguish rejection as defined by this scale from ignoring and neglecting, which is dealt with in another scale. The rater is referred to the discussion of this point in the introduction to the other scale. A rule of thumb was suggested. If the baby is in the same room with his mother, and if it is clear that her ignoring of his signals is deliberate, then the instance in question will be considered rejection--especially if there is evidence that the mother is motivated by an angry or "hurt" desire to punish or to retaliate. (Similarly, the mother who arbitrarily puts the baby away--for a nap or gives him to someone else--will be considered rejecting, especially if there is evidence that she is irritated by his behavior or tired of him.) It is assumed that somehow the baby can perceive rejection under these circumstances. If, however, the baby is in another room--as for example, when he is crying when put down for a nap or waking from a nap--the mother's failure to respond will be considered ignoring. It is emphasized that this is only a rule of thumb. Ignoring in the sense of being oblivious to the baby and failing to perceive his signals may be a special case of rejection, and may have similar motivation, although the implication is that the negative component is more completely repressed than in rejection. Indeed some mothers may be both rejecting and ignoring, alternating more or less overt rejection with the covert rejection implicit in ignoring. It nevertheless seems worthwhile to distinguish these two variables because it seems likely that babies respond differentially to the two patterns of behavior, and that certain patterns of infant behavior may be associated with relatively overt rejection in which the angry component can be more clearly sensed than to the covert rejection.

Furthermore, the positive ends of the two scales--accessibility and acceptance--may be distinguished. Some mothers are accessible in the sense of being clearly aware of the baby and yet behave in a rejecting way. Other mothers may be on balance positive in their feelings, and hence fairly accepting, and yet may become involved in other activities to the extent that their accessibility is fairly frequently low.

- 9 Highly accepting. M is highly accepting of B and his behavior, even of behavior which other mothers find hurtful or irritating. She values the fact that the baby has a will of his own, even when it opposes hers. She is pleased to observe his interest in other people or in exploring the world, even though this may on occasion lead him to ignore her overtures. She even finds his anger worthy of respect. She can, on rare occasions, be irritated or frustrated

by B's behavior, but this tends to be brief--soon over and done with--and it does not occur to her to feel that B himself is a worthy target upon which to focus her anger. She not only loves B, but she respects him as an individual. At the same time she accepts the responsibility for caring for him, and does not chafe against the bonds which tie her down temporarily and which restrict her from activities in which she would otherwise enjoy participating.

- 7 Accepting. The balance of feeling is still clearly toward the positive, accepting, loving side, and irritation and resentment are infrequent in comparison. This mother does not show as much respect for the baby as a separate, autonomous person as do mothers with higher ratings, and she may not show as much obvious acceptance of the fact that he has a will of his own, that he is often interested in other people and things, and that he can get angry. She is generally patient with B, and her patience seems a matter of genuine acceptance of his demands and inefficiencies rather than over-compliant, long-suffering, pseudo-patience. She seems to suppress (or repress) relatively little of her feeling toward B, perhaps chiefly because there is relatively little undercurrent of negative feeling, especially toward him. Moreover she generally accepts the limitations to her own autonomy presented by B and her care of him.

- 5 Ambivalent. M seems chiefly positive in her feeling toward B, and on occasion she obviously enjoys him; nevertheless resentment or hurt may break through in inappropriate ways. The inappropriateness is largely a matter of M taking some behavior of the baby's--angry, frustrated behavior, or assertion of will, or momentary preference for other people or things--as a deep-seated mother-directed hostility, opposition or rejection, and this leads her to retaliate with behavior that is essentially rejecting behavior. Or, M may be somewhat impatient and irritable with the baby at times, rejecting him when he ceases to be compliant or endearing, and yet there is enough positive interaction to preclude a lower rating. Or M may point out either frequently or inaccurately that B rejects her, in that he seems to prefer someone else or will not come to her readily; her dwelling upon behavior that she interprets as rejection seems likely to imply an undercurrent of rejecting B. Or M may tease B when he is upset, angry, or otherwise difficult--and the teasing, of course, aggravates the difficulty. For a rating of "5" the expressions of negative feeling must not be predominant over positive, mutually enjoyable interaction, whatever the assessment of underlying dynamics; if they are, the rating should be lower.

- 3 Substantially rejecting. M's negative responses, veiled or open, are frequently enough to outweigh expressions of positive feelings toward B--although she is neither as openly nor as strongly rejecting as women with lower ratings. Ways in which her anger or resentment toward B may be expressed are as follows: (a) by putting him away from her when he does not do what she wants--or by deliberately ignoring him as a retaliation--and this is not merely a matter of

insensitivity but a clear rejection of him; (b) by dwelling in conversation on B's bad points and the problems he occasions rather than upon his good points, accomplishments, and the pleasure he yields; (by saying critical, uncomplimentary, nasty things to and about B in his presence even though these are "joking" (Although it is difficult, these should be distinguished from "tough" comments designed to conceal strong positive feelings); (d) by a veiled irritation with B which underlies a long-suffering, pseudo-patient compliance to his demands (which are perfunctory compliances and hence not satisfying) and which occasionally becomes overt in impatient, rejecting behavior; (e) marked impatience; (f) a sadistic undercurrent which is largely concealed but which comes out in little ways. Also here one might classify the mother who shows hurt, retaliatory behavior more frequently or more strongly than the "5" or "4" mother.

