

CHARACTERISTICS OF NON-VERBAL
FATHERING BEHAVIORS DURING
THE NEWBORN PERIOD

by

Carol Annette Roberts, B.S.N.

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APPROVED:

[Redacted Signature]

William E. Peterson, Ph.D., Associate Professor, Thesis Advisor

[Redacted Signature]

May Rawlinson, Ph.D., Professor, First Reader

[Redacted Signature]

Patricia S. Tomlinson, M.N., Associate Professor, Second Reader

[Redacted Signature]

Linda J. Lutz, M.S., Assistant Professor, Third Reader

[Redacted Signature]

John M. Brookhart, Ph.D., Chairman, Graduate Council

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CHAPTER I

INTRODUCTION

Over the past years attention has been focused on the attachment process and interaction within the family. The major portion of research has been on the mother-child dyad with little mention of the father. Some theorists have gone so far as to say that the infant can only relate to his primary caregiver, assumed to be the mother (Bowlby, 1974). Perhaps this was true when women were expected to be home with the children while the men were outside the home working. This traditional arrangement is being challenged now that more women are joining the work force and men are taking an active part in home-making. The family involvement of the father today is becoming even more complex as fathers are being more actively involved in the prenatal period and the childbearing experience. With these many changes, there seems to have been a revival of interest in the study of fathering and fatherhood (Lynn, 1974).

Changing patterns of family interaction pose a problem for nurses working with the new family. Traditional views of the mother as primary attachment figure to the exclusion of the father must be reassessed. This readjustment poses yet another problem, for while there has been research done on maternal attachment, very little is known scientifically about how fathers respond to the infant. Poor maternal attachment has been implicated as a factor in failure-to-thrive and child abuse (Klaus, 1976). It is possible that faulty paternal attachment could also be a factor in various child and family development problems,

yet observations for abnormal father attachment cannot be accurately made until more is known about the normal process of father-infant interaction. The focus of this study is to examine the behaviors of new fathers as they interact with their newborn infants.

Review of the Literature

Family structure as recorded in modern history has been in a constant state of change (Hutchins, 1977). The father in Greek and Roman times exercised life and death power over the family. In the middle ages, sons were often apprenticed to their fathers. Therefore the father still maintained very tight control over discipline and the child's life. During the eighteenth century, fathers apparently were affected by the prevailing enlightenment of the period and children came to be seen more as people rather than property.

Family life in the last century has undergone perhaps even greater and more rapid changes. From the strict patriarchal structure of the Victorian era, the matriarchal family has emerged (Green, 1976; Nash, 1965). The industrial age has virtually pushed the father out of the home to work so that the mother has become the center of the family and more specifically the parent primarily responsible for childrearing. The father has become the "forgotten man", not only in the family, but also in literature dealing with parenthood (Hines, 1971).

This review of literature will examine the nature of infant attachment in general, instinctual parental attachment, the effect of fathering on the father and on the infant, characteristics of parental-

infant interaction, and finally, the normal parameters for paternal-newborn interaction.

The Nature of Infant Attachment

Some authorities believe an infant can only make initial attachment to one person, the primary caregiver, assumed in most cases to be the mother (Bowlby, 1974). The mother may tend to have a biological edge in parenthood since her involvement with the child begins with physical attachment to the fetus before birth and continues after birth as she nurses the infant. As our society is presently structured, the mother still tends to spend more time at home with the child than does the father. However, some studies have shown that the type of interaction which occurs during the time spent with the child is more important than the amount of time (Lamb, 1976). The infant appears to be able to make multiple primary attachments rather than only one (Schaffer, 1964). To whom an infant attaches appears to more depend on the environment and availability of the significant person than on an instinctual "mother-need" (Schaffer, 1964). Harlow's studies with rhesus monkeys indicate that infant monkeys prefer warm, soft, non-feeding surrogate mothers to cold, hard surrogates who feed them (Harlow, 1965). The findings of these studies may help rule out the idea that feeding by the mother alone excludes other attachments. Weinraub and Frankel's study (1977) of 15- to 21-month-olds demonstrated that the infants did not vary significantly in their free-play behavior with their two parents. It seems probable then that some person other than the mother could be the primary attachment figure or joint-attachment figure with the mother.

Instinctual Parental Attachment

It is generally accepted that there is a maternal instinct of some kind which functions in the normal mother-child relationship. Some authorities feel that an instinct for fathering is absent or greatly different in nature from that of mothering (Green, 1976; Burlingham, 1973; Benedek, 1970). Others feel that fathers as well as mothers have unique responses, that both are valid and should be considered as parenting behavior rather than as mothering or fathering behavior (Kiernan, 1977).

Examples of extensive father involvement in child-raising can be found in other mammals and lower animals (Ryoma, 1976). Cross-cultural studies of human fathers in non-industrial societies have shown that father-infant proximity is related to subsistence adaptation and family organization (Lamb, 1976). Although mothers play a greater role in child care, fathers were closest to their offspring in societies based on gathering and horticulture which represents the sociocultural form that has existed for 99% of human history. In all cultures with monogamous nuclear families, the father was comparatively close to his children.

These animal and human studies suggest the possibility of biological as well as cultural factors which may be involved in the development of fathering (Ryoma, 1976; Earls, 1976; Josselyn, 1956).

Effect of Fatherhood on the Father

It is apparent that pregnancy and childbirth have an effect on fathers (Jarvis, 1962; Greenberg, 1974). The very presence of a third individual within the previous dyad of man and woman indicates changes

in relationships. The effect on the male varies greatly among different groups and cultures, depending on family expectations, learning as a child, and societal mores regarding the male role in the family (Kiernan, 1977). The father in the family may take any role from active participant in childrearing to a totally uninvolved observer (Lamb, 1976; Lynn, 1974).

The American father is exposed to greater flexibility of roles in his family and in society. This flexibility provides him the opportunity to choose how involved with his children he wishes to be. However, he may still encounter frustrations of one kind or another if he tries to be involved. There may at times be a feeling of competition with the mother for the baby (Liedenberg, 1967). He may also be subjected to adverse reactions from peers and family members who feel his interest is unnecessary (Heise, 1975). The mass media portrayal of the father remains generally poor. Fathers are often portrayed as the "non-person" of the family or as the super-human-solver-of-all-problems. These unrealistic images may add to feelings of insecurity and conflict (Kiernan, 1977). A strong, supportive husband-wife or partner-partner relationship appears to be of great importance in determining the ease with which a man makes his transition to fatherhood (Cronenwett, 1974; Wente, 1976; Heise, 1975).

Effect of Fathering on the Infant

Studies of early paternal deprivation indicate that a lack of early paternal attachment may be linked with developmental difficulties in later years, particularly in boys (Biller, 1971). Personality adjustment in college-aged males has been correlated with paternal

nurturance and the availability of the father to the son in early years (Reuter, 1973). Parke's study (1977) demonstrated that infants seemed calmer and happier when their fathers helped care for them. Biller (1974) found well-fathered infants more curious, secure, and trusting. They were also more advanced in motor development. In later years the children also showed increased academic achievement. Goldstein (1977) feels that the father is a role model and teacher for his children. From him they learn how to live with others and function in day to day living.

Although there is not an abundance of information regarding this area, the father-infant relationship appears to be of much greater significance to the infant than once thought.

Characteristics of Paternal-Infant Interaction

A number of researchers have attempted to examine the characteristics of paternal interaction with infants. Fathers of older infants have been found to be more stimulating to the infant and more likely to actively involve the infant in play than the mothers (Burlingham, 1973; Lamb & Lamb, 1976). Paternal interaction tends to be more social than caretaking (Parke, 1976; Rendina, 1976; Lamb, 1977) and more physical than vocal (Rebelsky, 1971). Visual contact with the newborn seems very important to the father (Greenberg, 1974; McDonald, 1978; Rendina, 1976). Fathers have been found to rock and hold their newborns more than mothers (Parke, 1976). Fathers in the delivery room have also been found to "hover" around their newborn and demonstrate patterns of touching similar to mothers (McDonald, 1978).

These findings seem to indicate a unique kind of father-infant interaction rather than a mere replication of the maternal-infant model. Most of the above researchers, however, tend to compare father-infant interaction with mother-infant interaction in order to study it. Kiernan (1977) feels that since fathering is unique, it should be studied in its own right rather than as secondary to mothering.

Normal Parameters for Paternal-Newborn Interaction

It seems apparent thus far that it is possible for infants to attach to the father, that there may be instinctual bases for fathering and that fathering is necessary for the child, although often frustrating to the father. There also seem to be distinctive characteristics of paternal-infant interaction.

Few studies have been done involving actual observation of fathers and newborns. Most of the work cited has been done with children and older infants. These studies have focused on the period of time beginning at about six to nine months of age when the infant may begin showing signs of attachment. This does not seem the best time to begin study. The basis for the relationship between father and child may begin even before birth as the father makes preparation for fatherhood. After birth, but long before the infant begins to attach to anyone, the father has had contact with his baby and crucial groundwork has been laid for the future relationship. Many important observations could possibly be made during the initial meeting of father and baby during the newborn period if more was known about how fathers interact with their newly-born infants.

Some of the studies which deal with fathers and newborns have

primarily used techniques other than direct observation of the father and newborn. Greenberg (1974) in studying what he called "paternal engrossment", focused on the father's perception of the newborn. Questionnaires and interview techniques were used to obtain information. Pedersen (1969) studied father involvement in the early months of life, but his data were based on the mother's perception of father involvement rather than on direct observation or information from the father.

