IMPACT OF MARITAL QUALITY AND PSYCHOLOGICAL WELL-BEING ON PARENTAL SENSITIVITY FOR FIRST-TIME MOTHERS AND FATHERS: A NURSING STUDY

by

BETTY L. BROOM, R.N., B.S.N., M.S.N.

DISSERTATION

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

DOCTOR OF PHILOSOPHY

THE UNIVERSITY OF TEXAS AT AUSTIN

May, 1991

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

IMPACT OF MARITAL QUALITY AND PSYCHOLOGICAL WELL-BEING ON PARENTAL SENSITIVITY FOR FIRST-TIME MOTHERS AND FATHERS: A NURSING STUDY

APPROVED BY
DISSERTATION COMMITTEE:

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

DEDICATION

As a first-born myself, this study of first-time parents is dedicated with love to my parents, Dena and Ray Bollinger, and to the brother who followed, Arthur Ray.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

ACKNOWLEDGEMENTS

I wish to express my appreciation to Alice Redland, the chair of my dissertation committee, who challenged me to stay focused, encouraged me to continue, and provided vital support throughout the dissertation process. Conducting this research "long-distance" would not have been possible without marathon meetings in Austin and frequent phone calls. These conferences always provided insight, direction, and a renewed sense of excitement for the research. Her scholarly approach and commitment to nursing and nursing research inspired me.

I also want to thank the other members of my dissertation committee for their guidance and support. Lorraine Walker provided expertise and thoughtful feedback in the area of theory and parent-infant interaction. Dolores Sands stressed the importance of research design and methods. Heather Becker helped develop my skills in data analysis and interpretation. Deserving special thanks, Ted Huston affirmed the importance of marriage and family research. His scholarly feedback stimulated my thinking.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

I am especially grateful to my husband, Glen, for his unfailing support and expertise. His willingness to take a leave from his position at San Diego State University and spend a year as visiting professor at the University of Texas while I completed course work is but one example of his support. I valued our discussions as I wrestled with theoretical and statistical issues. His long hours editing the proposal and this manuscript contributed immeasurably to the clarity of the final product.

I also want to thank my colleagues at San Diego State University School of Nursing for their support. Dolores Wozniak was responsible for stimulating my desire to return to school, and provided gentle prodding throughout. Jeanette Hines and Kay Gilbert, in particular, provided moral support and scheduling flexibility.

This study ultimately depended, however, on the participation of first-time parents. I am indebted to all the new parents and their infants who participated in this research. The time demands of learning about and caring for a new infant can be overwhelming, yet these families took time to participate in this

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

research. I hope the results of the study served as a return on their investments of time and interest. I also am grateful to the childbirth educators who helped recruit families for the study. Without their interest and support, this study would have been much more difficult to complete.

I owe special thanks to Merry Carson, my research assistant. Her professionalism and enthusiasm for the project were invaluable. Jo Nell Miettinen provided expert assistance and tutelage in data entry and the intricacies of SPSS-X.

Finally, I am gratefult to the American Nurses' Foundation, Inc., and San Diego State University's Office of Faculty Affairs for supporting this dissertation research with research grants.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

IMPACT OF MARITAL QUALITY AND PSYCHOLOGICAL WELL-BEING ON PARENTAL SENSITIVITY FOR FIRST-TIME MOTHERS AND FATHERS: A NURSING STUDY

Publication No._____

Betty Lou Broom, Ph.D.
The University of Texas at Austin, 1991

Supervising Professor: Alice R. Redland

Parents' sensitivity in reading infants' often-subtle cues is an essential part of parent-infant interactions that contributes to child development. Empirical evidence links marital quality to quality of parent-infant interaction. Little is known, however, about how marital quality affects parental sensitivity for first-time mothers and fathers.

This correlational study has three purposes: (a) to test an operational model suggesting that marital quality contributes to parental sensitivity by affecting the psychological well-being of first-time mothers and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

fathers, (b) to learn if adding parental age and infant gender increases the model's power to predict parental sensitivity, and (c) to learn if the operational model differs for first-time mothers and fathers.

A sample of 71 married couples with healthy three-month-old infants was recruited from childbirth education classes. Data collections were done in subjects' homes. Parents completed questionnaires measuring perceived marital quality, spousal behaviors, and psychological well-being; and observers assessed parent interactions with their infants during structured teaching tasks.

The operational model has more predictive power for mothers than for fathers. The maternal model accounts for 25% of the variance in parental sensitivity, with perceived spousal participation in family life and maternal age explaining the most variance. The paternal model accounts for 15% of the variance, with psychological well-being the only significant predictor. Infant gender is not a significant predictor of parental sensitivity for either parent.

Revised models incorporating maternal employment status indicate that whether or not the mother is employed outside the home predicts mothers', but not

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

fathers' parental sensitivity. Employed mothers are more sensitive to their infants than are unemployed mothers.

These findings support the theory that parental psychological resources--psychological well-being, quality of the marital relationship, and employment outside the home--are major factors in determining parental sensitivity for first-time parents.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS..... iv

ABSTRACT.....vii

CHAPTER I

Introduction..... 1

Purpose..... 1

Background..... 1

Significance to Nursing..... 12

Problem..... 14

Conceptual Framework..... 14

Theoretical Model of the Relationships Among Marital Quality, Psychological Well-Being, and Parental Sensitivity..... 16

Research Questions..... 17

Operational Model of the Relationships Among Marital Quality, Psychological Well-Being, and Parental Sensitivity..... 18

Hypotheses..... 19

Theoretical and Operational Definitions..... 20

Assumptions and Limitations..... 23

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

CHAPTER II

Literature Review..... 25

Theoretical Perspective..... 25

The Concept of Parental Sensitivity..... 33

Parental Differences in Interactions With Infants..... 49

Infant Gender..... 66

Marital Quality..... 72

Psychological Well-Being..... 91

Focus for the Study..... 99

CHAPTER III

Methodology..... 100

Study Design..... 100

Research Subjects..... 103

Procedures for Data Collection..... 108

Subject Recruitment..... 108

Data Collection..... 109

Protection of Human Subjects..... 115

Instruments..... 118

Four-Factor Index of Social Status..... 119

Quality Marriage Index..... 120

Revised Spouse Checklist..... 125

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Affect Balance Scale..... 133

Nursing Child Assessment Teaching Scale... 136

CHAPTER IV

Presentation of Findings..... 142

Summary of Data Analytic Strategies..... 142

Bivariate Relationships..... 144

Hypothesis 1..... 150

Hypothesis 2..... 151

Hypothesis 3..... 152

Hypothesis 4..... 152

Hypothesis 5..... 153

Hypothesis 6..... 154

Multivariate Relationships..... 154

Research Question 1..... 157

Research Question 2..... 160

Research Question 3..... 161

Research Question 4..... 162

Additional Findings..... 164

CHAPTER V

Discussion, Conclusions, and Recommendations... 187

Summary of the Study..... 187

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Discussion of Findings..... 188
Conclusions..... 204
Methodological Considerations..... 205
Recommendations for Theory Building and Research..... 210
Recommendations for Nursing Practice..... 214
Appendices..... 218
Reference List..... 252

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Chapter I: Introduction to the Study

This study has three purposes: (a) to test an operational model suggesting that marital quality contributes to parental sensitivity by affecting the psychological well-being of first-time mothers and fathers, (b) to learn if adding parental age and infant gender increases the model's power to predict parental sensitivity, and (c) to learn if the operational model differs for first-time mothers and fathers.

Background

Traditional child development studies focus on parenting effects on the child. This research consistently concludes that the parent-infant bond or attachment is crucial to infant survival and development (Ainsworth, 1969; Bowlby, 1969; Brazelton, 1979; Brody & Axelrad, 1970; Gewirtz, 1972; Sander, 1977; Stern, 1974; Watson, 1979). Ainsworth (1969) observed that attachment quality varies depending on the mother's degree of sensitivity and warmth in responding to infant signals. Sensitivity in reading infant signals and responding appropriately and quickly promotes infant trust of the world, thereby encouraging infant exploratory behavior (Belsky & Vondra, 1985). Furthermore, sensitive

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

parenting behaviors are consistently linked to highly valued child development outcomes ". . . including emotional security, behavioral independence, social competence, and intellectual achievement" (Belsky & Vondra, 1985, p. 535).

Thus the evidence supports the conclusion that parents' sensitivity to their infant's cues is essential for optimal infant development. While there is agreement on the positive outcomes of sensitive parenting behavior for children, relatively little is known about factors affecting parents' ability to interact sensitively with their infants. Belsky (1984) notes that research on the etiology of child abuse sheds light on the determinants of parental dysfunction. He concludes that there are three general sources of influence related to parental dysfunction: (a) parents' developmental history and personal psychological resources, (b) the child's unique characteristics, and (c) contextual sources of stress and support (marital relationship, work, and social network) (Belsky, 1984, p. 83). Researchers are just beginning to confirm that factors identified as influencing dysfunctional parenting also affect normal parenting behavior (Belsky, 1984).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Direct Effects of Parent-infant Interaction

Until recently, little research incorporated all members of the family unit. Early attachment studies focused on the mother-infant dyad. Bronfenbrenner (1974) was one of the first to appeal for naturalistic research in social contexts larger than the mother-infant dyad. As cultural views of appropriate roles for men and women broaden, researchers are beginning to investigate the importance of the father in child development. Much of the early research on paternal influence focused on comparisons of children reared in father-absent families with those reared in father-present families (Biller, 1974; Herzog & Sudia, 1973; Pedersen, Rubenstein, & Yarrow, 1979)). However, paternal deprivation studies, like maternal deprivation studies, reveal little information about the quantity or quality of parent-child interaction (Pedersen, 1976; Yarrow, 1961).

Research on early mother-infant contact led to bonding theory with its "sensitive period" hypothesis (Klaus & Kennell, 1976). It posited that contact and interaction during a brief period after birth are necessary for maternal-infant bonding. Once that period passes, the opportunity is supposedly lost forever. Such research contributed to increased consumer demand

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

research refuted the "sensitive period" hypothesis for humans (Goldberg, 1983; Leiderman, 1978; Svejda, Campos, & Emde, 1980; Tulman, 1981), but efforts to humanize the birth process remain. Conventional wisdom today calls for expectant couples to attend childbirth education classes and to actively participate in the birth process. Hospitals changed policies and nurses and physicians increasingly encourage the fathers' presence and participation in the birth process.

There is empirical support for fathers' participation in preparing for and in assisting the labor and delivery. Participation leads to increased positive feelings about the birth and the opportunity for early contact and interaction with the infant (Bowen & Miller, 1980; Greenberg & Morris, 1974; Peterson, Mehl, & Leiderman, 1979). Hypothetically, such participation contributes to the father-infant attachment process.

Type of birth has also been linked to parental sensitivity for fathers, but not mothers (Pedersen, Zaslow, Cain, & Anderson cited in Pedersen, 1981). Mothers who delivered by cesarean section differed little in parent-infant interaction from counterparts who were vaginally delivered. However, fathers in the cesarean-delivered group were more involved in child care and more responsive to infant distress cues at five

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

months than were fathers of the vaginally delivered infants. Similar results were noted by Grossman, Eichler, and Winickoff (1980) at two months. By 12 months of age, however, the birth type effect was no longer significant.

Others concluded that the effect of birth type is not significant at one month (Fortier, 1988), nor at five months (Palkovitz, 1984). At best, then, it appears that if birth type initially affects paternal behavior, the effect is not stable over time.

Recent research focusing on father-infant interaction utilizes naturalistic settings--often comparing father behaviors with mother behaviors in dyads (mother-infant and father-infant) as well as triads (mother-father-infant) (Clarke & Stewart, 1978; Lamb, 1980; Parke & O'Leary, 1975; Ricks, 1985). As a result of research investigating the father's influence on child development, it is increasingly clear that the infant's social, affective, and intellectual development is not determined solely by the mother-infant relationship (Lewis, Feiring, & Weinraub, 1981).

Indirect Effects of Parental Relations

Research on paternal influence has focused attention on the husband-wife relationship. Consideration of this relationship emphasizes the importance of indirect

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

effects on parent-infant relationships (Pedersen, 1981). Indirect effects refer to two general classes of events: (a) indirect effects when the infant is present during spousal interaction that is not directed toward the infant, and (b) indirect effects of spousal interaction when the infant is not present (Lewis, Feiring, & Weintraub, 1981).

Research findings consistently link marital quality with adjustment to parenthood (Feldman, Nash & Aschenbrenner, 1983; Shereshefsky, Liebenberg & Lockman, 1973; Wandersman, 1980; Wandersman, Wandersman & Kahn, 1980), and to the quality of parent-infant interaction (Graham, 1986; Pedersen, 1975; Westbrook, 1978). Most researchers working in this area view the marriage relationship as a mutually supportive subsystem of the family which provides emotional and instrumental benefits to marital partners (Belsky, 1984; Feiring & Lewis, 1978; Pedersen, 1981). Both types of benefits presumably affect individual well-being, thus freeing psychological and physical energy for interactions with infants (Belsky & Vondra, 1985). The evidence indicates that there may be an interactive effect between the quality of the marriage relationship and parent gender. The quality of the marital relationship may affect fathers'

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

psychological well-being and thus sensitivity to their infants more than it does mothers' (Dickie, 1987; Vincent, Cook, & Brady, 1981; Wandersman, 1980).