- 1 Highly rejecting. M is clearly rejecting of B and her positive feelings toward him are frequently overwhelmed by her resentful, angry, rejecting feelings. This may be manifest in any one or a combination of different ways. She may openly voice an attitude of rejection, saying that she is sorry that she ever had him. Or she may somewhat less openly voice her rejection by implying that he is a great nuisance, and that he interferes substantially in her life and with what she would like to be able to do. Or she may complain about B more specifically, pointing out his defects and shortcomings. Even though she may refrain from verbalizing her rejection of B, she may manifest it by a constant opposition to his wishes, by a generally pervasive atmosphere of irritation and scolding, by jerking him about with ill-concealed anger, and by joining battle with him whenever he seems to challenge her power. There may be positive aspects in her relationship with B which suggest that she can enjoy B, but these are rare and isolated in their manifestations.

COOPERATION VS INTERFERENCE

The central issue of this scale is the extent to which the mother's interventions and initiations of interaction break into, interrupt or cut across the baby's ongoing activity rather than being geared in both timing and quality to the baby's state, mood, and current interests. The degree of interference may be assessed in accordance with two considerations: (a) the extent of actual physical interference with the baby's activity, and (b) the sheer frequency of interruptions.

Some mothers are highly interfering in an overwhelming physical sense. Such a mother snatches the baby up, moves him about, confines him, and, indeed, releases him with utter disregard for his activity-in-progress. When she restricts and restrains his movements it tends to be by direct physical intervention or force. She may also try to use force in instances in which the baby's cooperation is required if

the intervention is to be effective--for example, in feeding, in play, and (although this usually comes later) in toilet training. Other mothers, whose interference does not so conspicuously emphasize physical force, nevertheless must be considered highly interfering because they are "at" the baby most of the time--instructing, training, eliciting, directing, controlling.

In either case it is clear that the highly interfering mother has no respect for her baby as a separate, active, and autonomous person, whose wishes and activities have a validity of their own. The underlying dynamics of such an attitude are various; some examples follow. An obsessive-compulsive woman, for example, tends to require a tight control over other people in order to control her own anxieties; such a mother may become anxious and angry when the baby does not do exactly what she wants him to do, when she wants him to do it, and in the way she wants him to do it. Another kind of dynamic behind interference is shown by the woman whose baby continues to be a narcissistic extension of herself; such a woman tends to treat him as her possession, her creature, hers. When she is in a mood to play, she may find the baby charming, provided that he cooperates and plays; when she tires of him she puts him aside; in either case it does not seem to occur to her to attribute any validity to how the baby feels. A third kind of dynamic behind interference is an emphasis on training. The mother feels that she can shape the baby to fit her own concept of a good baby, whether through a determined attempt to elicit behavior she considers desirable or by punishing behavior that she considers undesirable. These three examples do not exhaust the possibilities, but it is hoped that they serve to illustrate the essentials of the underlying attitude--which is that the interfering mother feels that the baby is hers and that she has a perfect right to impose her will on him. She tends to treat him almost as an inanimate possession that she can move about as she wishes--or perhaps, as a more appropriate analogy, as a small child treats a pet kitten, to be handled, petted, fed, teased, carried, and put aside with complete lack of regard for the kitten's needs and wishes.

Mothers at the other end of this continuum seem to guide rather than to control the baby's activity. Such a mother integrates her wishes, moods, and household responsibilities with the baby's wishes, moods, and ongoing activity. Their interactions and shifts of activity seem co-determined. Rather than interrupting an activity that the baby has in progress, she delays her intervention until a natural break in his activity occurs. Or through mediating activities, often of a playful sort, she can gradually divert him from what he is doing toward something she wants him to do. Such a mother uses mood-setting techniques. At bed-time, for example, she gradually slows down the pace and vigor of their interaction until he is relaxed and calm and more ready for bed than he could have been at the peak of excited play. She invites him to come and cooperate with what she has in mind rather than imposing it on him.

A type of interference, less forceful than direct physical intervention, may be seen in play and vocalization. An interfering

mother tends to play entirely or almost entirely by doing something to the baby, or by getting him to do something she wishes. Such mothers instruct the baby in tricks or stereotyped games, persisting even when the baby is in an unresponsive mood. Once the baby has learned the tricks or games to some degree, the mother subsequently plays by attempting to elicit them. Or, as an alternative, she does something playful to the baby, for example tickling him or whirling him about. (These examples are not intended to imply that tickling or whirling are in themselves criteria of an interfering approach, but merely that they can be modes of play which are not co-determined, and often enough, together with "eliciting" or instructing, the only modes available to the interfering mother.) Similarly, with vocalization. The interfering mother persistently tries to elicit specific vocalizations (or gestures) regardless of the baby's current interest in vocalizing or lack of it.

In contrast, a "co-determining" mother capitalizes on spontaneity. She responds to the baby's vocalizations, and does a minimum of trying to elicit specific sounds. She tends to pick up something the baby does as the beginning of a play sequence, and responds to his initiations of play. She may attempt to initiate play, but if the baby does not respond, she either desists, or shifts her approach. Most mothers undertake some kind of instruction, and on one occasion or another deliberately elicit something the baby has learned, so rating is a matter of balance between eliciting and instructing on one hand and spontaneity on the other--and also a matter of appropriateness of context and meshing with the baby's mood.