Parke (1976; 1977) used observational techniques in his studies of paternal-newborn interaction. His studies involved direct observation on the postpartum unit with a three-week and three-month follow-up. The mother was also present during some of the observations, which might tend to change the behavior of the father toward the newborn. The findings of these studies are presented primarily in the form of comparison to the behavior of the mother. Parke found fathers held and rocked more than mothers. Touching, looking, vocalizing, and kissing were observed just as often with fathers as with mothers. Mothers did caretaking more often, although fathers were found to be just as sensitive to infant cues as mothers. Another study using direct observational techniques was done by McDonald (1978). Seven fathers present for the delivery of their child in a home-like environment were videotaped for nine minutes immediately after birth with their newborn. Some were first-time fathers, while some were not. The fathers were also from a self-selected population for the study since they and their partner had chosen an alternative birthing method. McDonald found "hovering" behavior and visual contact occurred most frequently. He also observed a touch progression from fingertip to full palmar touch.

Although more research has been done on maternal attachment than paternal, there is little agreement among authorities regarding a definition for maternal attachment. Since research on paternal responses to the newborn is even more sparse, it certainly should be considered premature to attempt a definition of paternal attachment at this time. Direct, quantitative, and qualitative observation of the father-newborn dyad is needed. This kind of purely descriptive observation will assist in the identification of parameters for normal paternal behaviors in the newborn period.

If health personnel in maternity services could identify normal paternal attachment behaviors as well as maternal, the new family could be more effectively assisted in taking on new roles. Fathers experiencing difficulty in attachment could be more effectively supported in the hospital and followed in the home if necessary.

Purpose of the Study

The purpose of this study is to identify characteristics of father-newborn interaction immediately after birth and again at the end of the newborn period, four to six weeks after birth.

CHAPTER II

METHODS

Setting and Subjects

The setting for this study was the maternity unit of the University Hospital in Portland, Oregon. Portland has a metropolitan population of approximately 400,000 people. The University Hospital is a complex operated as a teaching facility by the state of Oregon. At the time of this study, Fall 1976 through Spring 1977, the maternity unit consisted of a postpartum unit, nursery, and delivery suite containing four labor beds and three delivery rooms. The average delivery rate per month during the fiscal year 1976-77 was 162 deliveries. Fathers were allowed in both the labor and delivery areas during the normal birth process. Both parents were allowed to hold the infant after delivery if they desired to do so and no contraindications were present. Mothers were allowed to room-in with their babies and fathers could visit from 10:00 A.M. to 10:00 P.M. each day. Feeding of infants was usually on a demand basis.

Most patients who were delivered in the University maternity unit were seen through the outpatient clinic by resident physicians. Some patients were seen in the county satellite clinics, and later transferred to the care of the University Hospital, where they were delivered. The cost of these clinics was considerably less than a private obstetrician, and could be prorated according to the ability to pay. Private patients could be referred to the University Hospital if they were considered high-risk.

Most patients were delivered by resident physicians or medical students under the supervision of the resident or staff physician. Two nurse-midwives delivered their caseloads of normal patients. The remainder of deliveries were conducted by staff physicians.

The fathers in the present study were the partners of pregnant women from the Portland metropolitan area who met the criteria for participation in the Maternal Role Project conducted by Tomlinson, et al. The mother was between 18 and 35 years of age, Caucasian, and having her first child. She was the daughter of a middle-class family as established by the Duncan-Reise economic scale. The pregnancy, birth, and infant all had to be normal as defined by the maternal high-risk criteria developed by the Maternal Role Project staff (Appendix A).

In addition for this study, this was also the first child for the father, and he was present for the normal vaginal delivery. He was also required to have signed the consent form along with his partner giving permission to be part of this study (Appendix B).

One subject whose wife had a cesarean section for a breech presentation was kept in this study, although this factor caused the couple to be dropped from the main study. It was decided that the mother having a planned cesarean section would not necessarily affect father-infant interaction. This father was not allowed to be present for delivery.

Design

The design of the present study is based on the ethological approach to studying behavior. In ethological studies, the emphasis

is on a preliminary descriptive and observational approach (Jones, 1972). The ethologist uses large numbers of carefully-defined items of behavior as raw data. This raw data can then be used to generate hypotheses which can then be tested by traditional research methods. Hypotheses generated in this manner may be found to be more accurate than those generated by speculation or traditional theory (Jones, 1972). They are also likely to give a more complete view of the research area than would prematurely formed hypotheses not based on observed behavior. Careful description of the observed items of behavior allow accurate replicability and good inter-observer reliability (Jones, 1972).

Since this study deals with a question about which there is little objective, observed information, this approach was chosen for this study. No hypotheses are presented. The goal is to explore and describe the behaviors of fathers as they interact with their newly-born infants. From this and other such studies, hypotheses for further research in this area may be generated.

Although no experimental variables are introduced by the researcher, various independent variables were identified and examined as they related to differences in the fathers' behavior. The following independent variables were examined: sex of the infant, preferred sex, whether pregnancy was planned, attendance at prenatal classes, previous experience with infants, and score on the Dyadic Adjustment Scale, an instrument to measure the adjustment of partners in some type of dyadic relationship.

Data Collection Instruments

Father Interview Schedule. (Appendix D) The purpose of this

tool was to structure the preliminary interview with each father so that the data obtained were as objective and consistent as possible. Such a schedule would avoid omitting important information and time consumed on irrelevant topics. The discussion and questions were stated in such a manner as to avoid biasing the fathers' answers if possible. The interview was audiotaped to avoid having to write during the interview so that no information would be lost or forgotten.

This interview was the first contact the researcher had with the subjects. Two subjects delivered before this interview so these were included in this study from the time of delivery. Before beginning with any data-collecting, it was necessary to discuss the study, answer any questions and obtain the informed consent from each of the ten subjects.

The actual interview began with a brief explanation of the interview and the purpose for the tape recorder. The first questions explored the subject's thoughts regarding fatherhood, fantasies, and role models for fathering. Although these were not questions which directly applied to this study, they were valuable in "breaking the ice" with the subject and also might be used as ideas for possible areas of further study.

The next questions dealt with the subject's preparation for fatherhood. The two main areas of concern were previous experience with babies and children and attendance at prenatal classes. The subjective category of previous experience was coded by the researcher into "none", "little", "moderate", and "much". Although purely subjective, this gave at least the father's perception of his experience.

The father's fantasies regarding the baby were the topic of the next questions. Which sex he preferred the baby to be was one of the variables to be investigated. Greenberg (1974) found that fathers' visual perceptions were important in their interaction with their newborns. Other questions in this section examined the father's visual expectations of the infant. While these questions did not directly relate to this study, they were again exploratory in nature as possible bases for further study.

The last question attempted to identify if the father had planned for this pregnancy at this particular time. It was worded in a manner which should have been non-threatening and non-judgemental to the father.

Dyadic Adjustment Scale. (Appendix E) This scale was developed by Spanier (1976) to measure the adjustment of two people not only in a marriage situation, but in any dyadic relationship. It is easily scored by adding all the point values for the responses of the subject. It is brief and can be self-administered.

Validity for the scale was established in three areas: content, criterion-related and construct. A panel of judges was used to evaluate content validity. To determine criterion-related validity, the scores of married subjects were correlated with the scores of divorced subjects. If the tool is valid it would seem that divorced persons would have lower scores for adjustment. The scores of the married subjects were found to be significantly higher than those of divorced subjects. To establish construct validity, scores on the Dyadic Adjustment Scale were correlated with an older, well-accepted

marital adjustment scale with an overall correlation of .87.

Reliability was established by the use of Cronbach's coefficient alpha. This statistic provides a conservative estimate of internal consistency. The total scale reliability using this statistic was .96.

This tool was administered to the father by the researcher prior to delivery and again at four to six weeks after birth. Scores were obtained for the mother at various intervals for the main study by the Maternal Role Project.

Delivery Room and Home Videotapes. The videotape was chosen as the method for data collection for several reasons. First, it allowed interaction to take place without the presence of a stranger present in the room. In the delivery room, the extra piece of equipment was easily forgotten by the couple during the excitement of the delivery. At home, the family was left with only the camera running so no involvement of the researcher in the interaction occurred. Most couples stated they were aware of the camera's presence, but did not feel inhibited by it. A second reason for the use of videotape is that it acts as a permanent record of the interaction and can be used for many kinds of viewing and many types of data collection. In attempting the in-depth observation required of a study based on the ethological approach, videotape is a useful tool (Jones, 1972). Accuracy of observation between real life observation and videotaped observation has been shown to be very similar (Sackett, 1978a).

In coding the father's behavior seen on the videotapes, the researcher used the interval method of time-sampling. This method

involves choosing an interval of time and scoring each behavior occurrence during the interval. Each behavior is scored only once per interval no matter how often it occurs (Sackett, 1978b). This method requires only minimal, inexpensive equipment and since the demands on observer energy and concentration are lower than real time observation, higher reliability can be achieved (Sackett, 1978b). Disadvantages are that since all behavior is not observed, infrequently occurring behaviors may be missed. Interpretation may be difficult since actual frequency and duration of behaviors are not recorded (Sackett, 1978a). Sequential dependencies among behaviors may also be missed with this method since data is discontinuous. All of these disadvantages may be minimized by use of a short, frequent interval of time for observing behavior (Sackett, 1978b). These short intervals decrease the amount of data missed and make the observation periods a more sensitive measure of actual occurrence.

The fathers' behavior was observed on the delivery tape from the time the infant was presented to the parents for interaction and holding until the infant was removed from the room. The fathers' behavior was observed on the home films both while he and the baby were alone and when the mother was also present. The ranges and average times for these observations are included in Table 1.