Researchers who study the influence of the marital relationship on parenthood adjustment or parent-infant interaction typically do so by correlating global measures of marital quality (satisfaction or adjustment) with aspects of parent-infant interaction or attachment. Few researchers also measure marital interaction, either by observation or by self-report measures. Dual measurement methods provide a more complete, descriptive picture of the quality of the marital relationship (Huston & Robins, 1982; Spanier, Lerner, & Aquilino, 1978). A more nearly complete picture may provide insight about which aspects of the marital relationship foster (directly or indirectly) positive parent-infant interaction.

Miscellaneous Parental Effects

Four additional factors must be considered in any study of parental sensitivity--parent age, social status, ethnic background, and previous experience with infants. If age can be considered a mark of maturity, then older parents are likely to be more sensitive than their younger counterparts. Indeed, the empirical

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

generalization is that younger mothers are less sensitive to infant cues and less responsive to infant needs (Grossman, Eichler & Winickoff, 1980; Jones, Green & Krauss, 1980; Mercer, 1980; Nover, Shore, Timberlake & Greenspan, 1984; Ruff, 1987). In addition, older mothers are more satisfied with parenthood and more committed to the parenting role (Ragozin, Basham, Crnic, Greenberg, & Robinson, 1982).

Social status appears to be another significant moderator of parental behavior. Lynn (1974) found that middle-class fathers tended to be more involved in childrearing than lower-class fathers. In addition, Hess and Torney (1967) reported that middle-class fathers were more likely to assume teaching roles with their children. Others note that higher education levels and social status are positively related to first-time mothers' sensitivity and responsiveness to their infants (Barnard, Bee & Hammond, 1984; Grossman, Eichler & Winickoff, 1980; Lewis & Wilson, 1972; Nover, Shore, Timberlake & Greenspan, 1984; Streissguth & Bee, 1972; Walker, Crain & Thompson, 1986).

Most of the research on parent-infant interaction focuses on Caucasian families. However, research demonstrates that members of some ethnic groups hold cultural or religious views of childbearing and rearing

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

that differ from those of the dominant white culture in the United States (Boyle & Andrews, 1989). For example, some cultural groups express preference for male children (Meleis & Sorrell, 1981). Although empirical evidence is lacking, one must consider whether parental sensitivity differs by ethnicity of the parent.

Parenting is learned, rather than instinctive. Previous experience in caring for other children provides opportunities to learn about infant behavior (Barnard, 1978a; Parke & Sawin, 1980). Although empirical evidence is minimal, one must consider that such previous opportunity to learn about infant behavior may influence parental sensitivity.

Infant Effects

Infants are widely recognized as playing reciprocal roles in interactions with their parents, and are quite capable of eliciting desired behaviors from their caretakers (Bell & Ainsworth, 1972; Bowlby, 1969; Brazelton, 1979; Sander, 1975; Stern, 1974). Thus infant factors must also be considered in any study of parental sensitivity. In particular, researchers note that infant characteristics such as health, age, and gender can directly affect parent-infant interactions (Barnard,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Hammond, Booth, Bee, Mitchell & Spieker, in press; Lewis, 1972; Moss, 1974; Thoman, Leiderman & Olson, 1972; Sander, 1962; Stern, 1974).

Healthy infants who possess full perceptual abilities obviously bring the best skills to an interactive situation (Barnard et al., in press). An infant's age plays a role in determining interaction skills. Stern (1974, p. 403) notes that at three months of age infants are "social" and can control gaze. Younger infants tend to sleep more and exhibit less predictable behavior patterns and cues (Carey, 1970; Sander, 1962).

There is evidence that male and female infants are treated differently by their care givers (Bakeman & Brown, 1977; Thoman, Leiderman, & Olson, 1972). In particular, mothers and fathers exhibit greater affective behavior with opposite-gender infants (Belsky, 1979b; Lewis, 1972; Lewis & Painter, 1974; Parke & Sawin, 1980) and more stimulating behaviors with same-gender infants (Bakeman & Brown, 1977; Kotelchuck, 1976; Parke & Sawin, 1980; Rebelsky & Hanks, 1971; Weinraub & Frankel, 1977).

It is unclear whether the differences in parental treatment are a function of parental socialization or responses to infant gender differences (Korner, 1974).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Some researchers have examined gender differences in newborn infants themselves. The evidence indicates that females are more receptive than males to certain types of tactile and visual stimuli and more orally sensitive (Bell & Costello, 1964; Engel, Crowell, & Nishijima, 1968; Lipsitt & Levy, 1959; Wolff, 1969). There is also evidence that male infants have greater physical strength and muscular vigor than female infants (Bell & Darling, 1965; Wolff, 1966) and may be more irritable (Moss, 1967, 1974). Regardless of the reason, the evidence indicates that infant gender contributes to differences in parental behavior.

Researchers who compared maternal attachment of mothers who breast feed with those who bottle feed found little evidence that the difference in type of feeding influenced maternal attachment to infants (Ainsworth & Bell, 1969; Martone & Nash, 1988). However, type of feeding is rarely accounted for in studies comparing maternal and paternal behaviors. Thus, one cannot conclude that, like mothers, fathers' parental sensitivity is not significantly influenced by type of infant feeding.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Significance to Nursing

Between 1970 and 1980 the divorce rate more than doubled--from 47 individuals per 1000 to 100 per 1000. This high rate continued to prevail in the 1980s (U.S Bureau of the Census, 1985). As a result of divorce or marital separation, approximately one in six children lives with a single parent; and more than 95 % of these children live with their mothers (Arendell, 1986, p. 1). In 1983 over 40% of all female-headed families were below the poverty level, and many more were living very close to it. Thus, the number of women and children living in or near poverty continues to grow, largely as a result of divorce. These impoverished families are at risk for multiple health problems.

Research indicates that becoming parents for the first time is a transition that stresses the marital relationship (Belsky, Spanier & Rovine, 1983; Broom, 1984; Dyer, 1963; Hobbs, 1965; Hobbs & Cole, 1976; LeMasters, 1957; Miller & Sollie, 1980; Tomlinson, 1987; Waldron & Routh, 1981). One of the primary roles for maternal-child nurses is promoting health for the entire family. Nurses are in a unique position to help families anticipate and deal with some of these marital stressors.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Nurses functioning as staff nurses in prenatal clinics, as midwives, and as obstetric-gynecologic nurse practitioners are in a position to offer anticipatory guidance (prenatally and postpartum) regarding marital stressors related to childbearing. They are also in a position to screen for poor marital relationships and refer these families to qualified counselors. Referrals may be to other nurses educationally prepared to offer family counseling and psychotherapy. Nurses teaching childbirth education and new parenting classes can incorporate discussions about marital stressors into class content.

There tends to be more medical and nursing support for expectant parents than for newly delivered parents. Families are likely to need more nursing follow-up than currently exists, particularly after early discharge. Anticipatory guidance for marital stresses in addition to physical recovery and child care can be incorporated into nursing interventions.

Nursing has an important, and to date neglected, role to play in promoting healthy marriages in which partners have the energy to properly attend to their infants. The findings from this study should increase

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

understanding of how marital quality fosters or hinders sensitive parenting. Such understanding can be useful for nurses as they work with expectant and new parents.

Problem

Parental sensitivity is an essential ingredient in the parent-infant interactions so basic to child development. Empirical evidence links marital quality to quality of parent-infant interaction. Little is known, however, about how marital quality fosters or hinders sensitive parenting for first-time mothers and fathers.

Conceptual Framework

The conceptual framework for the study is an adaptation of Belsky's (1984) process model of the determinants of parenting. Belsky (1984) presumes that parenting is directly influenced by personality characteristics of the individual parent, unique child characteristics, and by forces emanating from the broader social context in which the parent-child relationship is embedded--marital relations, social networks, and occupational experiences of parents. His model also assumes that parents' developmental histories, marital relations, social networks, and jobs directly affect individual personality and general psychological

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

well-being of parents, thereby indirectly influencing parental functioning and thus child development (Belsky, 1984, p. 84).

In his review of the literature, Belsky (1984) concludes that (a) parenting is determined by many factors; (b) characteristics of the parent, of the child, and of the social context are not equally influential in fostering or undermining sensitive parenting--parental psychological maturity is most influential, followed by social context factors (marriage, job, and social network), and lastly infant characteristics; and (c) developmental history and personality shape parenting indirectly, by first influencing the broader context in which parent-child relations exist. Previous research testing Belsky's model is discussed in Chapter II.

This study was limited to selected factors within the family system that influence sensitive parenting. The model for the study acknowledges that marital quality directly influences parental sensitivity. It also suggests that marital quality indirectly influences parental sensitivity by affecting parents' psychological well-being. It also posits that this process is influenced by parent and infant gender, and by parent age. The model for the study is presented in Figure 1.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

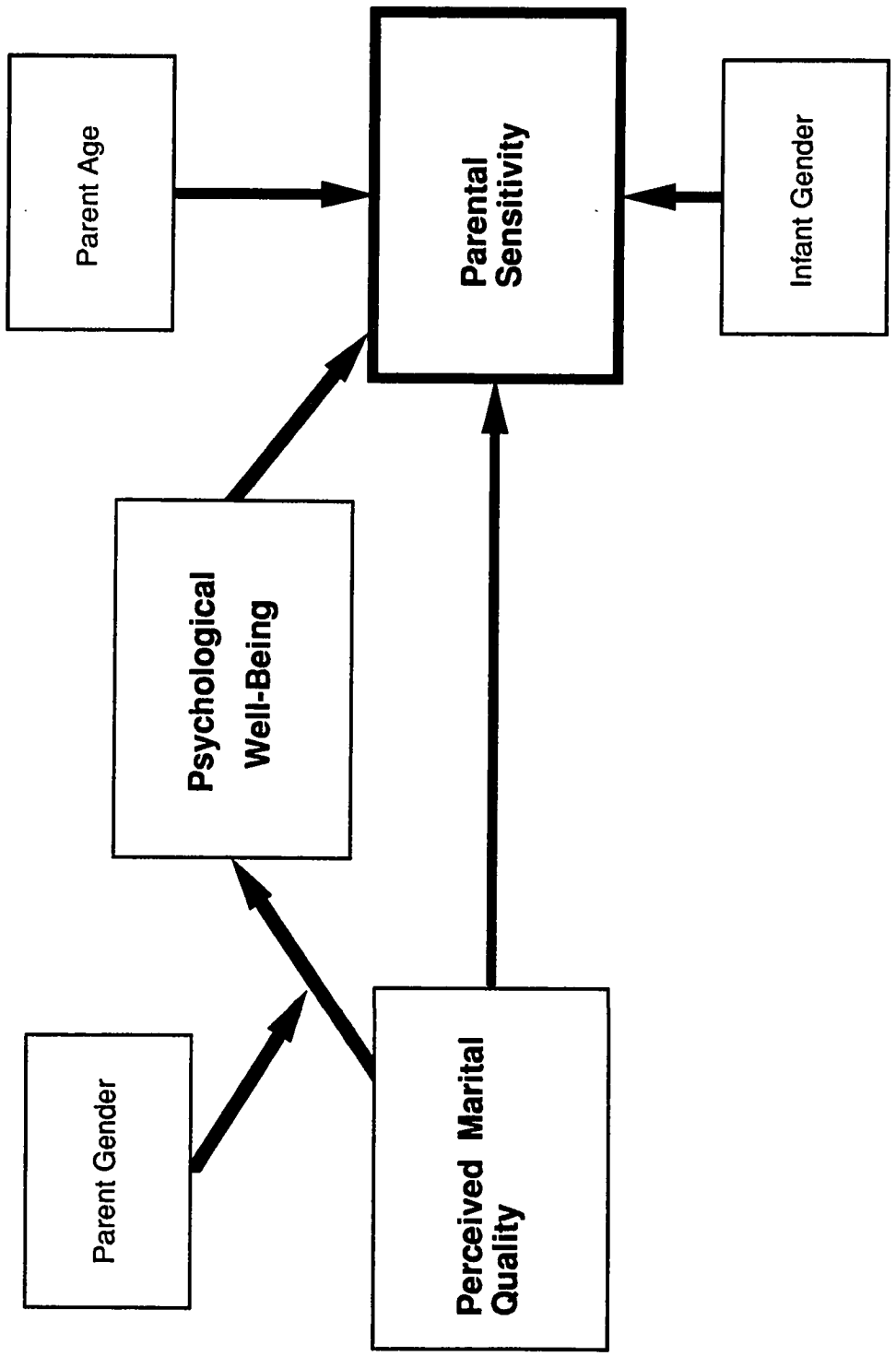

Figure 1. Theoretical model of the relationships among marital quality, psychological well-being, and parental sensitivity

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Infant age and health status, and parental participation in childbirth were controlled in subject selection. Family social status, ethnic background, type of birth experience (cesarean or vaginal), type of feeding (breast or bottle or combination), and previous experience with infants (none to extensive) were documented for descriptive purposes.