The extremes of physical interference are to be seen most usually in pick-up and put-down situations and when the baby is free on the floor. The highly interfering mother is likely to keep pulling the baby back from places she does not want him to go, perhaps interspersing direct control with multiple commands, "no-no's," and perhaps slaps. Of course, even a usually non-interfering mother will intervene abruptly and forcibly if the baby's activity threatens physical harm to him, for example, if he is headed toward unguarded stairs or if he is about to swallow some small object. But it is characteristic of the non-interfering mother to "baby-proof" the house and its contents so that physical intervention is rarely necessary--by placing gates across the stairways, by putting away objects which could harm the baby or which she does not want him to have, and the like.

Restraint may sometimes be considered a form of interference, but there is a distinction to be made between forcible physical restraint, such as pinioning the baby's arms when there is a direct physical confrontation between mother and baby, and impersonal restraints such as playpens and the straps of a highchair. Restraint which involves physical confrontation will be considered interference. Impersonal restraints will not be considered interfering, except insofar as the manner and timing of imposing the restraint itself constitutes an interference. Thus strapping the baby in a highchair is not an interference, but if, when the baby has been refusing to sit, the mother jerks him down and straps him in, this would be considered an interference.

Similarly, placing the baby in the playpen would not be considered an interference per se, but picking him up unceremoniously when he is in the midst of active exploration and dumping him down in the playpen would.

One difficulty with this rating scale is how to rate mothers who have been highly interfering in the past and whose babies have become passive as a result. Such babies may now not try to reach the bottle; it is no longer necessary to pinion their arms. Such babies when placed on the floor may not explore vigorously so it is not necessary to interfere. Even in instances where it is known that present generalized or situation-specific passivity is correlated with past restraints and interferences, the mother will be rated on the basis of positive evidence of interference (or conversely cooperation) which she now shows. (It is assumed that ratings of earlier periods, when undertaken, will tell the story, if, indeed, the mother now gives little evidence of interference.)

Routines--feeding, changing, bathing, and bed-time--may be the occasion for interference, just as they may be the situations in which cooperation and co-determination is most clearly illustrated. The general rule of thumb is that when interference is a matter of direct physical control it will be considered interference, but when it is a matter of tactful control or accepted impersonal restraint it will not be so considered. In between the two extremes come the milder interferences of verbal commands and prohibitions. Thus, for example, the mother who slaps or holds the baby's hands to prevent him from touching food would be considered interfering; the mother who scolds and warns without physical intervention would be considered interfering to a milder degree. The mother who gives no finger foods would not be considered interfering, unless she slaps, holds, scolds, or verbally prohibits. The mother who tussles or slaps an active child while changing him would be considered interfering. The mother who gives him something to manipulate or who holds his attention by talking to him playfully and thus does not need to interfere physically would be considered non-interfering. The mother who interrupts an active or excited or unsleepy baby and puts him to bed abruptly would be considered interfering. But the mother who plays gentle games, or holds and rocks, and who generally gets the baby into a nap-accepting mood will be considered cooperative. The timing of routines per se will not, however, be taken into account in rating this variable. (Timing will be reflected in the scale dealing with the mother's sensitivity to the baby's communications and signals.)

This present scale, although not entirely orthogonal to scales of ignoring the rejecting, is certainly not in one-to-one relationship with them. Some interfering mothers alternate interfering transactions with periods of ignoring the baby; others are clearly aware of the baby at all times and are by no means inaccessible.

- 9 Conspicuously cooperative. This mother views her baby as a separate, active, autonomous person, whose wishes and activities have a validity of their own. Since she respects his autonomy, she avoids situations in which she might have to impose her will on his, and shows foresight in planning ahead--by arranging the physical environment of the house or by her timing her own household routines--in such a way as to minimize the need for interference and for direct control.

She avoids interrupting an activity the baby has in progress. When it is desirable to intervene for a routine or to shift his activity, she truly engages his cooperation, by mood-setting, by inviting him, by diverting him, and by engaging him in reciprocal activity of some sort, often enough vocalization or play. In activity-shifting and indeed also in play she capitalizes on spontaneity, picking up cues from the baby to help her present what she wants him to do as something that is also congenial to him.

Even a conspicuously cooperative mother inevitably will instruct her baby to some extent or attempt to elicit particular behaviors, but these mildly controlling interactions both constitute a small proportion of their total interaction and are themselves appropriate enough to the baby's mood and activity-in-progress to be considered co-determined.

Except in rare emergency situations this mother never interferes with the baby abruptly and with physical force. Verbal commands and prohibitions across a distance are in inevitable corollary of giving the baby freedom to explore and to learn, but the "conspicuously cooperative" mother manages to structure the freedom-to-explore situation so that she needs to command but rarely. In other words, to be co-determining does not imply either over-permissiveness or a "laissez-faire" attitude.

- 7 Cooperative. This mother does not have as conspicuous a respect for her baby's autonomy and ongoing activity as do mothers with higher ratings but on the whole she is cooperative and non-interfering. She shows less foresight than mothers with higher ratings in arranging the physical environment and her own routine so as to avoid the need for interference. Consequently, there are more occasions in which she feels it necessary to interrupt or to exert control. Although she may give more verbal commands or prohibitions than mothers with higher ratings, she tries to avoid undue frequency of interference, and rarely, if ever, intervenes in direct, abrupt, physical ways.

Nevertheless, she seeks the baby's cooperation in routines and in shifts of activity by mood-setting and other techniques mentioned above. She may, however, be somewhat less skillful than mothers with higher ratings in capitalizing on spontaneity and thus achieving optimum cooperation. Although the balance is in favor of

spontaneity in play and in exchanges of vocalization, she may be somewhat more frequently instructive or "eliciting" than mothers with higher ratings.