TABLE 1

Ranges and Average Times Fathers' Behaviors
were Observed in the Delivery Room, and at
4-6 Weeks at Home with Father and Newborn Alone
and with Father, Mother, and Newborn

| | <u>Range</u> | <u>Average Time</u> |
|--------------------------------|------------------|---------------------|
| Delivery Room | 1-20 minutes | 12.4 minutes |
| Father and Newborn | 9.7-13.3 minutes | 10.4 minutes |
| Father, Mother, and Newborn | 5.3-9 minutes | 7.2 mintes |

Paternal Behavior Observation Form. (Appendix F) The tool for recording the father's behavior was derived from the tool being used by the Maternal Role Project to observe maternal behavior at delivery. The Maternal Role tool is divided into the greeting, interim, encounter, and termination phases of interaction. Under each of these headings, observable, non-verbal behaviors are listed. During each period the mother was observed using the interval time-sampling method and behavior was coded as a check in the appropriate box on the tool. This tool was developed for the Maternal Role Project by in vivo and videotaped observations of mother-infant interaction.

The father behavior form was derived from the maternal tool by using the same format and many of the same operational definitions for behaviors. Only the period of time called "encounter" and "termination" by the Maternal Role Project were used for the father observation. This was the period of time during which the parents were allowed to hold and interact with their infant. Preliminary testing with the maternal tool showed this period to be the most fruitful in obtaining behavioral observations. The same father observation tool was used for both the delivery and home observations in order to add consistency to the analysis of the two sets of data.

The decision to use only non-verbal behavior was made for several reasons. The ethological method of research places emphasis on observed, describable behavior (Jones, 1972). Feelings and attitudes which may be part of verbal interaction between the individuals are difficult to interpret. The ethologist prefers to define behavior in terms of motor patterns rather than trying to interpret meanings and causes

for behavior as may be required with verbal data. It is also felt by ethologists that much of the interpretation of verbal cues is in fact based on non-verbal aspects of speech, so that by including only non-verbal data, the same conclusions may be reached (Jones, 1972). Verbal data is also very distracting and can interfere with the concentration required to do an accurate observation of other behavior.

In developing the Paternal Behavior tool, the researcher viewed several videotapes of fathers at the delivery of their infants. All father behavior observed on these tapes was recorded. These observations were grouped by types of behavior. General categories of non-verbal behavior were identified, as well as specific behaviors in each category. These observations, along with the behaviors on the maternal tool, were the basis for the first draft of the father behavior tool. This tool was used to observe several more videotapes and actually code the behaviors. Modifications in the tool were made as needed. Next the tool was tested for inter-observer reliability by having a trained observer from the Maternal Role Project and the researcher view the same tapes together using the tool. Both a scored interval (S-I) percentage agreement score and an unscored interval (U-I) were calculated by tallying the responses of both observers using the following formulas:

$$S-I = \frac{\text{scored agreements}}{\text{scored agreements} + \text{disagreements}} \times 100$$

$$U-I = \frac{\text{unscored agreements}}{\text{unscored agreements} + \text{disagreements}} \times 100$$

The percentage agreement using the S-I method was 70%. The U-I score was 91%. Using the method suggested by Hawkins and Dotson

(1975), the mean of the S-I and U-I scores was calculated with the result being a reliability score of 80.5%. This method was the one chosen for this study since it seemed most representative and accurate. This method is also a more rigorous measure of reliability. The score of 70% was considered the acceptable score for this study using this method.

In order to maintain reliability throughout this study, one out of every four videotapes was observed by both the researcher and the other trained observer. The remaining three out of four tapes were viewed by only the researcher since the reliability checks demonstrated that reliability was being maintained above the acceptable minimum of 70% (Table 2). If the reliability had dropped during the course of the study, more tapes would have been viewed by both observers until the scores were again acceptable. Validity for this tool at this time would be difficult to establish since the researcher could find no previous studies or other work done on which to base this tool.

The tool lists specific non-verbal behaviors in six categories: visual, affective, proximity, tactile, caretaking, and play. Operational definitions of each behavior were decided upon with the assistance of the definitions for the Maternal Role Project tool (Appendix G). The visual category is concerned with how often and in what manner the father maintained eye contact with the baby. Findings in this category should relate with the findings of the Greenberg study (1974) in regard to the importance of the father's visual perceptions of the newborn. The proximity category was primarily of importance in the delivery room to see how fathers attempted to increase or decrease the

TABLE 2

Interobserver Reliability Scores for Observation
of Two Subjects in Delivery Room and
4-6 Week Home Sequences with Father
and Newborn Alone and Father, Mother,
and Newborn

| | 5-24-78 | 8-15-78 |
|---|------------|------------|
| | Subject 11 | Subject 12 |
| Delivery Room Sequence | 72.8% | 83.6% |
| Father and Newborn Sequence | 73.3% | 74.9% |
| Father, Mother, and Newborn Sequence | 81.8% | 87.5% |

distance between themselves and their baby. The tactile category included how the father touched, held, and moved with the infant. Several of the tactile behaviors came from an unpublished study by Berger and Tomlinson (1975), which looked at differences between father and mother interaction with children. They found significant differences in manner of holding and types of motion engaged in with the child. The caretaking category looked at behaviors such as feeding, grooming, and diapering. Findings for this category were compared with Lamb's studies (1977) which found fathers of older infants less concerned with caretaking than with social and play activities. The play category was included for the same reason and also to serve as a category for interactive behavior which did not readily fit into other categories. The affective category included facial expression and responses. It was included as non-verbal behavior although because of the presence of a mask in the delivery room and the difficulty involved identifying some individuals' affect, it did not prove to be an extremely reliable group of behaviors.

The procedure for coding behaviors was five seconds observation, 15 seconds recording. Behaviors observed during each five second interval were coded as checks in the appropriate column. The columns were numbered at the top to aid in scoring the correct time period. All behaviors occurring during the interval were scored. This meant that many behaviors in several categories were often scored. Only non-verbal behaviors were coded. To avoid possible bias on the part of the observers due to the presence of verbal input, all tapes were viewed with the audio portion turned completely off.

Before beginning the actual study, the tool and procedures were further pilot-tested using several families for home videotaping. This further tested the tool, located problems in the actual procedure and allowed the researcher to practice setting up and conducting the observation.

Procedures

The couples for the study were recruited through the outpatient clinic and county satellite clinics during their third trimester of pregnancy. As the couples were recruited for the Maternal Role Project, they were asked if the father planned to be present for the delivery of their baby. If so, and if the couple lived within the Portland area, the father was contacted by the researcher, who explained the purpose of this study and obtained his consent and his partner's if he wished to participate. The researcher also conducted a brief, audiotaped interview with the father at this time.

Twelve subjects were recruited into the study initially. Two were dropped from the study, one due to the subject changing his mind and one due to the delivery of an infant with severe congenital anomalies.

As part of the Maternal Role Project, each delivery was videotaped from the time of birth until the newborn was taken from the delivery room. These same films were used by the researcher for the first observation of father interaction with the newborn. The videotaping equipment was compact, relatively unobtrusive, and required no extra lighting. It was positioned in the delivery room so that the mother was only viewed from the waist up and the father was sitting

beside her head and was usually clearly seen (Appendix C). After delivery but before the newborn was taken from the room, the mother was given the opportunity to hold the newborn. Some of the fathers also held the newborn at this time if they desired to do so, or if the circulating nurse offered the opportunity.

Of the ten subjects recruited, seven were videotaped in the delivery room. One delivery was not taped since it was by cesarean section. At one delivery there were mechanical problems with the videocamera. The third missing tape is accounted for by the individual scheduled to do the filming missing the delivery.

At between four and six weeks after birth, the father was observed interacting with the newborn in the home. This encounter was videotaped using much the same equipment as described earlier. The videotaping equipment was set up as unobtrusively as possible. The tape pack was placed out of sight if possible, so that only the camera was visible. The father was asked to hold, play, or interact with the newborn however he wished without the mother present for approximately 10 minutes. The researcher sent the mother back in after this period of time to join the father and newborn. The interaction with all three present was videotaped for approximately 10 minutes. Neither parent was told prior to the filming exactly how long they would be videotaped. The camera was set up and allowed to run unattended while the researcher remained out of the room. After the filming, a Dyadic Adjustment Scale was administered to the father.

Seven home tapes including father and newborn were collected. One tape was of poor quality and not viewable for scoring. One

subject moved out of the Portland area before the home visit could be arranged. The last subject was unable to complete the study for personal reasons. Five of the videotapes done in homes also included the mother for part of the time as planned. The mother was not available to be taped on two occasions.

Analysis

The raw data from the Paternal Behavior Tool for each sequence of observation was analyzed using a modified frequency score. The modified frequency score is calculated by taking the number of occurrences for a given behavior and dividing it by the total number of scored intervals on the tape (Sackett, 1978b). This resulting fraction is multiplied by 100 to be presented as a percentage of occurrence. The modified frequency score was calculated for each behavior on each viewed sequence.

After these calculations were completed, mean modified frequency scores were computed for each behavior in each set of sequences: delivery room, father and newborn only, and father-mother-newborn. Any behavior with a mean modified frequency score of less than 5% on repeated observations was deleted from analysis. This low score indicated that the occurrence rate was so low that it was felt not to be significant for the purpose of this study.