The operational model for the study is presented in Figure 2. The model for the study was tested and comparisons drawn between mothers and fathers. The numbers in parentheses indicate the order that variables were entered in hierarchical regression analyses.

Research Questions

Tests of the operational model were designed to answer the following research questions:

1. Does the level of psychological well-being significantly increase the prediction of parental sensitivity for first-time mothers and fathers of three-month-old infants after perceived marital quality has been controlled?
2. Does the addition of parent age increase the prediction of first-time mothers' and fathers' sensitivity after perceived marital quality and psychological well-being have been controlled?

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

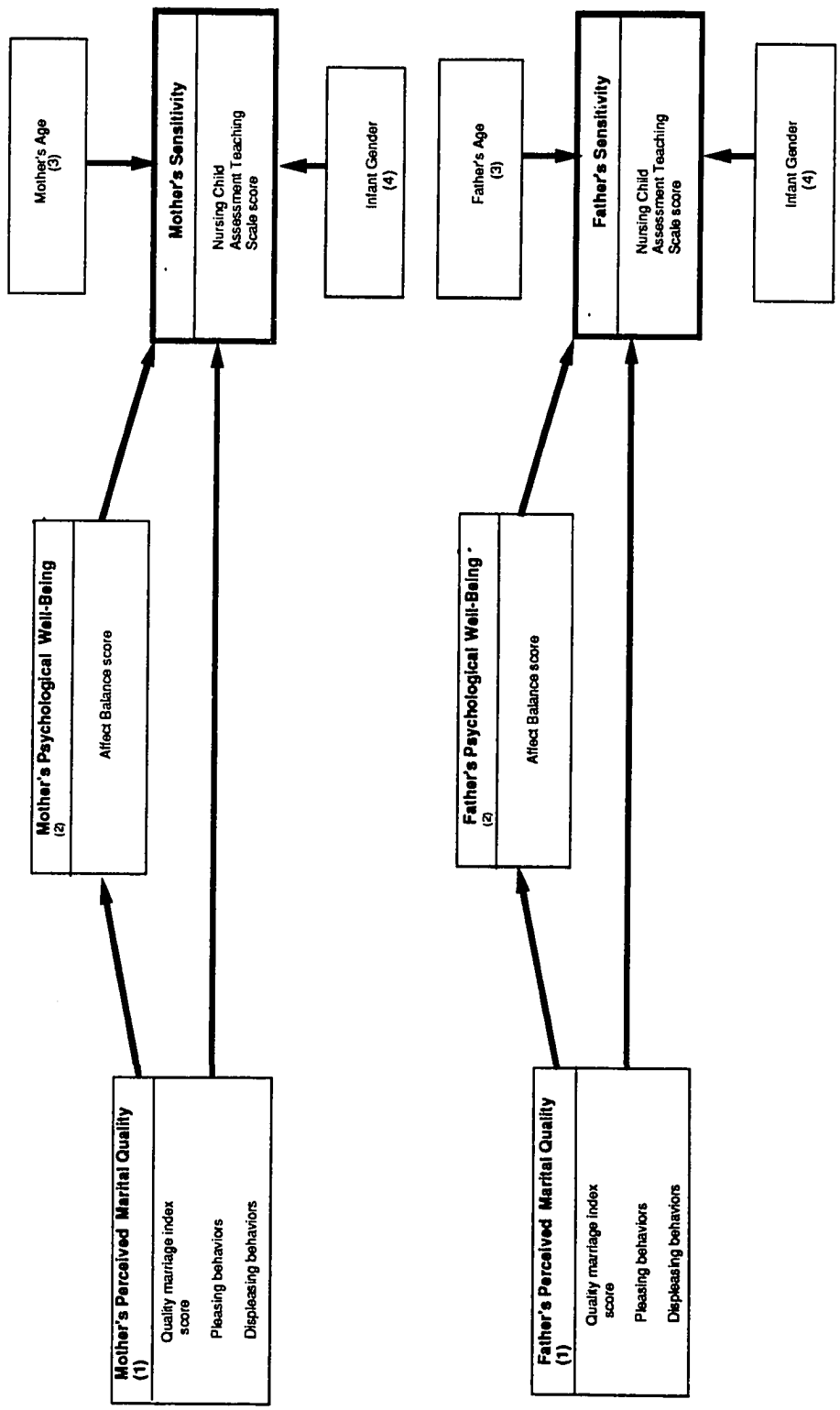

Figure 2. Operational model of the relationships among marital quality, psychological well-being, and parental sensitivity

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

3. Does the addition of infant gender increase the prediction of first-time mothers' and fathers' sensitivity after perceived marital quality, psychological well-being, and parent age have been controlled?

4. Does the operational model of parental sensitivity differ for first-time mothers and fathers of three-month-old infants?

Hypotheses

Previous research findings suggest the following hypotheses which were tested to determine bivariate relationships among study variables:

1. The greater the perceived marital quality, the greater the parental sensitivity of first-time mothers and fathers of three-month-old infants.

2. The greater the perceived marital quality, the greater the sense of psychological well-being of first-time mothers and fathers of three-month-old infants.

3. Perceived marital quality will be more strongly correlated with psychological well-being for first-time fathers than for first-time mothers of three-month-old infants.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

4. The greater the sense of psychological well-being, the greater the parental sensitivity of first-time mothers and fathers of three-month-old infants.
5. Older first-time mothers and fathers of three-month-old infants will display more parental sensitivity than will younger first-time mothers and fathers.
6. First-time mothers and fathers of three-month-old infants will display more parental sensitivity to opposite-gender infants than to same gender infants.

Definition of Terms

The following conceptual and operational definitions guided this study:

1. First-time parents refers to men and women who have recently had their first child. Neither parent has another child (biological or adopted).
2. Healthy infants refers to three-month-old infants who were born full-term (37-42 weeks), and are free of significant physical and mental illness, determined by parent report.
3. Parental sensitivity refers to the ability to monitor and accurately interpret infant cues evidenced by parent-infant actions that are contingent, reciprocal,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

and affectively positive (Ainsworth, 1969; Bowlby, 1969; Brazelton, 1979; Brody & Axelrad, 1970; Sander, 1977; Stern, 1974; Watson, 1979).

In this study, a parental sensitivity score was determined for each parent on the Nursing Child Assessment Teaching Scale (NCATS), which consists of three subscales--sensitivity to cues, response to distress, and social-emotional growth fostering.

4. Perceived Marital Quality refers to subjective evaluations of a married couple's relationship which indicate (a) the "goodness" of the relationship gestalt (Norton, 1983), and (b) the extent to which spousal behaviors are perceived as positive or negative by members of the marital dyad (Weiss, 1978).

In this study, marital quality was measured by two instruments, resulting in three separate scores: (a) The Marital Quality Index (Norton, 1983) score reflects the "goodness" of the relationship gestalt, and (b) the Revised Spouse Checklist reflects the numbers of positively and negatively perceived spousal behaviors.

5. Psychological well-being refers to happiness, or emotional balance. It results from the balance between positive feelings (affect) and negative feelings (Bradburn, 1969).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

In this study, psychological well-being was determined for each parent by calculating a score from the positive and negative feeling indices of Bradburn's Affect Balance Scale.

6. Age refers to chronological age, determined by parental report.

7. Gender refers to biological sex, determined by researcher observation and parental report.

8. Social status refers to social status based on occupational title, level of education, marital status, and gender (Hollingshead, 1983).

Social status was determined by calculating a family status score using Hollingshead's Four Factor Index of Social Status.

9. Ethnic background refers to parents' report of belonging to a social group that claims special status on the basis of religious, linguistic, ancestral, or physical characteristics, classified as Asian, Black, Caucasian, Hispanic, Native American or Other.

10. Parental participation in childbirth refers to the parents' attendance at childbirth education classes and the father's presence at the birth of the child, determined by parent report.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

11. Type of birth experience refers to the delivery classified as either cesarean or vaginal, determined by parent report.

12. Type of infant feeding refers to the method of infant feeding classified as breast, bottle, or a combination of breast and bottle, determined by parental report.

13. Previous experience with infants refers to parents' estimation of the amount of time spent in infant care prior to the birth of this child, classified as none, small, moderate, or extensive.

Assumptions

The assumptions for this study are as follows:

1. Parents will complete the questionnaires carefully and honestly.

2. In the home environment, natural for family members, the observational measures will likely reflect typical parent-infant interaction.

3. The individual's perceptions of spousal behaviors are more important determinants of psychological well-being than are the spouse's actual behaviors.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Limitations

The limitations for this study are as follows:

1. Due to the inability to manipulate the independent variables and to randomly assign subjects, ability to establish cause-and-effect relationships is severely limited.
2. The sample may not be representative of all first-time parents given its rather homogeneous, self-selected and voluntary nature. Those who agreed to participate may in some way be different from those who did not, therefore limiting external validity.
3. The methods of gathering data may constitute threats to measurement reliability: (a) Parent-infant interaction behaviors may have been influenced by having an observer present, and (b) self-report measures may not accurately reflect the occurrence of daily behaviors. Efforts to limit these effects are discussed in Chapter III.
4. The newly revised Spouse Checklist contains fewer items than the original. As a result, even though all of the items were drawn from the original checklist, established levels of reliability may not apply. See Chapter III for a description of how the checklist was revised and reliability measured.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Chapter II: Literature Review

The literature review expands the theoretical perspective for the study and summarizes the theory and selected studies for each of the major variables (sensitivity, infant gender, marital quality, and psychological well-being). Gaps in the literature are identified and the focus for the study is presented.

Theoretical Perspective

The conceptual framework used in this study, like Belsky's (1984) model, is based on a family systems theory perspective. In particular, Minuchin's (1974, p. 46) view of influence patterns within the family provides a useful framework for explaining family interaction patterns. The family is viewed as an open sociocultural system in transformation, moving through a number of developmental stages, and adapting to changed circumstances so as to maintain continuity and enhance the psychosocial growth of each member. The family system differentiates and carries out its functions through subsystems--individuals and dyads such as parent-child and husband-wife.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

As an interactional system, normal families operate according to rules and principles that apply to all systems (von Bertalanffy, 1968):

1. Circular causality. " A family system is defined as a group of individuals interrelated so that a change in any one member affects other individuals and the group as a whole....Every action in this sequence is also a reaction" (Walsh, 1982, p.9). Thus, causality is seen as circular rather than linear.

2. Nonsummativity. "The family as a whole is greater than the sum of its parts" (Walsh, 1982, p. 9). In other words, the family cannot be described by simply summing the characteristics and behavior of individual members. One must also attend to the pattern of relationships connecting members (Bateson, 1979).

3. Equifinality. The same initial conditions may lead to different processes and outcomes, and the same outcome may result from different initial conditions and different processes (von Bertalanffy, 1968; Walsh, 1982). Thus, two families may respond in quite different ways to similar crises--one becoming dysfunctional, the other pulling together to successfully resolve the problem; or two well-functioning families may evolve from quite different circumstances (Walsh, 1982).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

4. Communication. "All behavior is regarded as communication, transmitting interpersonal messages" (Walsh, 1982, p. 10). According to Ruesch and Bateson (1951), each communication has two functions: a "content" aspect giving factual information, opinions, or feelings; and a "relationship" aspect which conveys how the information is to be taken, thus defining the relationship. Communication behavior can serve a mutually supportive function or be a source of conflict.

5. Family rules. "Relationship rules, both explicit and implicit, organize family interaction and function to maintain a stable system by prescribing and limiting members' behavior" (Walsh, 1982, p. 10). Norms are family rules operating within a family. Values (arising from extrafamilial influences such as religion and culture) enforce or affirm family norms (Jackson, 1965).

6. Homeostasis. In order to maintain a steady, stable state, norms are delimited and enforced by the homeostatic mechanism of a feedback loop (Walsh, 1982, p. 10). Complementary or reciprocal behaviors are examples of how family members provide feedback to each other in order to maintain (or restore) a steady state (Walsh, 1982).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

7. Energy. In living systems, energy can be freely transported into and out of the system, and there is a tendency toward increased patterning (negentropy) rather than increased randomness (entropy) (von Bertalanffy, 1968).

8. Morphogenesis. While steady states are seen as the goal of families, this does not imply that they are static. Flexibility is required for a family to adapt to internal and external change so that family members can grow while the family system maintains continuity (Minuchin, 1974). According to Minuchin (1974) there are three sources of stress requiring flexibility and adaptation: (a) stessful contact with extrafamilial forces such as the workplace, (b) idiosyncratic problems such as a handicapped child, and (c) transitional points in the family's development such as addition or loss of members. This study focuses on the third type--the transitional period associated with birth of the first child.