- 5 Mildly interfering. This mother is not so much an interfering or controlling person as she is inconsiderate of the baby's wishes and activities. Consequently she interrupts and interferes more frequently than do mothers with higher ratings. On the whole her interference tends to be mild, however, rather than being direct, abrupt, and physically forceful. She tends to issue more verbal commands and prohibitions to control the baby across a distance than do mothers with higher ratings. She tends to rely more on instructive and "eliciting" modes of play and interaction and is less spontaneous than they are. Perhaps the most conspicuous difference from those with higher ratings, however, is in regard to routine-interventions and shifts of activity. She pays much less attention to mood-setting and to other techniques which aid smooth transitions from one activity to another. She tends to be matter of fact. When she judges that a changing, a nap, a feeding, or merely a shift of locus of activity is desirable she acts accordingly, apparently disregarding the fact that her intervention may break into the baby's activity-in-progress or the fact that the activity may be alien to the baby's present mood.

- 3 Interfering. In distinguishing the mother with a "3" rating from one with an even lower rating a judgment about arbitrariness is crucial. Like mothers with lower ratings these interfering mothers display either direct, forceful, physical interference or frequent milder interferences or both. But usually the "3" mother has some kind of rationale for her actions which is perceivable to the observer (even though it may seem far from desirable); the interference is not obviously arbitrary. The mother may be focused on the desirability of undertaking a specific routine at this time; or she may be a "training" kind of mother who is determined to shape the baby to her way of doing things. There is, however, a reason for most of her interruptions or interferences, whereas the "1" mother is more frequently arbitrary, seeming to interfere for no reason at all. (It is assumed that the totally arbitrary interferences are as incomprehensible to the baby as they are to the observer, and that those that have some "reason" may have some thread of consistency which makes them easier for the baby to adapt to.)

In distinguishing the "3" mother from those with higher ratings, it is merely necessary to say that she is substantially more interfering either in frequency or in quality or both. She more frequently displays physical interference or restraint, or she much more frequently interferes mildly--instructing, eliciting, prohibiting, and commanding--or both. Perhaps even more important than the absolute amount of interfering is the proportion of mother-infant transactions which are interfering. The "3" mother is interfering in a greater proportion of her transactions than the "5" or "4" mother.

- 1 Highly interfering. This mother has no respect for her baby as a separate, active, and autonomous person, whose wishes and activities have a validity of their own. She seems to assume that the baby is hers and that she has a perfect right to do with him what she wishes, imposing her will on his, or shaping him to her standards, or merely following her own whims without regard for his moods, wishes, or activities. There is an arbitrariness about the interference that is striking. Much (although not all) of it is "for no apparent reason." Some highly interfering mothers are conspicuous for the direct, physical, forcefulness of their interruptions or restraints. Others are conspicuous for the extreme frequency of interruption of the baby's activity-in-progress, so that they seem "at" the baby most of the time--instructing, training, eliciting, directing, controlling. But the "1" mother tends to combine both types of interference, even though she may emphasize one type more than the other. Regardless of the balance between physical man-handling and milder interruptions, these mothers have in common an extreme lack of respect for the baby's autonomy and an obtuseness which permits them to break into what the baby is doing without any need to explain to others or even to justify to themselves the reason for the interruption.

ACCESSIBILITY VS IGNORING AND NEGLECTING

The central issue of this scale is the mother's accessibility to the baby, with emphasis upon her responsiveness to him. Although the essential component of psychological accessibility is that the mother be aware of the baby, she is not truly accessible unless she also actively acknowledges and responds to him.

A highly accessible mother has her baby in her field of perceptual awareness at all times so that he is within reach, at least, through distance receptors. She can divide her attention between the baby and other persons, things, and activities without losing awareness of the baby. She is never too preoccupied with her own thoughts and feelings or with her other activities and interactions to have him in the background of her awareness and to sense where he is and what he is doing. When he is in another room she is quick to perceive any sounds he may make, and she takes precautions not to have him so far away or so closed off that she cannot hear a sound as loud as a cry.

The highly accessible mother not only is aware of her baby's activity and signals, but she responds to him readily. She can switch her attention to him easily if he needs her supervision or protection or if he approaches or tries to catch her attention. To be accessible, the mother does not necessarily understand and sensitively interpret the baby's behavior nor does she necessarily respond appropriately to the baby's signals--nevertheless, the accessible mother is perceptually alert and responsive to her baby most of the time.

An inaccessible mother ignores her baby and in this sense she neglects him. "Neglect" in this context does not necessarily imply physical neglect. The neglect is psychological for the most part--although mothers in inaccessible moods may sometimes show surprising lapses in failing to protect the baby from danger. There are two major types of women who can be described as inaccessible, ignoring, and neglecting. First, there are mothers who are unaware of much of the baby's behavior; they do not perceive his signals and communications and therefore cannot respond to them. Second, there are mothers who perceive the baby's signals well enough, but do not acknowledge them or respond to them, and hence must be to the baby just as inaccessible as if they had been unaware.