In order to examine the various independent variables and their effect on fathers' behavior, the total group of subjects was divided into several subgroups. These subgroups included prenatal classes taken or not taken, planned or unplanned pregnancy, preferred sex delivered or not delivered, and amount of experience with babies and

children. Modified frequency scores for each behavior in the subgroups were calculated and compared. Due to the small subject sample and missing data problems, no formal statistical analysis was attempted. However, the findings will be reported as possible bases for further study.

CHAPTER III

RESULTS AND DISCUSSION

Results

The mean modified frequency scores for each behavior included in analysis are presented in Table 3. Of the six categories of behaviors included on the scoresheet, visual, tactile, and play were most valuable. The affect category was impossible to score in the delivery room due to the presence of the father's mask. It was often difficult to score in the home due to the use of available light and the difficulty in analyzing such fine variations in expression. For accurate scoring, more well-defined behaviors would need to be utilized. The smiling category was kept for analysis because it occurred over 5% of the time, however, its significance is still doubtful. The proximity category in the delivery room was also difficult to score due to the movement and activity going on around the couple and the difficulty in determining why the father moved. Two behaviors, reaching toward and moving toward the baby, were retained in the analysis because their mean modified frequency score was greater than 5%. Once again, though, their reliability is dubious due to the difficulties mentioned. The caretaking category was rarely scored on most of the tapes, probably due to the situation being arranged rather than a truly natural one in the home. However, several fathers did feed during taping and this behavior was kept in for analysis.

In the visual category, the father looked at the newborn in other ways more than he gazed enface in all sequences. There was more gazing enface when the father was alone with the newborn than

| CATEGORY | Visual | | | Affect | | Proxi- mity | | Tactile | | | | | | | Care- taking | | Play | |
|---------------------------|---------------|--------------|------------------|-----------------|--------|----------------|--------------|-----------------|---------|------|--------------|-----------------------|---------|----------|-----------------|---------|------|-----------------|
| | Looks at baby | Gazes enface | Looks at partner | Looks elsewhere | Smiles | Reaches toward | Moves toward | Fingertip touch | Strokes | Pats | Holds on lap | Holds at arm's length | Cradles | Embraces | Rocks | Bounces | | Meets oral need |
| DELIVERY ROOM | 57 | 26 | 16 | 25 | - | 5 | 14 | 10 | 2 | 0 | 0 | 12 | 15 | 0 | 7 | 13 | 0 | 0 |
| FATHER-NEWBORN | 55 | 37 | - | 21 | 19 | - | - | 14 | 2 | 9 | 33 | 15 | 38 | 12 | 14 | 21 | 7 | 14 |
| FATHER-MOTHER- NEWBORN | 68 | 25 | 23 | 9 | 25 | - | - | 16 | 7 | 2 | 24 | 17 | 2 | 2 | 17 | 5 | 1 | 3 |

TABLE 3

Mean Modified Frequency Scores as Percentages
for All Subjects in Delivery Room and Home Sequences
at 4-6 Weeks with Father and Newborn Alone
and Father, Mother and Newborn

when the mother was also present. If the "gazes enface" and "looks at baby" scores are added together, the total percentage of the time that the father maintained visual contact with the newborn can be calculated. In the delivery room, this contact is 83%, in the father-newborn sequence it is 92%, and in the father-mother-newborn sequence it is 93%.

There were very low occurrence rates for behaviors in the tactile category dealing with the type of touch the father exhibited toward the infant. Fingertip touch occurred more frequently than any other type of touch in all observations.

Types of holding behavior varied in the delivery room and at home. In the delivery room, cradling and arm's length holding were the only types of holding observed. One father was not allowed to hold his baby. The percentage of time the father was allowed to hold his baby varied from 14% to 57%. In the father-newborn sequences, cradling and on-lap holding occurred most frequently. In the father-mother-newborn sequences, the fathers used on-lap and arm's length holding most frequently. During these sequences with the mother present, the father held the newborn 45% of the time. In only one tape did the father hold the newborn the entire time the mother was present.

The tactile category behaviors dealing with movement include bouncing and rocking. Bouncing was twice as frequent as rocking in the delivery room. In the father-newborn sequences, bouncing was still more frequent than rocking although not as much so as in the delivery room. However, when the mother was present the fathers rocked three times as frequently as they bounced the newborn.

There were no play or caretaking behaviors scored in the delivery room. During the father-newborn observation, play occurred twice as frequently as caretaking. When the mother was present, caretaking and play both dropped dramatically.

The mean modified frequency scores for the different subgroups examined are presented in Tables 4-6. Although the groups are small, there are some findings and tendencies that should be noted. Table 7 includes subject data for the subgroups.

In comparing the group of fathers who took prenatal classes with those who did not, very little difference in delivery room behavior was observed. However, in the father-newborn home sequence, there was one-third less looking at the infant and no enface gazing at all in the no prenatal class group. There was also no play behavior and only one-third as much bouncing or rocking in the no prenatal class group.

The planned versus unplanned pregnancy groups also showed very little behavioral difference in the delivery room. In the father-newborn sequence, there is approximately a 10% increase in the amount of total visual contact with the infant and twice as much enface gazing for the fathers who experienced a planned pregnancy. There was also 20 times more touching, including fingertip, patting, and stroking in the planned pregnancy fathers. These fathers also played twice as much, fed the newborn more, but bounced only half as much. In the triad sequence there was little difference in most behaviors. However, fathers in the unplanned pregnancy group held the newborn and rocked the newborn more than the other group.

There were few differences noted between the group whose newborn was not the desired sex and the group who had no preference or deli-

| CATEGORY | Visual | | | Affect | Proxi- mity | | Tactile | | | | | | | Care- taking | | Play | | |
|--------------------------------|---------------|---------------|------------------|--------|-----------------|--------|----------------|--------------|-----------------|---------|------|--------------|-----------------------|-----------------|----------|------|-------|---------|
| | Looks at baby | Gazes enfaced | Looks at partner | | Looks elsewhere | Smiles | Reaches toward | Moves toward | Fingertip touch | Strokes | Pats | Holds on lap | Holds at arm's length | Cradles | Embraces | | Rocks | Bounces |
| Prenatal Classes | 60 | 24 | 13 | 22 | - | 5 | 2 | 12 | 3 | 0 | 0 | 14 | 13 | 0 | 8 | 16 | 0 | 0 |
| No Prenatal Classes | 43 | 36 | 34 | 45 | - | 2 | 8 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 21 | 0 | 0 | 0 |
| Planned Pregnancy | 57 | 22 | 18 | 20 | - | 6 | 22 | 20 | 0 | 0 | 0 | 80 | 19 | 0 | 1 | 12 | 0 | 0 |
| Unplanned Pregnancy | 43 | 39 | 17 | 29 | - | 8 | 11 | 0 | 0 | 0 | 0 | 28 | 14 | 0 | 10 | 28 | 0 | 0 |
| Preferred Sex Delivered | 56 | 31 | 18 | 20 | - | 4 | 8 | 4 | 0 | 0 | 0 | 8 | 8 | 0 | 10 | 0 | 0 | 0 |
| Preferred Sex Not Delivered | 58 | 22 | 15 | 28 | - | 6 | 18 | 14 | 0 | 0 | 0 | 14 | 21 | 0 | 5 | 23 | 0 | 0 |
| No Experience with Babies | 24 | 56 | 28 | 5 | - | 2 | 14 | 2 | 0 | 0 | 0 | 23 | 0 | 0 | 2 | 0 | 0 | 0 |
| Little Experience | 44 | 23 | 30 | 50 | - | 4 | 5 | 4 | 0 | 0 | 0 | 0 | 42 | 0 | 10 | 18 | 0 | 0 |
| Moderate Experience | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Much Experience | 100 | 0 | 0 | 0 | - | 0 | 50 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

TABLE 4

Mean Modified Frequency Scores as Percentages for
Subgroup Comparisons in Delivery Room Sequences

| CATEGORY | Visual | | | Affect | Proxi- mity | | Tactile | | | | | | | Care- taking | Play | | | |
|--------------------------------|---------------|--------------|------------------|-----------------|----------------|----------------|--------------|-----------------|---------|------|--------------|-----------------------|---------|-----------------|-------|---------|-----------------|-------|
| | Looks at baby | Gazes enface | Looks at partner | Looks elsewhere | Smiles | Reaches toward | Moves toward | Fingertip touch | Strokes | Pats | Holds on lap | Holds at arm's length | Cradles | Embraces | Rocks | Bounces | Meets oral need | Plays |
| Prenatal Classes | 54 | 43 | - | 14 | 23 | - | - | 17 | 2 | 11 | 38 | 18 | 29 | 14 | 16 | 24 | 7 | 17 |
| No Prenatal Classes | 62 | 0 | - | 58 | 0 | - | - | 0 | 0 | 0 | 0 | 0 | 96 | 0 | 0 | 7 | 7 | 0 |
| Planned Pregnancy | 42 | 57 | - | 11 | 35 | - | - | 29 | 1 | 1 | 44 | 6 | 34 | 10 | 0 | 15 | 14 | 21 |
| Unplanned Pregnancy | 56 | 21 | - | 46 | 15 | - | - | 2 | 0 | 0 | 22 | 8 | 64 | 4 | 0 | 27 | 4 | 11 |
| Preferred Sex Delivered | 65 | 23 | - | 22 | 6 | - | - | 6 | 4 | 12 | 23 | 18 | 46 | 15 | 24 | 22 | 12 | 7 |
| Preferred Sex Not Delivered | 42 | 56 | - | 13 | 37 | - | - | 26 | 0 | 5 | 46 | 11 | 29 | 8 | 0 | 21 | 0 | 24 |
| No Experience with Babies | 55 | 22 | - | 43 | 12 | - | - | 7 | 2 | 7 | 19 | 0 | 72 | 7 | 0 | 10 | 24 | 7 |
| Little Experience | 22 | 75 | - | 3 | 58 | - | - | 44 | 0 | 6 | 39 | 17 | 14 | 11 | 0 | 0 | 0 | 19 |
| Moderate Experience | 55 | 50 | - | 3 | 24 | - | - | 28 | 0 | 10 | 55 | 0 | 40 | 6 | 0 | 15 | 0 | 31 |
| Much Experience | 50 | 42 | - | 33 | 30 | - | - | 5 | 0 | 0 | 44 | 17 | 33 | 8 | 0 | 47 | 0 | 22 |