Family systems theory assumes that there is a predictable, even inevitable relationship between the marital relationship and the parent-infant relationship (Margolin, 1981). Minuchin's (1974) model focuses on family structure as a useful way of analyzing how a

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

family functions and of explaining how subsystems (individuals and dyads) relate to each other, thus influencing each other.

Family structure is defined as an invisible set of functional demands that organizes the ways in which family members interact (Minuchin, 1974). The family system operates through transactional patterns that regulate family members' behavior. Those patterns are influenced by family rules and mutual expectations that evolve over time. In order to respond to internal and external changes the family must develop a sufficient range of transactional patterns that meet new challenges while maintaining the continuity that provides a frame of reference for its members.

Minuchin (1974) sees family subsystem and family (as a subsystem of society) boundaries as a useful way of evaluating family functioning. Boundaries are the rules defining who participates and how. The function of boundaries is to protect the differentiation of the system, and thus the clarity of the boundaries is more important to family functioning than is the composition of the subsystem (Minuchin, 1974).

All family transactional patterns (styles) are conceived of as points on a continuum from" enmeshed" to "disengaged" (Minuchin, 1974, p. 54). In a enmeshed

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

pattern, boundaries and differentiation are blurred, distance is decreased, and the sense of belonging interferes with autonomy, problem mastery, and cognitive-affective skills (Minuchin, 1974, Walsh, 1982). Such a family or subsystem may become overloaded and lack the resources necessary to adapt to changed circumstances.

At the other extreme is a disengaged family transactional pattern in which boundaries are overly rigid, communication across subsystems is difficult, and the protective functions of the family are handicapped. Individual members' autonomy is achieved at the expense of relatedness and responsiveness to one another (Minuchin, 1974, Walsh, 1982).

The majority of families fall within the wide normal range. Minuchin (1974) notes that most families have enmeshed and disengaged subsystems at certain points and yet are well-functioning. For instance, the parent-child subsystems may tend toward disengagement as the children grow and begin to separate from the family.

However, consistent transactional patterns at the extremes indicate areas of possible pathology (Minuchin, 1974). For example, a highly enmeshed mother-child subsystem can exclude the father, who becomes extremely disengaged. Such enmeshment can undermine the child's independence.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The spouse subsystem requires complementarity and mutual accommodation to implement its tasks. It must achieve a boundary that protects it from interference by demands and needs from other systems in order to serve as a refuge from external stresses. Parents, in particular, must have a psychosocial territory of their own--a haven in which they can give each other emotional support (Minuchin, 1974).

With the birth of the first child, the spouse subsystem must differentiate to perform the tasks of socializing a child without losing the mutual support that should characterize the spouse subsystem. The parenting process differs depending on the child's age, with nurturing functions predominating when children are very young. Ideally, the parent-child subsystem boundaries allow the child access to both parents while excluding him from spouse functions. Some couples never make the satisfactory transition to the interactions of a group of three. In some families, the child may be drawn into problems of the spouse subsystem (Minuchin, 1974).

Systems theory posits that problems in the marital relationship are accompanied by problems in the parent-child relationship (Margolin, 1981). Minuchin (1974, p.61) describes the processes by which these problems

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

can develop. First, conflicts between husband and wife may be "detoured" to the child. Nonresolution of conflict can cause parents to be upset and distracted by their marital problems and thus less attentive in interactions with the child, particularly in activities that require a lighthearted, playful manner. A more serious form of detouring may actually result in attacks on the child. In either case, detouring reduces the danger to the spouse subsystem, but stresses the parent-child subsystem.

Second, occasionally, "cross-generational coalitions" develop as spouses withdraw from each other and one seeks the child as an ally. Such a coalition results in an enmeshed parent-child relationship, with one of the parents excluded. As indicated previously, this intensified parent-child relationship may not be beneficial for the child.

Detouring and cross-generational coalitions are examples of how the marriage relationship can affect the parent-child relationship. However, neither general systems theory nor Minuchin's (1974) family system perspective clearly xplicates the process by which the marital relationship contributes to detouring or coalitions in parent-infant relationships. Like Minuchin, Belsky (1984) assumes that systems within and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

outside the family are interdependent in varying degrees. This interdependence between individuals and relationships led Belsky (1984) to propose that the marital relationship directly affects the psychological well-being of parents, and thus indirectly influences parenting behaviors.

Parental Sensitivity

Parents who function effectively in interactions with infants are described as being sensitive. However, parental sensitivity is viewed somewhat differently depending on the theoretical perspective of the researcher. A review of four theoretical perspectives follows--psychoanalytic, ethological, organismic, and social learning--empasizing how each defines, measures, and views determinants and effects of parental sensitivity. This section concludes with the definition of parental sensitivity used in this study.

Psychoanalytic Perspective

Psychoanalytic theorists were the first to discuss parental sensitivity. Their view of the infant's tie to its caregivers is based on presumptions of how the infant develops relationships with animate (and inanimate) objects. There are two primary divisions in psychoanalytic theory concerning the development of object relations (Ainsworth, 1969). The first is ego

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

psychology, which concurs with Freud's view that the infant acquires the mother as object through his dependence on her for need-gratification, primarily via the feeding process (Ainsworth, 1969). Perhaps because of their preoccupation with orality and need gratification, psychoanalytic theorists focus almost exclusively on maternal sensitivity.

The newborn is viewed as a relatively undifferentiated organism with limited ability to discriminate between sensory input from its own body and input from the external world, and thus cannot relate to its mother as an "object" (Ainsworth, 1969; Brody & Axelrad, 1970). However, by the end of the first year of life the infant is believed to have developed ego functions enabling it to discriminate between self and others, form firm attachments, and to actively engage the external world (Ainsworth, 1969; Brody, 1956; Brody & Axelrad, 1970).

The second psychoanalytic tradition is object relations theory which disputes the ego psychologist's notion of an "objectless" period and argues that the infant has object relations, although primitive in nature, from birth (Ainsworth, 1969; Klein, 1952). The infant is viewed as capable of processing sensory input

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

rather than being a passive receptacle and uses fantasy to regulate itself and to become attached to others (Klein, 1952).

Whether ego psychology or object relations theory predominates there are certain commonalities with regard to parental sensitivity. Psychoanalysts indicate that parental sensitivity is an enduring personality trait (Brody, 1956; Brody & Axelrad, 1970). They also note that environmental factors such as economic security and happy marriages appear to support parents' ability to respond sensitively to their infants (Brody, 1956; Brody & Axelrad, 1970, 1978). Although these theorists acknowledge that the infant's behaviors and state of alertness affect the parents' interactive behavior, parents ostensibly possess a much greater repertoire of behaviors than the infant, thereby determining the nature of the interaction to a much greater extent than does the infant (Brody, 1956; Brody & Axelrad, 1970, 1978).

Psychoanalytic theorists characterize sensitivity as the ability to monitor infant signals attentively, to perceive them accurately, and to respond both appropriately and contingently (based on infant response) (Brody, 1956; Brody & Axelrad, 1970, 1978; Klein, 1952; Lamb & Easterbrooks, 1981). For instance,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Brody and Axelrad (1970, 1978) defined sensitivity as maternal responses in feeding situations which reflected empathy and positive affect. Empathy was defined as

> ...a form of behavior observed in the mother's efforts to communicate with her infant visually, vocally, or physically in a manner that can be expected to advance the infant's satisfaction with the food and feeding process; in the freedom she allows him to move all or parts of his body without disturbing his body security; in her steady watchfulness of his immediate needs, and her capacity to respond selectively, appropriately, and with sensitive awareness of how her responses in turn affect the infant's state from moment to moment (Brody & Axelrad, 1970, p. 115).

Positive affect was reflected in verbal interaction with the infant which exhibited ". . . warmth and good humor . . . freedom and willingness to empathize" (Brody, 1956, p. 244). The quality of affect, empathy, pacing and tempo, and tactile stimulation are all factors psychoanalytic theorists consider reflective of maternal sensitivity (Brody, 1956; Brody & Axelrad, 1970, 1978; Klein, 1952; Winnicott 1960).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Psychoanalytic theorists focus on responses to infant signals. Whether or not mothers respond contingently and with appropriate affect to these signals has the most impact on the infant's development of basic trust in the mother (Brody, 1956; Brody & Axelrad, 1970, 1978). The development of such trust is essential for the development of ego identity (Erikson, 1950).

Ethological Perspective

Ethological theorists (Ainsworth, 1969, 1972; Bowlby, 1969) hold a different view of how the infant develops an attachment to its mother. Attachment is defined as a relationship which resides in the inner structure of the individual, having both cognitive and affective aspects, and affecting behavior. Both Ainsworth (1969) and Bowlby (1969) contend that attachment is synonymous with love.

Bowlby (1969) attempted to update psychoanylytic theory in light of advances in biology. He viewed an infant's attachment to its mother as originating in a number of species-characteristic behavioral systems--such as smiling and following--which emerge at different developmental stages, and become organized toward the mother as the chief object. Such "attachment behaviors"

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

on the part of the infant function to promote proximity to the mother, thus insuring safety/protection (Bowlby, 1969).

Mothers are also viewed as having biological biases to respond reciprocally (to infant's attachment behavior) with caretaking behavior. Caretaking behavior is also viewed as serving a protective function (Bowlby, 1969). The mother's biological biases are likely to be influenced by environmental factors such as culture and interpersonal experiences (Ainsworth, 1969; Bowlby, 1969). Though even the very young infant is capable of signaling parents via such behaviors as smiling or crying, the effectiveness of such signals depends on the propensity of adults to respond (Ainsworth, 1969; Bowlby, 1969; Lamb & Easterbrooks, 1981).

Ethologists view maternal activity as resulting from a complex process involving appraisal of her own organismic state and urges to act (often influenced by hormonal levels), and appraisal of environmental situations such as the whereabouts and behavior of the infant, and demands of household chores and other family members (Bowlby, 1969). The appraisal process involves comparing sensory input, progress of behavior, and consequences of behavior with standards developed within the person during a lifetime (Bowlby, 1969). Certain

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

behaviors are selected in preference to others as a result of previously made comparisons of behavioral consequences. Bowlby proposes that "feelings" (a general term encompassing both emotions and affect) accompany all phases of the appraisal process, thus playing a role in determining behavior. He notes that " . . . providing feeling is not too intense, keen feeling goes with alert attention, with refined perceptual discrimination, with considered . . . planning of behavior, and with well-registered learning of results" (Bowlby, 1969, p. 117).

As do psychoanalytic theorists, ethologists tend to view parental sensitivity as a personality trait, while acknowledging that environmental factors influence sensitivity. However, greater emphasis is placed on the infant's capability in pacing parent-infant interaction via signalling and approach behaviors. Thus, interaction tends to be viewed as a mutually influenced process.

Although ethologists note that other members of the family perform caretaking activities and that infants form secure attachments to other caretakers, the emphasis in theoretical discussions and in research has been on the formation of a primary attachment to the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

mother. Unlike the psychoanlytic theorists, feeding is not viewed as central to the formation of infant attachment.

Ethologists define maternal sensitivity as the accurate perception of infant signals and the execution of contingent, appropriate responses (Bell & Ainsworth, 1972). Ainsworth and her colleagues (Ainsworth, Blehar, Waters, & Wall, 1978) observed mother-infant pairs and noted that sensitive mothers are characterized by warm, empathic interaction, contingent responsiveness to infant distress cues, acceptance of the many needs and demands of young infants, and a tender, careful way of holding their babies.

Ethologists believe that the contingency and appropriateness of maternal responses to infant signals determine the intensity of the infant's attachment (Bowlby, 1969). According to Bowlby, infants who experience contingent responses in a fairly consistent way build up a set of expectations about maternal actions in a variety of commonly occurring circumstances. Thus the infant develops trust in the mother as someone who is accessible and responsive to his needs and actions, and that trust is the basis for a secure attachment.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Organismic Perspective

Organismic theorists, like ethologists, have a biologic perspective when examining the process of parent-infant interaction and attachment. They focus on the adaptive self-organizing behaviors of biological systems (Brazelton, 1979; Sander, 1975, 1977). They view the infant and his caretaking environment as components of a biological system which are adapting to each other. Each individual in the system is seen as actively self-regulating, yet in continuous exchange with the environment. Interaction between individuals is aimed at reaching an enduring, harmonious coordination.

These theorists use cybernetic theory to explain their view of the parent-infant dyad or triad as a dynamic, mutual feedback system (Brazelton, 1979; Sander, 1975, 1977; Stern, 1974). Brazelton (1979) notes that interaction between parents and infants provides feedback, thus helping each to learn about self as well as learn about the other. The infant learns inner controls over its biological and psychological systems through its parents' ability to regulate its behavior (Brazelton, 1979; Sander 1975). The parents

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

learn about the infant, but also learn about themselves as nurturing individuals by responding to the infant's nonverbal cues (Brazelton, 1979; Sander, 1975).

In the view of organismic theorists, parental sensitivity is a personality trait. However, they recognize that environmental factors may affect the ability to be sensitive in parent-infant interactions. Brazelton (1974) notes that if a mother's own needs interfere with her sensitivity to the infant's needs, then this decreased sensitivity might be reflected in their interaction. On a similar note, Stern (1974, p. 410) says that a mother's mood and other factors determine the infant's ability to elicit optimal behaviors from her.