Let us first consider mothers who are frequently imperceptive and unaware of their babies' signals. Two main types have been observed. The dynamics of the first type seem the more pathological. Such a mother seems to teeter on the brink of depression and/or fragmentation and disintegration. She finds the demands implicit in the baby's signals an intolerable threat to her precarious balance. It is necessary, in order to hold herself together, to "tune out" the baby's signals. The baby may simply be blotted out of awareness for relatively long periods of time. If he cries she does not hear him; if he greets her she does not see him. If the baby's signals do break through his mother's defensive barrier, she tends to fall back on a second line of defense, somehow removing from the stimuli emanating from the baby their signal quality. The baby is perceived as making happy sounds rather than crying, or, if he is perceived as crying, the mother cannot imagine what the cause might be and, since she does not know what to do, she does nothing. Whatever the mechanism, the baby's signal is so distorted in the process of reception that it loses any power to impel his mother to respond. Such a mother rarely attends to the baby as a consequence of his behavior, however much the baby may clamor for attention--and often enough her baby learns the futility of trying to break through such a barrier and does not clamor. Such a mother tends to attend to her baby according to her own programming, as though she reminded herself: "Now is the time to attend to the baby." It seems that her caretaking is a response to the thought of him--to the concept of baby--rather than to her perception of him and his signals. When the baby is out of sight he tends to be out of mind, except that the mother can talk about him, discussing her plans for him, or her policies in managing him. She may give information about him, but often enough this is meager because she has not observed his behavior closely enough to give much detail. It is as though her concept of the baby is more real than the baby as he actually exists.

The second major type of mother who is frequently imperceptive and unaware has dynamics that seem less pernicious than those of the first, because the mother is not rendered quite as impervious to the baby's signals and communications. This mother erects a barrier against the baby's demands, but, since she does not back this up by a distortion of perception of his signals, he can, if he signals intensely enough or persistently enough, break through. These mothers tend to be

somewhat compulsive. They get preoccupied with their own activities, whether work or conversations, or they ruminate, lost in their own thoughts or worries. While they are preoccupied thus, the baby may go unnoticed. Such women are one-track-minded, and find it difficult to switch from one set of activities to another--from housekeeping to mothering, for example. Sometimes they bolster up their need to be uninterrupted by arranging the physical environment so that the baby will not impinge upon them while they are engaged in something else--work, napping, or adult sociability. They may put the baby away in another room, preferably one far enough away or soundproofed so that they will not be interrupted by him, or they may arrange to turn him over to someone else--a housekeeper or perhaps another member of the family. They often seem as inaccessible as women who are more defensively unaware, but the critical difference is that, provided the baby is within signal range, she is not completely impervious.

Let us now consider mothers who are inaccessible despite being perfectly well aware of the baby's signals and interpreting them correctly. Such a mother is merely unresponsive to the baby and his signals. She ignores them deliberately--whether through policy, for discipline, or through pique. Sometimes it may seem incomprehensible to the observer that the mother can note the baby's behavior, that she can comment upon and correctly interpret the reason for his fuss, and still continue to ignore him. These women do not have distorted perception, but somehow they are not sufficiently able to see things from the baby's point of view--or perhaps to feel things from his point of view--to want to intervene. They are too impersonal and objective; in their failure to acknowledge the baby they must seem as inaccessible to the baby as if they did not perceive him.

Throughout this discussion emphasis has been placed upon the mother's failure to perceive and/or to be responsive to the baby's signals. Inaccessibility is most obvious when the baby is, in fact, signalling, and the mother does not respond. There are, however, babies who make few demands--perhaps because they have become accustomed to being ignored. The relative lack of frequency, intensity, or persistence of signalling behavior on the part of the baby may make it all the easier for his mother to ignore him, but the rater should not be misled into over-rating the mother's accessibility on this account. If she can go for long periods without seeming to notice the baby or to acknowledge him she is a candidate for a low rating regardless of whether or not the baby is making obvious demands.

In summary, an accessible mother is aware of her baby and of his behavior most of the time and usually acknowledges his presence, his signals and his communications. A mother is judged to be inaccessible if she frequently or perhaps for prolonged periods does not acknowledge the baby or respond to him--whether she is aware of his behavior or not, and, indeed, whether she is in the same room or not.

This scale does not take into account the quality of care that the mother gives the baby or the quality of her interaction with him. Some mothers are constantly aware of the baby and responsive to his signals, and yet they respond inappropriately or even sadistically. It is the bare fact of the mother's acknowledgement of his real presence that is important to this scale--not the quality of her response to him.

Note: This variable is similar to one of the scales designed for use in the first quarter--mother's availability to the baby. The previous scale was, however, concerned with the issue of the limited availability of the part-time mother. This present scale is concerned only with the mother's accessibility when she is at home. The working mother will, therefore, be rated only on the basis of her behavior when she has returned home from her work.

- 9 Highly accessible. M arranges things so that she is accessible to B and B to her. She keeps him close enough that she can be aware of his states, signals, and activities. She is very alert to his whereabouts and doings. Even when he is napping in his room she has a selective filter tuned in to any sounds he might make. She is capable of distributing her attention between B and other people and things, and is rarely so preoccupied that she is unaware of B and unresponsive to what he is doing. She rarely, if ever, ignores any active approach or demand of B's, even though she may not do what he seems to want her to do. She does not even pretend to ignore him, but rather acknowledges his presence and his overtures or demands in some way. She rarely, if ever, enters a room without giving B some acknowledgement that she is aware of him.
- 7 Usually accessible. M is usually accessible psychologically. There may be brief periods during which other demands and other activities prevent her from being aware of B and what he is doing, but most usually her attention is "tuned in" to him. She is not as smooth about dividing her attention between competing demands as are women with higher ratings, but rather tends to alternate. Nevertheless she can fairly easily switch her attention to B. She may sometimes be preoccupied enough with her own activities--including activities concerned with B's care--that she fails to acknowledge B, perhaps going in and out of the room without seeming to see B's interest in her presence. For the most part, however, she acknowledges B when she enters a room, especially if they have been apart for more than a few moments. (Mothers may be given this rating also if they habitually and deliberately ignore B under one set of circumstances--for example, ignoring any crying B may do when he is put down for a nap--and yet are highly accessible at most other times.)
- 5 Inconsistently accessible. M is inconsistent in her accessibility to B. Fairly long periods of close attention and accessibility alternate with periods of seeming obliviousness to B, during which M is occupied with other things despite B's presence and perhaps even despite his attempts to catch her attention. The