TABLE 5
Mean Modified Frequency Scores as Percentages
for Subgroup Comparison in Father-Newborn Sequences
at Home at 4-6 Weeks

| CATEGORY | Visual | | | Affect | Proxi- mity | | Tactile | | | | | | | Care- taking | | | | |
|-----------------------------|---------------|--------------|------------------|-----------------|----------------|----------------|--------------|-----------------|---------|------|--------------|-----------------------|---------|-----------------|-------|---------|-----------------|-------|
| | Looks at baby | Gazes enface | Looks at partner | Looks elsewhere | Smiles | Reaches toward | Moves toward | Fingertip touch | Strokes | Pats | Holds on lap | Holds at arm's length | Cradles | Embraces | Rocks | Bounces | Meets oral need | Plays |
| Prenatal Classes | 68 | 25 | 23 | 9 | 25 | - | - | 16 | 7 | 2 | 24 | 17 | 2 | 2 | 17 | 5 | 1 | 3 |
| No Prenatal Classes | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Planned Pregnancy | 67 | 26 | 21 | 5 | 25 | - | - | 22 | 5 | 3 | 15 | 11 | 4 | 1 | 0 | 2 | 2 | 4 |
| Unplanned Pregnancy | 65 | 26 | 26 | 30 | 48 | - | - | 9 | 17 | 0 | 48 | 0 | 0 | 0 | 0 | 17 | 0 | 4 |
| Preferred Sex Delivered | 59 | 36 | 26 | 6 | 22 | - | - | 15 | 6 | 3 | 32 | 32 | 2 | 2 | 42 | 3 | 3 | 2 |
| Preferred Sex Not Delivered | 74 | 18 | 21 | 11 | 27 | - | - | 16 | 7 | 1 | 19 | 7 | 4 | 1 | 0 | 6 | 0 | 4 |
| No Experience with Babies | 50 | 50 | 25 | 12 | 44 | - | - | 25 | 12 | 6 | 38 | 12 | 0 | 0 | 0 | 6 | 6 | 0 |
| Little Experience | 78 | 11 | 15 | 0 | 15 | - | - | 18 | 0 | 0 | 0 | 8 | 11 | 4 | 0 | 0 | 0 | 0 |
| Moderate Experience | 78 | 17 | 22 | 4 | 17 | - | - | 22 | 4 | 4 | 8 | 13 | 0 | 0 | 0 | 0 | 0 | 8 |
| Much Experience | 65 | 26 | 26 | 30 | 48 | - | - | 9 | 17 | 0 | 48 | 0 | 0 | 0 | 0 | 17 | 0 | 4 |

TABLE 6

Mean Modified Frequency Scores as Percentages
for Subgroup Comparison in Father, Mother, Newborn Sequences
at Home at 4-6 Weeks

TABLE 7

Number of Subjects in Each Subgroup
Used for Comparative Analysis of Data

| SUBGROUPS | NUMBER OF SUBJECTS |
|--|--------------------------|
| Prenatal Classes Attended | 8 |
| No Prenatal Classes | 2 |
| Planned Pregnancy | 4 |
| Unplanned Pregnancy | 3 |
| Ambivalent | 1 |
| Data Not Given | 2 |
| Desired Sex Delivered | 2 |
| Desired Sex Not Delivered | 6 |
| No Preference | 2 |
| Experience with babies or young children | |
| None | 2 |
| Little | 2 |
| Moderate | 1 |
| Much | 2 |
| Data Not Given | 3 |

vered the desired sex. The desired sex group rocked consistently more, but played less than the other group. The desired sex group held the newborn 20% more of the time when the mother was present than the other group.

The subjects were divided into four groups on the basis of previous experience with babies and children. Fathers who had much experience maintained more visual contact in the delivery room, but there was not much difference in this behavior in the home sequences. The much experience group touched the newborn more in the delivery room, the moderate and little experience groups touched more in the father-newborn sequence, while the no experience group touched the newborn more in the sequence while the mother was also present. The much experience group bounced the baby more than the other groups in the home sequences while the no experience group fed the infant more. The groups with no experience and much experience held the infant the most when the mother was also present.

The Dyadic Adjustment Scale scores for the subjects who completed both a prenatal and postnatal questionnaire are included in Table 8. Also included are their partners' scores. One subject's score dropped one point at the postnatal visit. All others increased from six to eleven points. All the partners' scores which were available increased from three to 14 points.

| | Father Prenatal DAS | Father Postnatal DAS | Father Change | Mother Prenatal DAS | Mother Postnatal DAS | Mother Change |
|------------|---------------------|----------------------|---------------|---------------------|--|---------------|
| SUBJECT 1 | 121 | 120 | -1 | 117 | 124 | +7 |
| SUBJECT 5 | 114 | 121 | +7 | 98 | 101 | +3 |
| SUBJECT 6 | 117 | 123 | +6 | 119 | no postnatal score - dropped from main study due to cesarean section | |
| SUBJECT 8 | 119 | 125 | +6 | 106 | 120 | +14 |
| SUBJECT 12 | 117 | 128 | +11 | 122 | 130 | +8 |

TABLE 8

Dyadic Adjustment Scores for Fathers and Mothers
at Prenatal and Postnatal Visits and the Changes Between Each
of the Sets of Scores

Discussion of Findings

Some of the findings of this study correlate well with other studies dealing with fathers and infants. Greenberg's study (1974) of first-time fathers found that visual perception of the newborn seemed very important and that fathers felt "drawn to" the newborn. McDonald's study (1978) found fathers maintained visual contact 77% of the first three minutes of observation. Prolonged gazing was found 60% of this time and "hovering" behavior was noted. The present study found that fathers maintained visual contact with their infant 83% of the time in the delivery room and over 90% of the time in their homes. The delivery room percentage correlates well with McDonald's study. The lower percentage in the delivery room than in the home might be accounted for by the many activities going on and the many people involved in the delivery which could divert the father's attention. At four to six weeks of age the newborn is also becoming more responsive to people, and may be smiling and maintaining more eye contact. These factors could also help account for the higher percentage of visual contact at this time.

The most enface gazing was observed in the father-newborn sequences. This seems reasonable since the father's attention is on the infant and he is controlling how the infant is held. With the mother present, the infant is being "shared" and the father may not feel he can keep the infant to himself. He may hold the infant or mother may hold the infant so that they both can see and interact rather than either one maintaining the more personal enface gaze.

The findings in touching behavior indicate that fathers do mostly fingertip touch rather than stroking or patting. Klaus (1976) indicates that mothers with their infants progress from fingertip to full palmar touch. McDonald (1978) found this same progression in his delivery room study of fathers. The present study did not find the same touch progression. McDonald's study was done in a home-like setting rather than in the traditional setting. If the father felt free to handle the infant in any way he wished, perhaps the same progression would have been seen. Another possibility is that fathers simply are not as comfortable with touching and stroking their infants and do not engage in these behaviors as frequently.

In the delivery room, fathers seemed to hold the newborn the way the nurse handed the newborn to him. Rarely did fathers change the way they were holding the infant. Holding position also varied as to whether the father was seated or standing when he was given the infant. The absence of changes in the holding position could indicate that fathers did not feel comfortable enough with either the situation or the newborn to risk changing how the nurse had arranged things. In the home sequences, some fathers still tended to stay with the infant in primarily one position while others moved the baby and themselves around very frequently to different positions.

At home, the type of holding varied with the presence of the mother. When mother was present, fathers held the infant most on their laps and at arm's length, both of which may foster three-way interaction. When father and newborn are alone, there is more cradling than any other type of holding. There is also more embracing of the infant when the mother is not present. This may indicate more intimate, personal kinds

of interaction between infant and father are occurring during this time. Also, giving the infant up to the mother when she is present accounts for some of the decrease in overall father behaviors. Holding on the lap occurs quite frequently with father and newborn alone as well as when mother is present. Playing often occurred while holding the infant on the lap, leaving both hands free to interact with the infant. This position also allowed visual contact with the infant and particularly enface gazing to be easily maintained.

The last behaviors in the tactile category refer to the type of movement in which the father engages while holding the infant. The Berger-Tomlinson study (1975) found that fathers tended to bounce the infant while mothers rocked more frequently. The findings from the present study partially support that earlier study. In the delivery room and in the father-newborn sequences, fathers were found to bounce more than rock. When the mother was present at home, however, fathers tended to rock more than bounce. Possibly when the mother was present, the father was imitating the mother's method of movement. The father may sense a negative response from the mother when he engages the infant in more vigorous bouncing behavior. It might also be possible that rocking behavior demonstrates more comfort with the infant so that the father may be feeling more at ease when the mother is also present. Another possibility is that the behavior decreased simply because the father was not holding the infant as frequently in most sequences while the mother was present.