Much like ethologists, organismic theorists credit the infant with considerable ability to regulate parent-infant interaction (Brazelton, 1974; Sander, 1975; Stern, 1974). These theorists view the infant as an active seeker of stimulation (Stern, 1974). The young infant's primary means of seeking attention/stimulation from parents is its ability to turn its visual attention toward or away from a stimulus (Stern, 1974). In addition, the infant is capable of dealing with an unpleasant, inappropriate stimulus by (a) actively withdrawing by changing position to increase distance;

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

(b) rejecting it by pushing it away with hands and feet while maintaining position; (c) decreasing sensitivity to the stimulus by looking dull, yawning, or withdrawing into a sleep state; and (d) signaling behavior such as fussing or crying which tends to bring others to help him deal with the stimulus (Brazelton, 1974). Parents have a much greater ability to modulate behavior in their interactive efforts, and Stern (1974) notes that they must gear their behaviors to the infant's arousability and soothability.

In short, parent-infant interaction is a dynamic mutual feedback system. The goal of interaction (for both parents and infants) is ". . . the mutual maintenance of a level of attention and arousal within some optimal range in which the infant is likely to manifest affectively positive social behaviors such as smiles and coos" (Stern, 1974, p. 404). According to Brazelton (1974), the most important rule for maintaining interaction is the parents' development of sensitivity to the infant's capacity for attention and its need for withdrawal (partial or complete) after a period of interaction.

Consistent with this perspective, organismic theorists operationally define parental sensitivity as the ability to monitor and interpret infant cues

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

(a) indicating readiness for further stimulation--such as visual attentiveness, and (b) indicating that a stimulus is becoming too intense to handle--such as looking away or fussing. Parents must then respond by altering stimulation in accordance with the infant's needs (Brazelton, 1974, 1979; Stern, 1974). Optimal sensitivity to infant cues results in parent-infant interaction characterized by reciprocity--a sort of "taking turns" phenomena such as when the parent vocalizes, then waits for the infant to reciprocate before increasing his own vocalizations (Brazelton, 1974). Ideally parent-infant interactions are synchronous--timing of responses to cues is prompt, and the pacing (behavioral tempo) is appropriate to the infant's need for stimulation build up or for disengagement (Brazelton, 1974; Walker, 1985). In addition, parents should be able to display positive emotional responses to the infant's needs and behavioral states (Stern, 1974; Walker, 1985).

Organismic theorists note that such positive, rhythmic interactions, characteristic of sensitive parents, help the infant learn how to attend to its environment, promoting cognitive development (Brazelton,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

1974). In addition, these interactions help the infant learn how its actions affect others and foster social responsiveness (Brazelton, 1974; Stern 1974).

Social Learning Perspective

Social learning theorists view the infant's attachment to caregivers as a form of dependent behavior that is learned (Gewirtz, 1956, 1961; Watson, 1979). The operant conditioning model of learning is the basis for most social learning theorists views about infant attachment behavior.

Parent-infant interaction is viewed as a chain of utually reinforcing behaviors (Bijou & Baer, 1965; Gewirtz, 1969). A reinforcing behavior refers to ". . . any stimulus event which follows a response and affects certain of its aspects, e.g. its rate of emission, amplitude, or latency" (Gewirtz, 1956, p. 210). Thus the behaviors of both parent and infant are viewed as being under the stimulus control of the other.

Gewirtz (1961, 1969) and Watson (1966, 1979) in particular, emphasize that for a stimulus to be reinforcing for the infant, it must be perceived by the infant as an immediate consequence of his response (contingency). Watson (1979) notes that a response delay of only three seconds may obscure contingency

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

perception in human infants. Thus for a parent to foster the infant's ability to learn the consequences of its behavior, the parent must provide stimuli which are contingent on that behavior (Gewirtz, 1961, 1969; Watson, 1966, 1979). Watson (1979) further notes that contingency is itself a form of stimulation that may elicit social responsiveness.

Social learning theorists, unlike others, view environmental factors rather than personality traits as the major determinants of behavior. For instance, Gewirtz (1977) proposes that infant temperament affects parental responsiveness. A fussy, difficult to console infant will become an aversive stimulus, reducing even the most solicitous parent's tendency to respond promptly. This view contrasts with ethologists Bell and Ainsworth (1972) who believe that parental responsiveness affects the amount of crying, not the reverse.

Social learning theorists define parental sensitivity as parental behavior providing affectively positive stimulation contingent on infant behavior (Gewirtz, 1972, 1977; Watson, 1966, 1979). In this view, parental sensitivity to infants fosters attachment and social responsiveness, and helps infants learn the consequences of their own behavior

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

(Gewirtz, 1972; Watson, 1966, 1979). Infants also develop expectations of parental behavior based on contingent stimuli in parent-infant interactions (Lewis & Goldberg, 1969).

Summary

These four theoretical perspectives contain more similarities than discrepancies with respect to definitions, measures, determinants, and effects of parental sensitivity. There is consensus that through interaction--with adults providing contingent responses to infant behavior--infants develop expectations of parental behavior and a sense of the consequences of their own actions. In fact, all but the social learning theorists concur that parents' appropriate, contingent responses promote the development of trust, seen as essential for firm attachment and for healthy personality development. There is also unanimity of opinion that affectively positive, reciprocal responses aid in the development of social responsiveness.

With the exception of the social learning theorists, parental sensitivity is seen as a personality trait, albeit influenced by environmental factors that affect ability to sensitively respond to the infant. Social learning theorists see environmental factors--particularly infant behaviors--as the primary

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

determinants of parental sensitivity. In light of recent evidence of infant capabilities, all theorists view the infant as having an important role in determining the quality of parent-infant interaction.

There are also commonalities in how theorists define parental sensitivity. All recognize the need for parents to be able to monitor and interpret infant cues and signals indicating attention or inattention and distress. The ability to monitor and accurately interpret infant signals is assumed in parental responses. Parental responses that are (a) prompt and contingent on infant cues, (b) appropriate to meet infant needs for care and/or stimulation, (c) reflect parental ability to modulate behavior in response to infant behavior (reciprocal, synchronous interactions), and (d) affectively positive are consistently noted as evidence of parental sensitivity.

This study draws heavily on the organismic view of parent-infant interaction. Parental sensitivity is defined as parents' ability to monitor and accurately interpret infant cues. This ability is assumed to be evident in parent-infant interactions which are contingent, reciprocal, and affectively positive.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Parental Differences in Interaction with Infants

Because psychoanalitic and etholcgical perspectives place the mother in the primary role in infant development, most early studies of parental sensitivity focused on mother-infant interactions. The decline of these theoretical views set the stage for reemergence of interest in understanding how the father--in addition to the mother--influences infant development.

With the resurgent interest in fathers, researchers tried to determine if and when most infants formed relationships with their fathers. Researchers demonstrated that infants do form secure attachments to their fathers at about the same time they do to their mothers (Cohen & Campos, 1974; Kotelchuck, 1976; Lamb, 1981; Pollack & Grossman, 1985).

The most recent trends in child development research are (a) observing both the father's and mother's behaviors, and (b) using the home--not just the laboratory--as the research setting. Oualitative and quantitative data about the father's behavior are compared with similar data from maternal observations. Comparing parental behaviors in this way enables researchers to identify the distinctive and similar

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

experiences that fathers and mothers contribute at different stages of the child's development (Pedersen, 1981).

Quantitative differences. Regardless of whether data are gathered from interviews with mothers and fathers or from observations of fathers and mothers, it is generally agreed that fathers spend considerably less time interacting with their infants than do mothers (Cronenwett, 1982; Lamb, 1981; Ricks, 1985). Estimates of the amount of time fathers spend in direct contact with their infants range from less than a minute a day (Rebelsky & Hanks, 1971) to slightly more than an hour per day (Pedersen & Robson, 1969). One explanation for the limited time fathers spend with their children is that most fathers are employed full-time. Indeed, most of the research on father involvement with infants sampled middle-class families in which the father worked full-time. The mother was either full-time homemaker, or at most, employed part-time. As more and more women enter the work force, however, there is a need to ascertain whether the same patterns found in more traditional families are also found in two wage-earner families (Pedersen, 1981).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

There is increased interest about factors that influence amount of time parents (particularly fathers) spend with their infants (Belsky, 1979a; Fox, 1989; Hines, 1987; McHale & Huston, 1984; Palkovitz, 1984; Reiber, 1976). Two studies indicate that the mother may be the "gate keeper" of the amount of time fathers spend with their infants. Reiber's (1976) observational study of nine families of first-born infants found that men were interested in the nurturing role and involved in it "...as much as their wives will allow" (p.370). In a more recent study, Hines (1987) interviewed 23 first-time, middle-class fathers. She conducted four interviews with each father during the third trimester through six weeks after the birth. Even in the most egalitarian couples, the wives tended to control the amount of involvement fathers had with their newborns. One father described how he had to negotiate with his wife to get more time with his infant.

Four additional studies illustrate researchers' interest in sex-role orientations as determinants of parental involvement with infants. McHale and Huston (1984) interviewed 34 couples three months after their wedding and again one year later after they became parents. Mothers' sex role attitudes and role preferences before birth predicted their involvement

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

with their infants. Neither mothers' nor fathers' masculinity/femininity scores predicted their involvement. Fathers' role preferences and perceived skill (but not sex-role attitudes) were related to the overall extent and nature of involvement with their infants. In a related study, Fox (1989) examined maternal and paternal determinants of parental involvement for 200 first-time parents of 6-52 week old infants. Of the determinants, mothers' number of work hours and preference for involvement accounted for the most variance. Fathers' preference for involvement and perceived skill, followed by number of work hours, accounted for the most variance.

Palkovitz (1984) observed 40 middle-class families and found that the mother's concept of the father's role was the best predictor of the amount of father involvement with his five- month- old infant when the mother was present. However, infant need was the best predictor when the father was alone with the infant. Belsky (1979a) also concluded that 40 middle-class mothers were more influential in involving husbands in parenting their 15-month-olds than husbands were influential in involving wives. However, he noted that

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

the mother's influence appeared to affect the father's involvement even when mothers were not present during the interaction.

Studies of parental involvement do not consistently investigate factors affecting amount of time each parent spends interacting with the infant. There is also evidence that there are discrepancies between self-report data and that obtained from observation (Dickie, 1987; Pedersen, 1981). Research trends include exploring factors influencing time parents spend with infants, and examining parents' time patterns with infants in two wage-earner families.

Qualitative differences. Although the amount of time mothers and fathers spend interacting with infants differs considerably, researchers have concluded that the amount of time parents interact (beyond a minimum) has very little effect on the quality of the parent-infant relationship and thus on child development (Lamb 1981; Lewis, Feiring, & Weinraub, 1981; Parke 1978). As a result, more attention is being directed to the quality of parent-infant interaction than to the quantity. Research documents differences as well as similarities in (a) the type of behaviors, and (b) behavioral sensitivity to infant cues for both mothers and fathers.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The unit of analysis--dyad versus triad--determines, in part, the amount and type of interaction behavior that occurs (Pedersen, 1981). In discussing the types of activities each parent engages in with infants, it is therefore appropriate to distinguish between studies in which parent-infant behaviors are observed in two-person or three-person interactions. These studies are also grouped according to infant age (newborn versus older infants).

Three studies investigating parent-infant interactions with newborns in hospital settings are representative. Parke and Sawin (1980) observed 40 white, middle-class mothers and fathers interacting with their healthy, bottle-fed newborns (20 male, 20 female; half of each group first-born). Each parent fed and played with the infant. The researchers noted few differences in maternal and paternal behavior except that mothers engaged in more routine caretaking and more kissing during feeding. On the other hand, fathers were more visually stimulating (mimicking).

Parke and O'Leary (1976) observed 19 middle-class couples with their full-term infants (9 males, 10 females; 13 breast-fed, 7 bottle-fed). Fathers had participated in childbirth education classes and were present for the births. When all three were together,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

mothers smiled more than fathers, but fathers held more. When compared to observations of the same mothers acting alone with their infants, mothers interacted less with their infants when fathers were present.