inaccessibility of some mothers may be quite unpredictable because of a tendency to become easily preoccupied with their own activities and thoughts; other mothers may regularly and routinely plan prolonged periods of unavailability such as during those hours when they do their household chores. During these planned or unplanned periods, M may ignore B when she enters a room, even after a substantial absence, being concerned with other things. She may become so caught up in conversation, activity, or thought that she seemingly forgets about B and ignores what he is doing--responding neither to his attention-getting behavior, nor to dangerous or "naughty" behavior which ordinarily would evoke an intervention. Nevertheless, this mother is more often accessible than inaccessible, and during her periods of accessibility, she is highly responsive to B.

- 3 Often inaccessible, ignoring, or neglecting. M occasionally seems responsive to B's behavior and to the signals implicit in it, but she is more frequently inaccessible than accessible to him. She may be too preoccupied with her own thoughts or activities to notice him, or she may notice and correctly interpret his signals without being moved to acknowledge them. She typically enters and leaves the room without acknowledging B or his signals, whether these are conspicuous, subtle, or muted. If B signals strongly enough or persistently enough, M may respond to him--and in this she differs from mothers with even lower ratings. On the other hand, if the baby is an undemanding baby, and tends not to signal frequently or strongly, the mother's accessibility must be judged in accordance with the extent to which she does acknowledge him, whether he demands it or not. The mother with this rating--and also and even to a greater extent mothers with lower ratings--tends to give B attention with her own programming rather than in accordance with his, although she may give him intense attention in the occasions when she decides to attend to him at all.
- 1 Highly inaccessible, ignoring or neglecting. M is also preoccupied with her own thoughts and activities for most of the time that she simply does not notice B. She enters the room without even looking at him, let alone acknowledging him; his smiles are not returned. When B is elsewhere she seems to forget his existence. B's sounds do not seem to filter through to her. She may talk about B, but it seems that the baby as conceptualized is more real than the baby upstairs crying, or the baby across the room who may be rocking, or playing or even actively demanding her attention. This mother only responds to B when she deliberately turns her attention to do something to or for B--making a project of it. In fact, M rarely "responds" to B in the sense of giving care and social attention contingent upon B's behavior. Rather, M is often so completely unaware of B's signals that her interventions are characteristically at her own whim and convenience.

APPENDIX D

ASSESSOR TRAINING MANUAL

Assessor Training Manual

Outline

Session 1

1. Overview of project.
2. Introduction to Assessment Manual.

Session 2

1. Discuss Assessment Manual.
2. Form Assessment Teams.

Session 3

1. Demonstrate Bayley Items.
2. Give Assessors #1 Bayley kits to practice with.

Session 4

1. Give practice schedules for Bayley administration.
2. Demonstrate the Neonatal Perception Inventory.

Session 5

1. Introduce Ainsworth Feeding Scales.
2. Set up Feeding Scale rating practice.

Session 6

1. Introduce Ainsworth Four Scales.
2. Set up Four Scale practice.

Session 7

1. Introduce Bell-Pairs Test and set up practice sessions.

Session 8

1. Introduce Yarrow Scales and set up practice sessions.

Session 9

1. Discuss rating problems and set up review sessions.

Session 1

An overview of the project will be given to the assessors similar to the one given to the tutors except for a general description of the task of the assessor presented below.

In order to measure the effect of parent training on infant development a number of different measures described in the manual I'm now giving you, i.e., the Assessment Manual, will be administered to each family in their own homes. I would like each of you to read the Assessment Manual very carefully. As you will notice when you read the manual, two different assessor roles are present, i.e., for assessor #1 and #2. Next meeting I will divide you into assessors #1 and #2 and place you in pairs of an assessor #1 and #2. You will then be given the chance to practice the measures you will be responsible for learning. You will also be divided into pairs of the same type of assessors for reliability checks, i.e., to see if you are rating about the same manner as everyone else.

Session 2

After dividing the assessors into Assessors #1 and #2, review the Assessment Manual. Then hold the following discussion of research design and standard instruction:

One of the most important rules to follow of any assessment is what is called standard instruction. This means that each of you must administer a certain test in exactly the same way, i.e., by giving the same instructions, using the same materials, and by doing the same things. If this was not done, then the results one assessor got could not be compared with another assessor's scores since

to alter the administration of the test in any way would alter the meaning of the test. In order to make sure that you are rating the same way as other assessors, you will be asked to rate the same subjects in pairs and your scores will be compared with your partners to see if you are measuring the same things, i.e., to see if your ratings are reliable. Next session we'll go over the Bayley. All assessors are to come to each practice session even if their tests are not the topic of discussion to become familiar with the test their eventual partners will be given.

Session 3

The following goals will be covered this session:

1. Demonstration of the Bayley Mental and Motor Scales.
2. Give out Bayley kits to Assessors #1 to be practiced with during the week.