In his studies of older infants, Lamb found that fathers take on a socializing role rather than a caretaking role in most instances. Comparing the caretaking category with the play category in the present

study supports Lamb's finding. The only caretaking behavior scored in the significant range was "meeting oral need". In all instances this involved feeding the infant. Neither playing behavior nor feeding behavior occurred at all in the delivery room. This is to be expected due to the surrounding events and activities. In the home sequences, play occurs at least twice as often as feeding. Both behaviors occurred more frequently when mother was absent. Play behavior with father and newborn present occurred 14% of the time. This percentage may seem low when compared with Lamb's emphasis on fathers in this playing role. However, considering that the newborn is just beginning to be responsive and that Lamb's studies dealt with older, more developed infants, this study's finding does seem to indicate that the father's role as a socializer rather than as caretaker may be established early in the child's life. The videotaping was also an artificial situation in which the father may not have felt free to act normally. Fathers may feed and do other caretaking behaviors for the infant more than this study indicates.

In one of his studies, Parke (1976) found that the fathers tended to be most dominant in infant interaction when mother, father, and infant were present. This finding does not seem to be borne out by this study. Out of the five sequences including mother, father, and newborn, in only one instance did the father hold the baby throughout the entire time while the mother remained primarily a spectator. In the others, the father gave the infant voluntarily or the mother took the infant from the father. In one sequence there even seem to be a slight conflict over who got to hold the infant, with mother winning

out. The average percentage of time the father held the newborn while the mother was present was only 45%. This seems to indicate that, based on non-verbal behaviors alone, mothers were more dominant at least in controlling the infant when with father and newborn.

Further studies with larger numbers of subjects are needed to support or add to these findings regarding paternal attachment behaviors. More in-depth study of the various behavior categories would also be helpful in order to help determine which behaviors are most valuable in assessing attachment. While the present study only looked at what behaviors occur between fathers and infants, in the future some evaluation of what constitutes positive or negative attachment needs to be done so that assessment of the quality of attachment and predictions of future adjustment can be made. This type of study will require development of a more refined attachment assessment tool to use during observation of father and baby and longitudinal observation for long-term effects.

Discussion of findings in the subgroups of this study must be cautious due to the small subject numbers and the lack of a valid statistical method to compare the findings for significance. However, some tendencies can be identified which may be used for further research.

Observations made in the delivery room seemed to show little differences in fathers' behavior toward the newborn among any of the subgroups. More and greater differences were found in the home sequences. This may indicate that the new, unfamiliar setting with lack of any control on the father's part in the delivery room may not be the optimal setting to assess father-infant interaction. Perhaps a rooming-in or other less rigid hospital setting would be a better place to observe

interaction. Another possibility is that the factors examined may not make much difference until the family is functioning at home on a day-to-day basis over a period of time. It is also possible that factors observed may not be significant at all, while others may be found which are more predictive.

Generally, the groups of fathers who had prenatal classes and who experienced a planned pregnancy exhibited more of the fathering behaviors identified in this study than did their comparison groups. This finding seems reasonable since these two factors might indicate a more positive attitude toward the pregnancy and more preparation for the role of father. These attitudes could result in a more positive, active approach to interaction with the infant.

Delivery of the preferred sex appeared to have very little effect on the behavior of the fathers toward the infant. This may indicate that although a preferred sex is stated, by the end of the newborn period any conflict has been resolved. Another possibility is that no conflict is ever present and fathers accept either sex just as easily. An interesting follow-up question at the four to six week visit might be whether the father still would have preferred the opposite sex.

The factor of previous experience with babies and children demonstrated no clear-cut findings. The fathers with most experience exhibited more touch in the delivery room, but the little and moderate groups touched most when alone with the infant. The fathers with no experience touched most with the mother also present. Perhaps these fathers needed the mother present to feel comfortable doing this, while the fathers with most experience were comfortable enough to touch the infant immediately in the delivery room. The much experience group

did more bouncing of the infant than the other groups. The no experience group fed the infant more than the other groups. Perhaps inexperienced fathers need a task to do with the infant during the interaction more than fathers with more experience around children.

The factors discussed above as well as many other which may affect the quality of father-infant attachment need to be further analyzed with larger groups of fathers. Once risk factors and other indicators of future father-infant attachment are identified, health personnel who are involved with new families can have a better basis for assessment of attachment and identification of families at risk for attachment problems.

Normal pregnancy and birth are considered by most authorities to be a maturational crisis for a couple. During this period of crisis, the couple's relationship undergoes stress. Changes in the relationship may be expected to occur at this time. It might be assumed that these changes would be negative, although this study did not find this to be the case. One father's Dyadic Adjustment score went down by one point at the home visit. This decrease is negligible, so that the score could be identified as remaining virtually the same. All other fathers' scores increased by six to eleven points after delivery. Thinking that the fathers' perceptions of their relationships might vary from those of their partners, the partners' scores were also compared. All partners' scores obtained showed an increase post-delivery.

In this small sample of couples, dyadic adjustment from the third trimester of pregnancy to the four to six weeks after delivery seems to have improved. The stress of pregnancy may have caused the first score to be lower than during the pre-pregnancy period, so that comparison to

a score obtained prior to pregnancy might have been more enlightening in assessing changes in the relationship. Follow-up study to see if the adjustment score remains the same or varies as the couple adjusts to their roles as parents would be of assistance in working with new parents.

Implications for Nursing

Nurses on maternity units are becoming increasingly aware of the need to foster maternal-infant attachment during the hospital experience. They are also beginning to realize the need to assess the attachment process and be alert to problems requiring follow-up or referral. Many hospitals are including the father in the experience, although still on a limited basis in most instances (Gollober, 1976). A research basis for normal father-infant attachment does not exist, however. There is also little available data on the impact of childbirth on the father and his relationship to his partner.

This study, as a descriptive observation of fathers' behaviors, can act as a basis for further study in this area. It also indicates the types of behavior the nurse can look for as she works with fathers and newborns. One area in which this study shows that the nurse can influence the father's interaction with the infant is in the delivery room. She controls whether the father holds the newborn and for how long in most cases. It was also found that fathers tended to stay in the position in which the nurse gave him the infant. Therefore, the nurse should be careful how this is done. The father should be comfortable and positioned so he can see the infant well. He may also need to be given permission to touch or unwrap if this is allowed.

During the postpartum stay, opportunity for father-infant interaction should be allowed. The nurse should be available to observe interaction of not only father and newborn but also of the father, mother, and newborn triad and the father-mother dyad. Discussion with the couple regarding the father's role in the care of the infant at home would be most helpful. Whether there will be times when the father is with the infant alone and how prepared he feels for these times are two important issues. Nursing intervention to help the father become more comfortable with the infant may be beneficial. A special bath demonstration for fathers without mothers present might be an interesting possibility. This class would allow questions and discussion that fathers might be embarrassed to pursue with mothers present. One group in Portland has begun prenatal fathering classes for expectant fathers. These classes seem to be a definite step in the right direction in the teaching area of expectant fathers, but postpartum continuation of teaching needs to be included.

Anticipatory guidance for the mother regarding her role in helping the father be involved with the infant might be another area for postpartum nursing intervention. This study seemed to indicate that mothers were dominant in the triad interaction and at times actually took the infant from the father. Mothers may need to know that the father may not handle the infant or care for the infant exactly as she does. Her assistance to help him feel comfortable and valuable rather than incompetent and useless even at the very first may lead to a better father-child relationship and a better "mutual parenting" bond between father and mother.

Later nursing contact with the family through home or doctor office visits should include evaluation of the father-infant relationship and further guidance and assistance as necessary. Assessment of the parental relationship and adjustment would also be important data to obtain.

Fathering is an important part of parenting and has been underestimated in the past as far as its importance in child development as well as family development. Nursing is in a unique situation to be able to improve the quality of involvement of fathers and assess father-infant interaction. This study has attempted to observe and describe father's behavior toward their newborn infants and relate this to nursing opportunities for improving the quality of the initial fathering experience.

Limitations

This study did not attempt to examine the father's personality as it might have related to his interaction with his infant and his role as father. The scope of this study did not allow for considering other variables which may affect the father-newborn interaction in the delivery room such as the relationship with the physician or delivery staff, or the difficulty of the labor and delivery. The beginning of the father-infant relationship which may occur prior to delivery during the nine months of pregnancy and even before was also excluded. Some exploratory questions were included regarding the prenatal area only for the purpose of using the responses as ideas for future study in the area.

Another limitation of this study is its number of subjects. A total of ten subjects were included in the study. However, due to

various problems mentioned earlier, complete data including delivery, father-newborn and father-mother-newborn sequences were obtained on four subjects. The number of contacts with the families and the volume and scope of data collected on all subjects is such that it helps overcome to some extent the small number of subjects. Trends and tendencies in behaviors can be identified as well as areas for further investigation, although broad generalization with such a sample is not possible.

CHAPTER IV

SUMMARY AND CONCLUSIONS

This study of ten first-time fathers collected videotapes at delivery and four to six weeks after birth to observe and analyze non-verbal fathering behaviors using an interval time-sampling method. Comparisons were made between behaviors observed in the delivery room, at the home visit with father and baby only, and with father, mother, and baby present. Variations in behavior were found to occur in each of these different situations and an attempt to explore possible reasons for these findings is made.

Planned pregnancy and participation in prenatal classes seemed to increase the number of observed fathering behaviors. Other variables did not appear to give definite patterns of behavior. Dyadic Adjustment scores indicated an improved relationship between partners from prior to delivery to the post-delivery home visit.

The findings of this study were compared to other research in this area. Implications for nursing are included with practical suggestions for implementation.