In an effort to determine whether these effects were due to social class, researchers (Parke & O'Leary, 1976) observed 82 lower-class, racially mixed mothers and fathers with their healthy, bottle-fed newborns (48 females, 34 males; 17 of each gender were first-born). Parents had not attended childbirth classes, nor had fathers attended the birth. When observed as dyads, few differences were observed except that mothers fed more frequently than fathers. When mother, father, and infant were observed as a triad, a few more differences were noted. Mothers smiled at the infant more than fathers; fathers held and visually attended to the infant more, and provided more physical and auditory stimulation than did mothers. In general, both mothers and fathers were more actively involved with their infants in dyads than in triads. On the basis of these two studies, Parke and O'Leary (1976) concluded that regardless of economic class, a traditional division of labor develops, and that fathers are just as nurturant as mothers. Mothers only exceeded fathers in their caretaking and smiling behavior.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Studies with older infants in both laboratory and naturalistic home settings also find more similarities than differences attributable to parental gender. Field (1978) observed 36 middle-class mothers and fathers interacting with their four-month-old infants (none first-born) in a laboratory setting. Infants were placed in an infant seat and their parents asked to engage them in play. Parents were designated as primary or secondary caretakers based on their reports of infant care responsibility. No significant differences were observed between parents on (a) talking to, (b) grooming and caretaking, or (c) imitating for primary caretaker mothers and fathers, or for fathers designated as secondary caretakers. However, both primary caretaker mothers and fathers engaged in more smiling, mimicry, and high-pitched vocalizations than did secondary caretaker fathers. Fathers (whether primary or secondary caretakers) engaged in more playful, less-containing behaviors and played more games and poked at their babies more than did mothers.

Moss (1974) observed 44 middle-class mothers and fathers in a structured laboratory situation with their seven-week-old first-born infants. The only parental differences noted were that fathers spent longer than mothers trying to get their infants to grab for a bell.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Belsky (1979a, 1979b, 1980) utilized naturalistic home settings to study 40 middle-class parents and their 15-month-old infants. Mothers engaged in more caretaking, stimulating, and kissing and hugging than fathers when in dyadic interaction. However, when observed as triads, fathers kissed and hugged their infants more than mothers. Belsky also observed that both parents interacted more with their infants when alone with them than they did with the other parent also present (Belsky 1979b). Belsky (1979a) analyzed the triadic situation further by looking at the content of spousal interaction. He concluded that when spouses discussed topics other than the child, the infant received less adult attention. Conversations concerning the child were positively associated with increased paternal-infant (but not maternal-infant) interaction. He also observed that attention directed toward the infant provided the basis for pleasurable interaction between spouses.

While examining 15-month-old infant exploratory competence with toys, Belsky (1980) found that middle-class mothers excelled in object-mediated and social play. Fathers, on the other hand, excelled in vigorous motion play. Each type of play was positively associated with infant exploratory competence.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Pedersen, Anderson, and Cain (1980) also used home settings for their observations. They observed 41 middle-class parents interacting with their healthy five-month-olds (23 males, 18 females). Three of 12 activities were significantly different for mothers and fathers when individually interacting with infants. Mothers verbalized more, smiled more, and fed liquids more (however, most were breast-feeding) than did fathers. Unlike others, they did not find differences in (a) high-pitched verbalizations, (b) vigorous physical play, or (c) object-mediated play. They did find more intense parent-infant interaction in dyadic relations than in triadic relations. The triadic situation was also associated with more role specialization, as fathers demonstrated greater vigorous physical play than mothers when all three were present.

Other studies of parent-infant triads in home settings include those by Lamb and Lamb (1976), Lamb (1977), Clarke-Stewart (1978), and Belsky, Gilstrap, and Rovine (1984). Lamb (1977) and Lamb and Lamb (1976) studied 20 middle-class families with their healthy infants at seven, eight, 12, and 13 months of age. They found that both parents vocalized the same amount to infants. Mothers engaged in more conventional games (pat-a-cake) and in games involving toys. Fathers, on

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

the other hand, engaged in vigorous, physically stimulating games. The most striking differences were in reasons parents held their infants. Mothers held most often for caretaking, and as infants became more mobile, in order to restrict exploration. Fathers held to play with their infants or because the babies indicated they wanted to be held.

Clark-Stewart (1978) studied 14 working-class and middle-class families of first-and second-born healthy infants at 15, 20, and 30 months of age. Mothers engaged in more caretaking, although fathers increased caretaking over time. Parents did not differ in frequency of play, but fathers' play was briefer and more social or physically arousing than mothers'. Mothers tended to choose play activities that were nonsocial and intellectual. Comparing mother-infant interactions in dyads versus those in triads, the researchers concluded that mother-initiated interaction with the infant decreased in the presence of the father.

Belsky, Gilstrap, and Rovine (1984) observed 72 middle- class families with their healthy infants at one, three, and nine months of age. They observed that mothers were more engaging, responsive, stimulating, and positively affective at all ages, but that these

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

differences decreased over time. They concluded that there were more similarities than differences between maternal and paternal behaviors over time.

The major conclusion of parent-infant interaction studies investigating types of behaviors is that, indeed, there are more similarities than differences between fathers' and mothers' interactions with infants. Regardless of infant age, setting, and presence of other parent, the consistent differences appear to be that (a) mothers engage in more caretaking activities, are more verbal, and smile more than fathers; and (b) fathers provide more physical, vigorous play, and hold more.

There is also consistency in findings regarding the effect of group size on parent-infant interaction. In general, rates of interaction between parent and infant are higher in the dyad compared to the triad. As Pederson (1981) notes, it is important to recognize that the triad contains the potential for additional dyadic interaction--between husband and wife. However, researchers observing total parent-infant interactions in triads, conclude that the sum of interactions with infants is about equal to that occurring in dyads (Pedersen, Anderson & Cain, 1980).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The findings from this group of studies are remarkably consistent. The use of somewhat comparable time-sampling and frequency count methodology, and careful attention to observational reliability no doubt contributes to this consistency. Most made an effort to include comparable numbers of male and female infants and to control for social status. Many however did not control for birth order differences. With the exception of three studies, none indicated whether infants were breast- or bottle-fed. The effects of these differences have been noted in other newborn studies (Bakeman & Brown, 1977; Dunn, 1977; Parke & O'Leary, 1976). Whether or not a mother breast feeds certainly affects the amount of time she spends in caretaking activities...a commonly studied variable.

Most parent-infant interaction studies of the types of behaviors directed to infants tend to be descriptive in nature. The results of these studies, however, are being used to investigate the effects of specific father-infant and mother-infant interactions on child developmental outcomes (Lamb, 1981). Findings of these theory-building studies will be useful for those assisting families--particularly children--to reach their full potential.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Sensitivity Differences

Focusing exclusively on the type of activities directed towards infants ignores the more qualitative aspects of that interaction. As previously noted, parental sensitivity to infant cues has long been associated with positive outcomes for children (Belsky & Vondra, 1985). Some of the parent-infant interaction studies of types of parental activities also investigate parental sensitivity.

Parke and O'Leary (1976) and Parke and Sawin (1980) studied "nurturant" parental behaviors with healthy newborns in hospital settings. They found that mothers and fathers engaged in equal amounts of touching, looking, vocalizing, and kissing. The only nurturant behavior in which mothers surpassed fathers was smiling (in both studies). Fathers engaged in even more nurturant behavior with the mothers present.

Parke and Sawin (1980) also examined parental competency--defined as sensitivity to infant cues. Sensitivity was operationally defined as measures of parental response to auditory distress signals during feeding (sneeze, spit-up, cough), and response to infant vocalization and to mouthing behaviors. These researchers found that fathers and mothers were equally responsive to feeding distress signals.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

In addition, their sequential analyses revealed that both parents increased their rates of positive vocalizations following infant vocalization. Both parents also touched the infant and looked more closely at the infant after infant vocalization. There were some differences, however, in parental responses to infant vocalizations--fathers were more likely to increase vocalizations while mothers were more likely to react to infant vocalization with touch. On the other hand, there were no differences in parental response to mouthing behaviors. Both parents increased vocalizations, touching, and stimulation of feeding activity in response to mouth movements. Parke and Sawin concluded that both fathers and mothers react in a contingent and functional manner to newborn cues, even though they differ in specific response patterns.

There is also evidence that parents of older infants are equally capable of being sensitive to infant cues. Dickie (1987) observed middle-class parents interacting in the home with their four- to eight-month old healthy infants. She defined parental competence as verbal and nonverbal contingent response to infant cues, emotional consistency, appropriate stimulation, anticipation of infant needs, reasonableness of

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

expectations and routines, and expression of warmth. She found no significant difference in parental competence based on parental gender.

Clarke-Stewart's (1978) study with healthy infants at 15, 20, and 30 months focused on parental activities, but "contingent responsiveness to infant expressive behaviors" (response within 10 seconds) added a qualitative element. This researcher concluded that both parents are equally responsive in the three-person interactions observed.

Belsky, Gilstrap, and Rovine (1984) obtained conflicting evidence regarding differences in parental sensitivity. They observed both parents with their infants in the home setting at one, three, and nine months. They measured contingent responsiveness to the infant's behavior and positive affect. Mothers surpassed fathers at all ages on these measures, but the differences declined with time.

A Swedish sample of 51 couples (34 traditional and 17 nontraditional in terms of amount of paternal leave taken) were observed interacting with their infants at three, eight, and sixteen months (Frodi, Lamb, Hwang, & Frodi, 1983). Parental sensitivity was evaluated at the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

three month home observation. Mothers were rated somewhat more sensitive than fathers--more likely to kiss and touch their infants. However, fathers tended to be more responsive (within 5 seconds) to the infant's distress signals. The reseachers concluded that parental gender accounted for behavioral differences better than did family type.

These studies are few in number and provide somewhat conflicting evidence regarding gender differences in parental sensitivity. One of the problems in comparing studies is that definitions of parental sensitivity varied or sometimes were difficult to identify. Another problem was the variety of instruments that were used to measure the concept. Often little information was given about the instruments, increasing the difficulty in making judgements about the appropriateness of measures.

Much of the original research on parental sensitivity was done with mothers. There is little research evaluating paternal sensitivity and even less research examining differences between maternal and paternal sensitivity. There are also conflicting reports of the success of interventions aimed at increasing maternal and paternal sensitivity (Belsky, 1985; Dickie, 1987). Given those conflicting findings,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

additional research is needed to determine differences between maternal and paternal sensitivity, and to determine which factors affect that sensitivity.

Infant gender

Infant gender is associated with differences in parental behavior. However, many studies do not account for its effects. Belsky, Lerner, and Spanier (1984) and Parke (1978) maintain that infant gender is a major determinant of parental treatment. These researchers note that this differential treatment appears to be more marked for fathers than mothers. The preponderance of evidence appears to support these statements, but there is evidence to the contrary.

Two studies that found no evidence of differential treatment focused exclusively on mother-infant dyads and involved small samples. Friedman et al. (1976) noted no difference in mutual visual regard for 16 middle class mother-infant pairs observed at four, six, and eight months of age. Thoman, Acebo, Becker, and Freese (1979) observed no differences in patterns of interaction for 10 first-time mother-infant pairs at two, three, four, and five weeks of age.

A study using exclusively father-infant dyads also found no differences. Fortier (1988) observed attachment behavior (talk to, talk about, look at, touch

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

and stroke, nuzzle) of 60 fathers with their one-month-old first- and later-born infants. No differences in paternal behavior during a structured play session were attributable to infant gender.

Four studies that compared parental behaviors in dyads and triads also found no differences related to infant gender. Field's (1978) laboratory observations of 36 middle-class parents with four-month-olds found no differences in caretaking, play, smile, or mimicry. Lamb's (1977) home observations of 20 middle-class parents during the infants' first year of life noted no differences in similar types of behaviors. Belsky, Gilstrap, and Rovine's (1984) home observations of 72 middle-class parents over the first nine months also found no differences in parental behaviors, as did Frodi, Lamb, Hwang, and Frodi's (1983) study of 51 Swedish families with five-month-old infants. Although these studies examined affective behaviors--especially smiling--only the latter two studies also focused on contingent responses to infant cues (a primary component of sensitivity). Neither study identified infant gender as a factor influencing parental contingent responsiveness.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

However, more studies report differential treatment related to infant gender than do not. Three studies focusing exclusively on mother-infant pairs found differences. Thoman, Leiderman, and Olson (1972) compared breastfeeding behaviors of 40 mothers of first-born and later-born infants at 48 hours of age. First-time mothers talked and smiled more at female infants than they did to male infants. Lewis (1972) and Lewis and Lee-Painter (1974) noted many differences in the 32 mother-infant pairs observed at three months of age. Overall, male infants got more proximal (touch and hold) treatment and females got more distal (vocal, smile). Reiber's (1976) study of nine families with first-borns found similar results. However, these researchers classified different behaviors as proximal or distal, thereby yielding different interpretations. For example, Lewis (1972) and Lewis and Lee-Painter (1974) classified "looking at" as distal, and Reiber (1976) classified it as proximal. Though the differences are interpreted differently, they are differences nonetheless.

There is evidence that these differences may be true regardless of socioeconomic or ethnic status. Bakeman and Brown (1977) observed 45 low-income, black

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

mother-infant pairs in feeding situations at three days of age. In general, boys were rocked, rubbed, patted, and vocalized to more than female infants.

One study that focused exclusively on fathers (Kotelchuck, 1976) found that fathers reported they played about one-half hour per day longer with first-born sons than with first-born daughters. However, this study did not incorporate an observational measure to verify fathers' self reports.