Session 4

The following topics are to be discussed at this session:

1. Administration problems or questions assessors have concerning the Bayley.
2. Divide assessors #1 into pairs to practice giving the Bayley to pilot infants in a day care setting. While one assessor gives the Bayley and scores it, the partner will only score it. These roles will then be switched. The assessor pairs are to practice the Bayley with two infants from three age groups, i.e., infants of one, twelve, and twenty-four months of age during the next two weeks.

3. After the practice sessions with the Bayley, reliability will be established on five infants from each age group. These infants will be solicited through newspaper ads and will be paid \$5 for their participation. They will be tested in a laboratory setting where the project director will observe the assessor's performance through a one-way mirror. Only one assessor will administer the Bayley while the others score it behind the one-way mirror. Assessor scores will then be randomly paired for reliability testing. This will be done in one weeks time.

4. Demonstrate the Neonatal Perception Inventory (NPI). Have assessors #1 administer the NPI to assessors #2.

Session 5

Discuss the following topics at this session:

1. Introduce the Ainsworth Feeding Scales.
2. Set up rating practice at a local day care center where assessors will be asked to carry out three hour observations per day for five days. Assessors will be asked to rate all the feeding episodes which occur for the target infant during the observation period.
3. The following week reliability tests will be conducted by having the assessors rate in pairs the feeding behavior of parents and ten one month old infants and ten three month old infants presented on one videotape.

Session 6

The following topics will be discussed at this session:

1. Introduce the Ainsworth Four Scales.
2. Set up practice schedules for ratings using the Four Scales. Rating practices will consist of having the assessors view nine videotapes of parent-infant interaction in the home when the infants are one, three, six, nine, twelve, fifteen, eighteen, twenty-one, and twenty-four months of age. Each videotape will be one hour in length. Two videotapes will be rated per day except for the fifth day when only one videotape will be rated. Assessors will be instructed to stop the videotapes at twenty minute intervals to compare their ratings and ask the project director questions.
3. The following week a reliability test will be conducted by having the assessors rate nine new videotapes of the same aged infants as before in pairs. Their reliability will be computed in pairs across all nine videotapes.

Session 7

Discuss the following topics at this session:

1. Introduce the Bell-Pairs Test.
2. Set up practice sessions at a local day care center where each assessor will be required to administer the Bell-Pairs test to two infants, over a two day period. Only six month old infants are to be used as pilot subjects.
3. The following week reliability test will be conducted on ten six month old infants solicited through a newspaper ad offering their parents \$5 for their participation. The infants will be given the

Bell-Pairs test by one assessor in a laboratory setting while the other assessors score the infant's performance behind a one way mirror. Reliability will be computed for each pair of assessors across all ten infants.

Session 8

Discuss the following topics at this session:

1. Introduce the Yarrow Scales.
2. Set up practice sessions for assessors #2 who will be asked to rate nine videotapes of parent-infant interaction, identical to those rated by assessors #1 for practice with the Ainsworth Four Scales. As with the Ainsworth Four Scale practice, the assessors will rate two tapes per day for four days and one tape during the fifth day, stopping the tapes every twenty minutes to compare their ratings and to discuss discrepancies in scoring among themselves and with the project director.
3. The following week reliability checks according to the same procedure as with the Four Scales will be conducted (see Session 6).

Session 9

The following topics will be discussed at this session:

1. Review all measures, checking to see if the assessors have any questions concerning administration (see attached table of training schedule).
2. Set up review sessions to occur one week prior to each assessment visit with the project subjects. The measures to be used at the assessment visit about to occur will be reviewed and discussed at this session.

3. Assign assessor pairs of assessors #1 and #2. Inform assessors that they will be contacted as to the names of the subjects they will rate and as to when the assessment visits are to occur.

Table E. Assessor Training Schedule

		Week										
		1	2	3	4	5	6	7	8	9	10	11
Session	Measure											
3	Bayley	P	P	R								
4(P)	NPI			P								
5	Feeding Scales				P	R						
6	Four Scales						P	R				
7	Bell-Pairs Test								P	R		
8	Yarrow Scales										P	R

P = Practice of measure administration

R = Reliability checks

REFERENCES

REFERENCES

- Ainsworth, M. The Development of Infant-Mother Attachment. In B. Caldwell and H. Ricciuti (eds.), Review of Child Development Research, Volume Three. Chicago: The University of Chicago Press, 1975.
- Ainsworth, M. and Bell, S. Some Contemporary Patterns of Mother-Infant Interaction in the Feeding Situation. In J. Ambrose (ed.), Simulation in Early Infancy. London: Academic Press, 1969.
- Ainsworth, M.; Bell, S.; and Stayton, D. Individual Differences In Strange-Situation Behaviors of One-Year-Olds. In H. Schaffer (Ed.), The Origins of Human Social Behaviors. London: Academic Press, 1971.
- Ainsworth, M.; Bell, S.; and Stayton, D. Individual Differences in the Development of Some Attachment Behaviors. Merrill-Palmer Quarterly, 1972, 18 (21).
- Ainsworth, M. and Blehar, M. C. Development changes in the behavior of infants and their mothers relevant to close bodily contact. Paper presented at the meeting of the Society for Research in Child Development, Denver, 1975.
- Bayley, N. Bayley Scales of Infant Development. New York: Psychological Corporation, 1969.
- Beckwith, L. Relationships between infant's social behavior and their mother's behavior. Child Development, 1972, 43, 397-411.
- Bell, S. and Ainsworth, M. Infant Crying and Maternal Responsiveness. Child Development, 1972, 43, 1171-1190.
- Broussard, E. and Hartner, M. Further Considerations Regarding Maternal Perception of the First Born. In J. Helmuth (ed.), Exceptional Infant Volume II: Studies in Abnormalities. New York: Brunner/Mazel, 1971.
- Carew, J.; Chan, I.; and Halfer, C. Observed intellectual competence and tested intelligence; their roots in the young child's transactions with his environment. Paper presented at the Annual Meeting of the Eastern Psychological Association, New York City, 1975.