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APPENDICES

APPENDIX A

Maternal High-Risk Criteria

Exclude if one of these criteria occur:

- significant bleeding after 12 weeks
- severe toxemia
- malignancy
- gestational diabetes
- polyhydramnios, oligohydramnios
- family history of genetic disease with a high probability of affected infant
- severe pre-existing hypertension
- serious intercurrent disease (e.g. first trimester rubella)
- toxemia treated with MgSO₄
- prematurity (less than 38 weeks or 2500 gms)
- infant depressed (5 min. Apgar 6 or less)
- hyperbilirubinemia requiring continuous phototherapy
- multiple pregnancy
- chronic renal disease
- chronic heart disease
- diabetes
- psychosis
- cesarean section
- breech
- mid-forcep delivery
- RDS
- congenital defect or anomaly
- hemorrhage over 1000 cc

Exclude if any two or more of these occur:

- three or more previous spontaneous abortions
- more than two previous therapeutic abortions
- infertility
- hospitalization related to the pregnancy
- excessive weight gain (over 35 pounds)
- inadequate weight gain (less than 10 pounds)
- anemia (Hgb less than 10, unresponsive to treatment)
- intrauterine growth retardation
- thyroid disease
- chronic lung disease
- chronic neurological disease
- labor more than 25 hours or less than 3 hours
- premature or prolonged rupture of membranes

APPENDIX B

Informed Consent for Fathering Study

I, _____, agree to be a subject in the research study, Characteristics of Non-verbal Fathering Behavior During the Newborn Period, at the UOHSC School of Nursing by Carol Roberts, R.N., under the supervision of Dr. Wilma Peterson. The aim of this study is to add to our knowledge of father-child interactions and aid in the development of better nursing care for fathers and infants. The procedures in which I will participate will include the completion of a questionnaire regarding my relationship with my partner, an audio-taped (sound-recorded) interview several weeks before delivery, and a video-tape (TV recording) of me with my newborn infant and partner immediately after birth in the delivery room and again at four to six weeks in my home.

I understand the main purpose of this study is to increase knowledge that may help others in the future, but that this study may be of no benefit to me. I understand that all the information I give will remain confidential and that my name will not be used in any reports or teaching exercises.

I understand the films may be used to teach nurses and other health professionals. If a film in which I appear is chosen, I do not object to such use. In any case, my name will not be used in any showing of the film. I also know that these films will be confidential and stored during and after the study so that only the researchers on the project will have access to them.

I understand I am free not to take part in the study or to withdraw from this study at any time and it will in no way affect my relationship with the University of Oregon Health Sciences Center.

I have read the foregoing.

Date

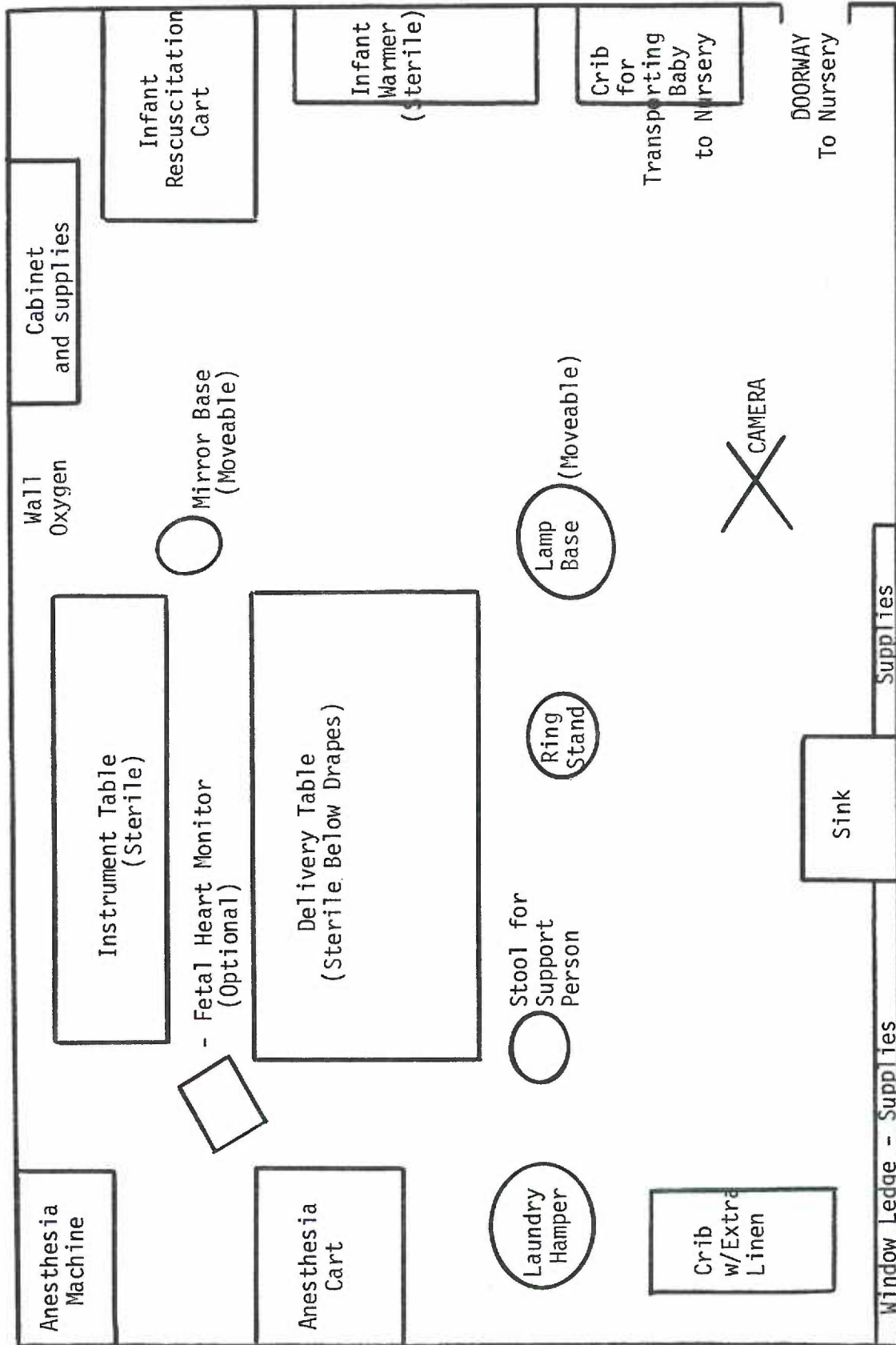
Time

Subject

Witness

Partner

APPENDIX C



APPENDIX D

Father Interview Schedule

Discuss the purpose of this study.

Read and explain the consent form, stressing what will be expected of the family and that confidentiality will be maintained.

I would like to briefly talk with you about your new baby and yourself. I am starting the tape recorder now so that I do not have to write while we are talking.

You and _____ are expecting your baby quite soon, aren't you?

Have you thought about what it will be like to be a father? Is there anyone you would prefer to be like as a father?

Are you doing anything now to get ready for the baby? Are you attending any prenatal classes? Have you been around babies or children very much?

Have you thought about what the baby will look like? What sex do you think it will be? Are there any family characteristics you would like the baby to have or not to have?

Did this pregnancy come at a good time for you?

Thank you very much.

I will be calling you a week or two after your baby is born to arrange a time to come out and see you again.

APPENDIX E
DYADIC ADJUSTMENT SCALE

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

| | <u>Always Agree</u> | <u>Almost Always Agree</u> | <u>Occasionally Disagree</u> | <u>Frequently Disagree</u> | <u>Almost Always Disagree</u> | <u>Always Disagree</u> |
|--|---------------------|----------------------------|------------------------------|----------------------------|-------------------------------|------------------------|
| 1. Handling of family finances | 5 | 4 | 3 | 2 | 1 | 0 |
| 2. Matters of recreation | 5 | 4 | 3 | 2 | 1 | 0 |
| 3. Religious matters | 5 | 4 | 3 | 2 | 1 | 0 |
| 4. Demonstrations of affection | 5 | 4 | 3 | 2 | 1 | 0 |
| 5. Friends | 5 | 4 | 3 | 2 | 1 | 0 |
| 6. Sex relations | 5 | 4 | 3 | 2 | 1 | 0 |
| 7. Conventionality (correct or proper behavior) | 5 | 4 | 3 | 2 | 1 | 0 |
| 8. Philosophy of life | 5 | 4 | 3 | 2 | 1 | 0 |
| 9. Ways of dealing with parents or in-laws | 5 | 4 | 3 | 2 | 1 | 0 |
| 10. Aims, goals, and things believed important | 5 | 4 | 3 | 2 | 1 | 0 |
| 11. Amount of time spent together | 5 | 4 | 3 | 2 | 1 | 0 |
| 12. Making major decisions | 5 | 4 | 3 | 2 | 1 | 0 |
| 13. Household tasks | 5 | 4 | 3 | 2 | 1 | 0 |
| 14. Leisure time interests and activities | 5 | 4 | 3 | 2 | 1 | 0 |
| 15. Career decisions | 5 | 4 | 3 | 2 | 1 | 0 |
| | <u>All the time</u> | <u>Most of the time</u> | <u>More often than not</u> | <u>Occasionally</u> | <u>Rarely</u> | <u>Never</u> |
| 16. How often do you discuss or have you considered divorce, separation, or terminating your relationship? | 0 | 1 | 2 | 3 | 4 | 5 |
| 17. How often do you or your mate leave the house after a fight? | 0 | 1 | 2 | 3 | 4 | 5 |
| 18. In general, how often do you think that things between you and your partner are going well? | 5 | 4 | 3 | 2 | 1 | 0 |
| 19. Do you confide in your mate? | 5 | 4 | 3 | 2 | 1 | 0 |
| 20. Do you ever regret that you married? (or lived together) | 0 | 1 | 2 | 3 | 4 | 5 |
| 21. How often do you and your partner quarrel? | 0 | 1 | 2 | 3 | 4 | 5 |
| 22. How often do you and your mate "get on each other's nerves"? | 0 | 1 | 2 | 3 | 4 | 5 |
| | <u>Every Day</u> | <u>Almost Every Day</u> | <u>Occasionally</u> | <u>Rarely</u> | <u>Never</u> | |
| 23. Do you kiss your mate? | 4 | 3 | 2 | 1 | 0 | |
| 24. Do you and your mate engage in outside interests together? | 4 | 3 | 2 | 1 | 0 | |