Several studies comparing parental behaviors found differences related to infant gender. Rebelsky and Hanks' (1971) study of ten middle-class parents' vocal behavior reported that fathers' vocal behavior was initially more frequent to daughters than to sons. However, during the first three months, the pattern reversed with fathers talking more to male infants and mothers talking more to female infants. Palkovitz (1984) on the other hand, noted that a sample of 40 fathers vocalized more to five-month-old daughters than to sons. No maternal differences were noted.

Weinraub and Frankel (1977) observed 40 lower- to upper- middle class parents with 18-month-old infants during free play sessions in the laboratory. The researchers found that parents talked to, sat on the floor with, and shared play more with the same-sex

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

infant. Belsky's (1979b) study of 40 parents of 15-month-olds noted more affective (kiss and hug) behavior and more interaction in general with same-sex infants.

Parke and O'Leary's (1976) observations of 19 middle-class parents with their first-borns at six and 48 hours after delivery noted differences only in parent-infant triads, but not in dyads. Both parents tended to touch male infants more with both parents present. In a related study of 82 lower-class families, fathers touched and vocalized more to male infants than to females in both dyads and triads. Mothers, on the other hand, showed the opposite pattern--vocalizing and touching male infants less, but only when alone with the infant. Mothers exibited no differences due to infant gender when fathers were present.

Parke and Sawin (1980) observed 40 middle-class parents with infants during the first three months of life. They found both parents' affectional behaviors more focused on the opposite-sex child, while attending and stimulating behaviors more frequent with same-sex infants.

Dickie (1987) concluded that her sample of 46 middle-class parents of four- to eight-month old infants demonstrated no differences in the amount of play or parental competence (expression of warmth, contingent

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

responsiveness). However, parents of same-sex infants were more involved in child care and felt stronger parental identity. One other study of 32 middle-class parents also found no significant difference in parental sensitivity related to infant gender (Graham, 1986).

While the data suggest no consistent pattern, there does appear to be modest support for the hypothesis that infant gender affects parental behavior in both two-person or three-person family groupings. There is less evidence, however, that those effects are more pronounced for fathers than for mothers. In particular, parents seem to focus more affectionate behaviors on opposite-gender infants and more stimulating behaviors on same-gender infants. These patterns seem to be particularly true as infants get older. It therefore appears that parents may play a complementary role in child development and that sex-typing occurs at a very early age (Belsky, Lerner, & Spanier, 1984).

While the majority of these studies had adequate sample size, some did not report socioeconomic status or birth order of the infant, or did not control for these variables. Others examined both parent-infant pairs and parents-infant triads but did not differentiate between the two conditions when considering the effects of infant gender on parental sensitivity.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Most of these studies examined parental sensitivity as frequency of affective behavior, but did not also incorporate the incidence of contingent and reciprocal responses to infant behavior (affective or otherwise). As a result, it is difficult to draw conclusions about the effects of infant gender on parental sensitivity. Studies that included measures of contingent responsiveness show few parental differences related to infant gender. However, many studies found gender effects on affective parental behaviors. Thus, infant gender is incorporated as a variable in this study of parental sensitivity.

Marital Quality

As indicated previously, research evidence supports the proposition that marital quality fosters positive parenting (Goldberg & Easterbrooks, 1984; Graham, 1986; Johnson & Lobitz, 1974; Pedersen, 1975; Porter & O'Leary, 1980; Westbrook, 1978). In this context, the marital relationship is conceptualized as a close relationship.

According to Huston and Robins (1982), close relationships are those " . . . in which the participants' lives are tightly intertwined, with each partner both affecting and being affected by the other in important ways" (p. 901). Family relationships are

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

unique because they are likely to be " . . . more enduring, involve more frequent interaction, span a greater range of activities, and be subject to a larger set of cultural norms than most other relationships" (Huston & Robins, 1982, p. 903). In addition, family members have more stable attitudes, attributions, and beliefs about the partner and the relationship (Huston & Robins, 1982). Clearly, the marital relationship is characterized by significant interdependence over a long period of time (Huston & Ashmore, 1986; Kelley et al., 1983).

Huston and Robins (1982) conceptualize relationship interdependence as having two levels--behavioral and psychological. Each person's overt behavior affects the overt behavior and the transient ideas, thoughts, and emotions of the other, thus behavioral interdependence exists (Huston & Robins, 1982). In addition, any relationship that lasts long enough to allow partners to form attitudes and beliefs about each other and the relationship exhibits psychological interdependence (Huston & Robins, 1982).

Psychological interdependence means that these attitudes and beliefs influence each person's behavior, and in turn are influenced by interpersonal behavior and momentary ideas, thoughts, and emotions. In particular,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

ongoing patterns of interpersonal behavior and transient ideas, thoughts, and emotions influence attitudes and beliefs. These ongoing patterns are referred to as "relationship properties" (Huston & Robins, 1982, p. 904), and are shaped by men's and women's dispositions and perceptions (Huston & Ashmore, 1986).

Thus the marital relationship can be viewed as consisting of two interdependent components--a behavioral (interpersonal) component, and a psychological (intrapersonal) component that includes transient thoughts and feelings, as well as more stable attitudes and beliefs. This study takes into account both behavioral interdependence and psychological interdependence inherent in marital relationships.

Measurement Issues

Given the practical and ethical problems associated with observing the full range of marital behaviors, other methods of assessing behaviors have grown out of marital therapy. Therapists often ask couples to note spousal behaviors, coding them as positive or negative. Behavioral marital therapists use social exchange theory in examining marital behaviors. When applied to intimate ongoing relationships, social exchange theory emphasizes an interdependence of reinforcing control--individuals strive to maximize benefits (affectional and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

material gains) and minimize costs (aversiveness of the other's behavior) (Weiss, 1978, p. 186). Behaviors are viewed in terms of their intrinsic reward value (benefits), in terms of their extrinsic benefits, and in terms of cost (Weiss, 1978).

Such a behavior exchange model proposes that individuals in a satisfying (high quality) marriage relationship exchange behaviors that have low cost and high reward to both members (Thibaut & Kelley, 1959). Gottman, Notarius, Markman, Bank, Yoppi, and Rubin (1976) note that this model also suggests that a person "...will perceive a relationship as satisfying to the extent that he or she codes the behaviors received as positive" (p.15). Indeed, research supports the notion that couples in more satisfying marriages perceive their partner's behavior as more positive than do distressed couples (Gottman et al, 1976; Williams, 1979).

Marital quality is consistently defined as a subjective evaluation of the couple's relationship (Lewis & Spanier, 1979; Norton, 1983; Spanier, 1976; Spanier, Lerner, & Aquilino, 1978). However, the consistency ends there. Marital quality has been defined as marital adjustment, satisfaction, happiness, and integration (Burr, 1970; Dentler & Pineo, 1960; Farber & McHale, 1959; Hawkins, 1968; Levinger, 1964;

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Meyerowitz, 1970; Spanier & Cole, 1976; Spanier, Lewis, & Cole ,1975). Seldom have these terms been clarified, and often they have been used interchangeably. All are indicators of psychological interdependence.

Researchers disagree about whether marital quality should be operationalized as a multidimensional or a unidimensional concept. The proponents of a multidimensional concept use marital adjustment as the primary indicator of marital quality and identify four interrelated dimensions for measuring the concept: (a) dyadic consensus (the degree to which couples agree on matters of importance to the relationship), (b) dyadic cohesion (the degree to which couples engage in activities together), (c) dyadic satisfaction (the degree to which the couple is satisfied with the present state of the relationship and committed to it), and (d) affectional expression (the degree to which the couple is satisfied with the expression of affection and sex in the relationship) (Lewis & Spanier, 1979; Spanier, 1976; Spanier & Cole, 1976; Spanier & Filsinger, 1983).

Proponents of the unidimensional approach argue that when multidimensional phenomena are compressed into a single index the items are weighted inappropriately and used disproportionately (Norton, 1983). For

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

example, in the Dyadic Adjustment Scale (DAS) (Spanier, 1976), four affection items get less weight than the 13 agreement items, 10 satisfaction items, and five cohesiveness items (Norton, 1983). Norton points out that another problem with a multidimensional index is the tendency to preclude any one dimension, such as agreement, from being used as an independent variable. Another argument against operationalizing marital quality as a multidimensional concept stems from the tendency to cluster conceptually distinct constructs, thus making it difficult to trace causal connections among them (Huston & Robins, 1982). For example, the DAS measures both relationship properties (consensus and cohesion) and subjective attitudes and beliefs (satisfaction with the relationship and with affectional expression). To avoid these problems, Norton (1983) proposes a unidimensional measure of marital quality that uses subjective evaluations of the whole relationship and reflects the "goodness of the relationship gestalt" (p. 143).

In this study, the marital relationship is defined as both (a) intrapersonal attitudes and beliefs about the relationship as measured by the unidimensional Quality Marriage Index (Norton, 1983), (b) and interpersonal patterns of behavior (numbers of pleasing

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

and displeasing behaviors) as measured by an adaptation of the Spouse Observation Checklist (Weiss & Perry, 1981). Thus this study will investigate both psychological and behavioral dimensions of interdependence in the relationship.

Marital Quality During the Life Cycle

Research on marital quality (usually defined as satisfaction) indicates that marital satisfaction follows a relatively flat but curvilinear pattern over the family life cycle (Bradburn & Caplovitz, 1965; Burr, 1970; Figley 1973; Miller, 1976; Orthner, 1975; Rollins & Cannon, 1974; Rollins & Feldman, 1970; Spanier, Lewis & Cole, 1975). In general, marital satisfaction declines with the arrival of the first child and continues a slight downward trend until children begin to mature and leave home. With the departure of children from the home, satisfaction increases.

Marital Quality During Transition to Parenthood

Much of the literature indicates that the birth of the first child precipitates change in the marital relationship. Five retrospective studies found somewhat conflicting results regarding the extent of change or crisis. The majority (83%) of LeMasters' (1957) 46 couples, interviewed within five years of the birth of the first child, reported extensive to severe crisis.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

This was true in spite of planned pregnancies, marriages rated as "good", and adequate personality adjustment. LeMasters concluded that the romanticized concept of parenthood and minimal preparation for parental roles are major factors influencing couples' adjustment.

In a related study, Dyer (1963) found that about 50% of 32 couples, interviewed within two years of the birth of their first-born, reported going through a "crisis" transition. Those who experienced less crisis rated their marital adjustment as excellent, were married longer, had more preparation for marriage and parenthood, and had planned the pregnancy. Fewer years of formal education for the husband (but not for the wife), and infants less than six months of age were associated with greater crisis.

Hobbs (1965) and Hobbs and Cole (1976)-- using random samples, objective questions, and a shorter recall (three to five months)--found that the period surrounding the first birth was accompanied by difficulties, but no couple in either study reported extensive or severe crisis. Mothers reported significantly more difficulty than fathers in both studies. Russell's (1974) study of 511 randomly chosen couples practically replicated Hobbs' (1965) methodology and findings.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Broom's (1984) study investigated couple concerns about the marriage relationship following the birth of the first child. The 22 middle-class couples were fairly accurate in predicting postpartum concerns. However, there were only moderate levels of agreement on the importance of concerns, discrepancies between perceived agreement and actual agreement, and low to moderate levels of accuracy in estimating the importance of concerns for spouses. Couples discussed most those concerns they ranked most important.

Longitudinal studies note a decline in marital adjustment or satisfaction following the birth of the first child. Waldron and Routh (1981) studied 46 upper middle class couples from the third trimester of pregnancy through six weeks postpartum via mailed questionnaires. Wives' ratings of marital adjustment decreased significantly during this time, but husbands' did not.

Belsky, Spanier, and Rovine (1983) studied 72 middle- class families (41 first-born, 31 second or later-born) at the beginning of the last trimester of pregnancy and at one, three, and nine months postpartum. They noted a linear decline in overall marital adjustment from the last trimester of pregnancy to three and then nine months postpartum. Effects were even more

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

pronounced in families with second- and later-born infants. These findings support Miller and Sollie's (1980) notion of a "baby honeymoon" period--little change in marital adjustment at one month postpartum--that ends by three months postpartum. Both these studies also found significantly greater decline in wives' marital adjustment scores than in husbands'.

In a related study, Tomlinson's (1987) sample of 96 parents of first-born were studied from the last trimester through 12 weeks postpartum via mailed questionnaires. She found, like others, that parenthood had a significant but not severe impact on marital satisfaction. Unlike others, she found that the decline in marital satisfaction was not limited to new mothers, but was evident for new fathers as well. In particular, marital partners experienced a decline in satisfaction with sexual and affectionate relationships, and less agreement in aims, goals, and handling family affairs. These latter findings are consistent with those of Belsky, Spanier, and Rovine (1983). Tomlinson (1987) found that mothers' evaluations of postbirth marital relationships were positively influenced by more nontraditional sex-role attitudes and greater father involvement in infant care, but negatively influenced by marital inequity and a more active infant. Fathers were

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

more negatively influenced by marital inequity than mothers, but other factors did not significantly contribute to fathers' postbirth marital satisfaction.