- Carr, S.; Dabbs, J.; and Carr, T. Mother-Infant Attachment: The Importance of the Mother's Visual Field. Child Development, 1975, 46, 331-338.
- Clarke-Stewart, A. Interactions between Mothers and their Young Children: Characteristics and Consequences. Monographs of the Society for Research in Child Development, 1973, 38 (6-7 Serial 153).
- Cohen, S. and Beckwith, L. Caregiving Behaviors and Early Cognitive Development as Related to Ordinal Position in Preterm Infants. Child Development, 1977, 48, 152-157.
- Cohen, L. and Campos, J. Father, Mother, and Stranger as Elicitors of Attachment Behaviors in Infance. Developmental Psychology, 1974, 10 (1), 146-154.
- Fowler, W. A Developmental Learning Approach to Infant Care in a Group Setting. Merrill-Palmer Quarterly, 1972, 18 (2).
- Garber, M. "The home environment review." Institute for Development of Human Resources, University of Florida, Gainesville, Florida, 1970.
- Gordon, I.; Guinagh, B.; Jester, E.; and League, R. A Home Learning Approach to Early Stimulation. Final Report to the National Institute of Mental Health, Department of Health, Education, and Welfare, 1974.
- Joint Commission on Mental Health of Children. Crises in Child Mental Health: Challenge for the 1970s. New York: Harper and Row, Publishers, 1970.
- Karnes, M.; Teska, J.; and Badger, E. Educational Intervention at Home by Mothers of Disadvantaged Infants. Child Development, 1970, 41, 925-935.
- Lamb, M. A Defense of the Concept of Attachment. Human Development, 1974, 17, 376-385.
- Lamb, M. Fathers: Forgotten contributors to child development. Human Development, 1975, 18, 245-266.
- Lamb, M. Effects of stress and cohort on mother- and father-infant interaction. Developmental Psychology, 1976, 12, 435-443 (a).
- Lamb, M. Interactions between eight-month-olds and their fathers and mothers. In M. E. Lamb (ed.), The Role of the Father in Child Development. New York: Wiley, 1976 (b).
- Lamb, M. Interactions between two-year-olds and their mothers and fathers. Psychological Reports, 1976, 38, 347-350 (c).

- Lamb, M. Twelve-month-olds and their parents: Interaction in a laboratory playroom. Developmental Psychology, 1976, 12, 237-244 (d).
- Lamb, M. Father-infant and mother-infant interaction in the first year of life. Child Development, 1977, 48, 167-181 (a).
- Lamb, M. Infant social cognition and 'second order' effects. Infant Behavior and Development, 1977, 1 (in press) (b).
- Lamb, M. The Development of Mother-Infant and Father-Infant Attachments in the Second Year of Life. Developmental Psychology, 1977, 13 (in press, (c).
- Lewis, M. and Goldberg, S. Perceptual-Cognitive Development in Infancy: A Generalized Expectancy Model as a Function of the Mother-Infant Interaction. Merrill-Palmer Quarterly, 1969, 15, 81-100.
- Nash, J. The father in contemporary culture and current psychological literature. Child Development, 1965, 36, 261-297.
- Robinson, H. and Robinson, N. Longitudinal Development of Very Young Children in a Comprehensive Day Care Program: The First Two Years. Child Development, 1971, 42, 1673-1683.
- Rubenstein, J. Maternal Attentiveness and Subsequent Exploratory Behavior In the Infant. Child Development, 1967, 38, 1089-1100.
- Schaeffer, E. and Aaronson, M. Infant Education Research Project: Implementation and Implications of a Home Tutoring Program. In R. Parker (ed.), The Preschool in Action: Exploring Early Childhood Programs. Boston: Allyn and Bacon, Inc., 1975.
- Schaffer, H. and Emerson, P. The Development of Social Attachments in Infancy. Monographs of the Society for Research in Child Development, 1964, 29 (e=Serial #94).
- Spelke, E.; Zelazo, P.; Kagan, J.; and Kotelchuck, M. Father Interaction and Separation Protest. Developmental Psychology, 1973, 9 (1), 83-90.
- Stayton, D.; Hogan, R.; and Ainsworth, M. Infant Obedience and Maternal Behavior: The Origins of Socialization Reconsidered. Child Development, 1971, 42, 1057-1069.
- Williamsen, E.; Flaherty, D.; Heaton, C.; and Ritchey, G. Attachment Behavior of One-Year-Olds as a Function of Mother vs Father, Sex of Child, Session, and Toys. Genetic Psychology Monographs, 1974, 90, 305-324.

- Yarrow, L.; Klein, R.; Lomonaco, S.; and Morgan, G. Cognitive and Motivational Development in Early Childhood. In B. Freidlander, G. Sterritt, and G. Kirk (eds.), Exceptional Infant Volume III: Assessment and Intervention. New York: Brunner/Mazel, Inc., 1975.
- 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, 205-218.

MICHIGAN STATE UNIV. LIBRARIES



31293102785239