How often would you say the following events occur between you and your mate?

| | Never | Less Than Once a Month | Once or Twice a Month | Once or Twice a Week | Once a Day | More Often |
|--|-------|------------------------------|-----------------------------|----------------------------|---------------|---------------|
| 25. Have a stimulating exchange of ideas | 0 | 1 | 2 | 3 | 4 | 5 |
| 26. Laugh together | 0 | 1 | 2 | 3 | 4 | 5 |
| 27. Calmly discuss something | 0 | 1 | 2 | 3 | 4 | 5 |
| 28. Work together on a project | 0 | 1 | 2 | 3 | 4 | 5 |

These are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no)

- Yes No
29. 0 1 Being too tired for sex.
30. 0 1 Not showing love.

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy", represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.

| | | | | | | |
|----------------------|-------------------|---------------------|-------|---------------|--------------------|---------|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| · | · | · | · | · | · | · |
| Extremely Unhappy | Fairly Unhappy | A Little Unhappy | Happy | Very Happy | Extremely Happy | Perfect |

32. Which of the following statements best describes how you feel about the future of your relationship?

- 5 I want desperately for my relationship to succeed, and would go to almost any length to see that it does.
- 4 I want very much for my relationship to succeed, and will do all I can to see that it does.
- 3 I want very much for my relationship to succeed, and will do my fair share to see that it does.
- 2 It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.
- 1 It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.
- 0 My relationship can never succeed, and there is no more that I can do to keep the relationship going.

PATERNAL BEHAVIOR OBSERVATION FORM

TIME SAMPLING FORM

(NON-VERBAL)

| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| VISUAL | | | | | | | | | | | | | | | | | | | | | |
| -Looks at or toward baby | | | | | | | | | | | | | | | | | | | | | |
| -Gazes enface | | | | | | | | | | | | | | | | | | | | | |
| -Looks at partner | | | | | | | | | | | | | | | | | | | | | |
| -Looks elsewhere | | | | | | | | | | | | | | | | | | | | | |
| AFFECT | | | | | | | | | | | | | | | | | | | | | |
| -Smiles | | | | | | | | | | | | | | | | | | | | | |
| -Frowns | | | | | | | | | | | | | | | | | | | | | |
| -Cries | | | | | | | | | | | | | | | | | | | | | |
| PROXIMITY | | | | | | | | | | | | | | | | | | | | | |
| -Reaches toward baby | | | | | | | | | | | | | | | | | | | | | |
| -Pushes baby away | | | | | | | | | | | | | | | | | | | | | |
| -Moves toward baby | | | | | | | | | | | | | | | | | | | | | |
| -Moves away from baby | | | | | | | | | | | | | | | | | | | | | |
| TACTILE | | | | | | | | | | | | | | | | | | | | | |
| -Fingertip touch of baby | | | | | | | | | | | | | | | | | | | | | |
| -Strokes baby | | | | | | | | | | | | | | | | | | | | | |
| -Pats baby | | | | | | | | | | | | | | | | | | | | | |
| -Rubs baby through blanket | | | | | | | | | | | | | | | | | | | | | |
| -Kisses baby | | | | | | | | | | | | | | | | | | | | | |
| -Holds baby on lap | | | | | | | | | | | | | | | | | | | | | |
| -Holds at arm's length | | | | | | | | | | | | | | | | | | | | | |
| -Cradles baby | | | | | | | | | | | | | | | | | | | | | |
| -Embraces baby | | | | | | | | | | | | | | | | | | | | | |
| -Supports head | | | | | | | | | | | | | | | | | | | | | |
| -Unwraps baby | | | | | | | | | | | | | | | | | | | | | |
| -Rocks baby | | | | | | | | | | | | | | | | | | | | | |
| -Bounces baby | | | | | | | | | | | | | | | | | | | | | |
| -Touches others | | | | | | | | | | | | | | | | | | | | | |
| -Touches wife | | | | | | | | | | | | | | | | | | | | | |
| -Full palmar touch | | | | | | | | | | | | | | | | | | | | | |
| CARETAKING | | | | | | | | | | | | | | | | | | | | | |
| -Meets oral need | | | | | | | | | | | | | | | | | | | | | |
| -Diapers | | | | | | | | | | | | | | | | | | | | | |
| -Grooms | | | | | | | | | | | | | | | | | | | | | |
| PLAY | | | | | | | | | | | | | | | | | | | | | |

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Graduate Student - UHSC School of Nursing

APPENDIX G

Operational DefinitionsLooks at or toward infant

Gaze directed toward baby. If eyes not directly visible, the direction can be assumed from head position. Mark if eyes glance briefly elsewhere without head movement.

Gazes enface

Gazing at or attempting to align vertical plane of face to parallel vertical plane of baby's face.

Looks at partner

A direct gaze at partner.

Looks elsewhere

Gazes anywhere or at any person other than listed above.

Smiles

Facial expression pleased, lips extended from side to side with corners upturned. If mouth not visible, mark if eyes reflect pleased expression.

Frowns

Facial muscles tensed on forehead and between eyes.

Cries

Facial muscles tensed on forehead and around eyes with production of tears. Assume crying if father wipes eyes.

Reaches toward baby

Extends arms toward baby or in the direction of baby. May or may not touch.

Pushes baby away

Visibly gaining distance from baby by shoving at or pulling away from baby.

Moves toward baby

Repositions body so as to become closer to baby, or to gain visual contact with baby.

Moves away from baby

Repositions body so as to be a greater distance from the baby or to avoid eye contact.

Touches others

Any touch of any person other than partner or baby.

Touches partner

Any touch of the hand or fingertip to partner.

Fingertip touch of baby

Any touch of baby's skin by the ends of finger without movement on the skin.

Strokes baby

Any fingertip or palmar movement directly to baby's skin.

Pats baby

Any rhythmic perpendicular touch to baby with either direct skin or blanket touch.

Palmar touch of baby

Any touch of baby's skin by the palmar surface of the hand without movement.

Rubs baby through blanket

Any hand movement against baby's blanket other than patting.

Kisses baby

Any touch of the lips to baby's skin or blanket.

Holds baby on lap

While sitting, supports all or part of baby upon thighs.

Holds baby at arm's length

While sitting or standing, holds baby out away from father's body with no support from lap, chest, or shoulder.

Cradles

Holds baby in crook of one arm with baby against father's body.

Embraces

Enfolding baby's trunk with both arms, baby against chest.

Supports baby's head with hand

Attempting or actually extending palmar support toward back of baby's head when baby handed to or removed from father or when partner holding.

Unwraps

Any movement which loosens or attempts to loosen blanket.

Rocks

Any rhythmic movement of father's body or arms in a horizontal manner.

Bounces

Any rhythmic movement of father's body or arms in a vertical manner.

Meets oral need

Any attempt to feed or calm infant by giving bottle, food, or pacifier.

Diapers

Checking for and/or changing a soiled diaper.

Grooms

Any activity which cleans or rearranges baby's person or blankets.

Play


Any behavior on the part of the father not listed above which attempts to elicit a response on the part of the infant.

AN ABSTRACT OF THE THESIS OF
CAROL ANNETTE ROBERTS
for the Master of Nursing

Date Receiving this Degree: June 8, 1979

Title: CHARACTERISTICS OF NON-VERBAL FATHERING BEHAVIORS
DURING THE NEWBORN PERIOD

Approved:


Wilma E. Peterson, Ph.D.

Thesis Advisor

Ten first-time fathers participated in this study to examine father-newborn interaction. Fathers were recruited and interviewed prior to delivery. Videotapes of the father, mother, and infant were obtained during the initial interaction in the delivery room. Videotapes were again obtained at four to six weeks in the home, where the father and baby were filmed alone and then with the mother also present. Scoring and analysis were done using an interval time-sampling method.

Fathers in the delivery room were found to maintain eye contact with the baby 83% of the time, and in the home settings over 90% of the time. Fathers engaged in very little touching behavior in any of the sequences, but when touching did occur it was primarily fingertip touch. The manner of holding the infant varied with the setting and the presence of the mother. Fathers tended to bounce their babies more often than rock when in the delivery room and alone with the baby. There was also at least twice as much playing behavior as care-taking observed in the home.

Several variables were examined regarding their possible effect on fathering behavior. Planned pregnancy and attendance at prenatal classes appeared to increase the number of observed fathering behaviors. Other variables did not seem to yield definite patterns of behavior. Due to the small subject number, these were included as possible areas for future research rather than as significant findings in this study.

A measurement of the partners' perception of their relationship before and after the birth was done in the form of a Dyadic Adjustment Scale. These findings indicated that both partners identified their relationship as improved after the birth.

The findings of this study are compared to other relevant research and the significance of the study to nursing is discussed.