None of the preceding studies of marital satisfaction or adjustment included a comparison group of nonparents. Two longitudinal studies, however, did compare parents with non-parents. McHale and Huston (1985) and Ryder (1973) studied young married couples at three or four months after marriage and again one or two years later. Both studies found overall declines in the quality of the marriage relationship, but no significant differences in decline between the parent and nonparent groups. In Ryder's (1973) study, the only significant difference between parents and nonparents was that women who have a child are more likely than childless women to report that their husbands are not paying enough attention to them. McHale and Huston (1985) found that both parents' and nonparents' evaluations of their marriages decline during the first year, and there is also a decline in saying and doing things that bring pleasure to each other. Generally, marriages change from predominantly recreational to more of a working partnership (McHale & Huston, 1985). As others have found, McHale and Huston found companionate activity changes from incidental leisure pursuits to more

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

instrumental activities (especially true of the parent group) over time. They speculate that such instrumental activity is apt to be less pleasant than other leisure pursuits, thus spouses may begin to associate one another with neutral, or even negative subjective states.

The literature on the effects of transition to parenthood on marriages contains a number of consistent findings. Marital adjustment and satisfaction decline by the third postpartum month, and this decline is more evident for wives than for husbands. In particular, there is less satisfaction with the sexual relationship and expression of affection, and less agreement on matters of importance to the family. The decline in marital satisfaction for new parents, however, parallels that of childless couples married the same length of time. Thus, it is inaccurate to conclude that the introduction of a child is responsible for the decline in marital satisfaction or adjustment. Rather, marital satisfaction tends to decline over the first year or two of marriage as partners experience changes in the nature of their activities together--moving from more recreational pursuits to instrumental activities. These changes in activity are particularly pronounced for new parents.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

With the exception of McHale and Huston (1985), these transition-to-parenthood studies do not take into account the behavioral dimension of the marriage relationship. Most also employ multidimensional scales to measure marital adjustment or satisfaction, making it difficult to draw conclusions about the nature of psychological and behavioral interdependence.

Marital Quality and Parental Sensitivity

As the preceding section indicates, most studies of transition to parenthood investigate the impact of the child on the marriage relationship. Only recently have researchers begun to investigate the effect of the marriage relationship on parenting behaviors and on child development. This change in research focus parallels the increasing recognition of the father's role in child development, greater emphasis on the family unit, and evidence linking poor marital quality with childhood behavioral problems (Johnson & Lobitz, 1974; Porter & O'Leary, 1980). This section reviews studies of the relationship between marital quality and sensitivity of parental behavior with infants.

One study looked at predictors of paternal caretaking, playfulness, and satisfaction with fatherhood (Feldman, Nash & Aschenbrenner, 1983). These researchers found that their middle class sample of 30

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

first-time fathers engaged in more caretaking, were more playful with their seven- to nine-month-olds, and more satisfied with fatherhood if they had few marital problems. The wives' perception that the marital relationship was good also predicted husbands' playfulness and satisfaction with fatherhood.

Two studies treated the marital relationship as a support system and found that mutual support was associated with better parenting behaviors. Crnic, Greenberg, Robinson, and Ragozin (1984) compared mothers of preterm infants (N=52) and full-term infants (N=53) from one month after discharge to 18 months of age. They found similar results for both groups: mothers' satisfaction with intimate support was the best predictor of (a) reported life satisfaction, (b) satisfaction with parenting, and (c) observed quality of behavioral interactions with infants at each measurement period.

Dickie (1987) studied 46 midddle-class couples with their four- to eight-month-old infants (majority first-born). For both fathers and mothers, emotional support observed in husband-wife interaction was strongly associated with parental competence (defined as sensitive, contingent, and emotionally appropriate interaction with infants). Cognitive marital support

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

was of lesser importance. Spousal child care support had the least effect on parenting behaviors. Dickie also found that under conditions of high marital support, mothers and fathers did not differ in parenting competence. However, under conditions of low support, fathers were significantly less competent than mothers. Dickie also found a positive relationship between marital support and the infant's social competence, and between parental competence and the infant's social competence.

Graham's (1986) study of 32 white, middle-class parents of first-born infants provided additional evidence that marital quality is related to parental sensitivity. Both fathers' and mothers' attitudes toward reciprocity, capacity for empathy, and self-reports of marital quality were significantly related to their observed sensitivity to infant cues.

Vincent, Cook and Brady (1981) investigated the relationship between marital satisfaction and parent-infant reciprocity of gazing and facial expressions. In a departure from previously cited studies, they found that the fathers' marital satisfaction is related to mothers' reciprocity in responses to infant-led changes in attention (gaze). More satisfied fathers had wives who responded more reciprocally to their infants' gaze;

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

whereas those who were less satisfied had wives who responded nonreciprocally to infant gaze. In families in which the father was satisfied with the marriage, there were equivalent patterns of parent-infant reciprocity in gaze behavior for mothers and fathers. However, in families in which the father was not satisfied with the marriage, mothers tended to be more reciprocal than fathers, suggesting a compensatory pattern of mother-infant interaction. This compensatory pattern is reminiscent of Minuchin's (1974) enmeshed pattern of interaction. The more discrepant husbands and wives are in rating marital satisfaction, the more nonreciprocal the mothers tend to be--yet they are more reciprocal than fathers, again suggesting a compensatory pattern of behavior by mothers in infant-led gaze behaviors.

Likewise, mothers' marital satisfaction is related to the amount of reciprocity in father-infant interactions--specifically in infant-led changes in facial expressions. More satisfied mothers had husbands who responded reciprocally while husbands of less satisfied wives responded nonreciprocally to infants' facial expressions. There was no evidence of compensatory patterns for responses to infants' facial expressions as there was for gaze, regardless of marital

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

satisfaction. These researchers concluded that it is important to look at both mother-infant and father-infant relationships and assess the balance in interaction-- especially in families where one of the spouses is less satisfied with the marriage than the other.

Another study also focused on reciprocity, but only for mothers. Grossman, Eichler, and Winickoff (1980) compared first-time parents with experienced parents when the infant was two months and one year of age. Maternal adaptation assessed during interviews was positively related to adaptation to the spouse and to emotional well-being, but negatively related to depression and anxiety. Observed maternal adaptation (warmth and sensitivity to infant need) was negatively related to depression. Reciprocity in mother-infant interaction was also negatively related to depression, positively related to emotional well-being, and positively related to adaptation to the spouse. Overall, these researchers concluded that the marital relationship of first-time mothers strongly predicts mothers' psychological adjustment and reciprocity at two months, and moderately predicts both at one year. The quality of the marital relationship is more relevant for first-time mothers than for experienced mothers.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

In the same study fathers' adjustment to parenthood was found to be faster than mothers'. By two months, fathers had settled into a satisfying family routine. At two months, first-time fathers' psychological health was most related to an active sexual life, identification with a nurturantly perceived mother, and more feminine sex-role traits. The quality of the marriage early in pregnancy, as well as the man's earlier sexual activity and satisfaction predicted his adaptation to the infant. In general, if fathers' emotional well-being was good and they had adapted to their infant at two months, they were also psychologically healthy and doing well with their infants at one year. The researchers conclude that in general, babies of strong marriages do better at one year than those from weaker marriages.

These studies tend to be well designed and use adequate sample sizes. However, not all evaluate both fathers and mothers as they interact with their infants, thus making it difficult to make comparisons. With the exception of the Dickie (1987) study, none attempted to measure behavioral as well as psychological dimensions of marital interdependence, and all used multidimensional measures of marital quality. In

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

spite of these problems, the studies suggest hypothetical relationships between marital quality and parental sensitivity.

Overall, this body of literature lends support for Belsky's (1984) proposition that the quality of the marital relationship is positively associated with parental sensitivity in interaction with infants. In particular, mutual emotional support is related to sensitivity in parenting behavior. There is also evidence that fathers' sensitivity may be more affected than mothers' by a poor marital relationship. Mothers in poor marriages may in fact compensate for a poor marital relationship by increasing attention to the infant. There is no evidence to suggest such a compensatory response for fathers.

There is also support for Belsky's (1984) proposition that marital quality positively affects parents' sense of well-being thereby freeing psychological and physical energy for interactions with infants (Belsky & Vondra, 1985). The next section reviews studies linking well-being to parental sensitivity.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Psychological Well-being

Researchers view psychological well-being from two different perspectives. Campbell, Converse, and Rodgers (1976) conceive of well-being as level of satisfaction--a ". . . perceived discrepancy between aspiration and achievement, ranging from the perception of fulfillment to that of deprivation" (p.8). They note that satisfaction is a personal experience--a judgement, based on previous experience and current expectations, of whether or not personal needs are met. When needs are not met, individuals are dissatisfied and frustrated.

In their national study to ascertain the quality of American life, Campbell et al. (1976) operationalized well-being as self-ratings of satisfaction in 17 domains of life. The set of 17 domain satisfaction scores explained 54% of the variance in their Well-Being Index. When respondents were polled, they rated marriage as the most important domain, closely followed by family life. Indeed, ratings of family life and marriage ranked first and second, respectively, in ability to predict overall life satisfaction. Measures of stress and anxiety were

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

negatively associated with overall well-being, but personal competence (a self-esteem measure) was positively associated with overall well-being.

Campbell et al. (1976) note that there was a marked tendency for those who rated themselves as "very happy" to also rate themselves as most satisfied with life, and a considerable overlap as well between the "not too happy" and the dissatisfied. The correlation between the happiness and satisfaction measures was .50, indicating some overlap between these measures.

Bradburn (1969) equates psychological well-being to happiness, as opposed to satisfaction. His model is based on a notion of emotional balance--rather than differences in satisfaction with the extent to which individual needs are met. Bradburn sees psychological well-being as the result of an individual's position on two independent dimensions--one of positive affect and the other of negative affect (feelings). He assumes that people tend to code experiences in terms of their affective tone--positive, neutral, or negative. His model specifies that

> an individual will be high in psychological well-being in the degree to which he has an excess of positive over negative affect and will be low in

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

psychological well-being in the degree to which negative affect predominates over positive (p. 9). For instance, one would expect an increase in marital tension to be associated with an increase in negative feelings and a decrease in sense of well-being. However, if parent-infant interaction creates increased positive feelings, these increased positive feelings would tend to cancel out the increased negative affect from marital tension, thus maintaining affect balance. Such compensation might result in no significant change in the overall sense of well-being. Indeed, Bradburn and Caplovitz (1965) found that the best predictor of overall well-being was the discrepancy between scores on the positive and negative feeling indices of the Affect Balance Scale.

Bradburn and Caplovitz (1965) also found that not only are the positive and negative affect dimensions independent of each other, they are also related to well-being by a different set of variables. Variations in negative affect are associated with difficultness in marriage and work adjustment, interpersonal tensions, and feelings of having a "nervous breakdown", as well as anxiety and worry (Bradburn, 1969, p. 12). Positive affect, on the other hand, is related to a series of factors concerning the degree to which an individual is

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

involved in the environment--organization membership, number of friends and relatives, and the degree of sociability and companionship with the spouse (Bradburn, 1969).

Age has no independent effect on feeling states with the exception of the elderly. Education and income, on the other hand, are modestly related to psychological well-being. Those who are less educated and have low income levels have lower well-being than those with higher levels of each.

Bradburn (1969) notes that feeling states are reactive to environmental situations, thus one must specify a time frame ("past few weeks") when asking for happiness ratings. Otherwise, he contends, one is measuring long-term trends that reflect personality dispositions more than current environmental situations.

This study focuses on the interdependent nature of individuals in family subsystems. The theoretical hypothesis is that interactive behavior in the spousal subsystem affects parental well-being, and thus indirectly affects parental sensitivity in the parent-infant subsystem. Though there is documented overlap between satisfaction and happiness measures of well-

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

being, Bradburn's model of affect-balance appears to better fit the theoretical assumptions of interactional reactivity inherent in the proposed study.

Psychological Well-Being and Transition to parenthood

Few studies that examine psychological well-being of new parents do so in relation to parenting behaviors. Even fewer include both fathers and mothers. The review that follows incorporates studies investigating adjustment to parenthood as well as those that study parent-infant interaction. Studies measuring anxiety and depression are included as well as those using more traditional measures of psychological well-being.

Only two studies pursue the connection between the marital relationship and psychological well-being. Hines (1987) concluded that the marriage relationship is a key variable affecting fathers' well-being. Some of the 23 new fathers she interviewed reported feeling lonely and missing time alone with and attention from their spouses. These men reported that they tended to work at reestablishing closeness as a couple.

Wandersman (1980) also concluded that marital quality is related to a sense of well-being. She studied parental adjustment to the first baby using questionnaires at two to three months, five to six months, and nine to ten months after birth. She

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

concluded that the quality of the marital relationship plays a central role in paternal adjustment, relating strongly to moods, sense of well-being, and to sense of competency in infant care. Mothers' well-being and sense of competence are less dependent on the marital relationship than on infant temperament.

Miller and Sollie (1980) examined normal stress at three periods--mid pregnancy, five to six weeks after birth, and six to eight months after birth for 109 middle class couples. Psychological well-being declined for both fathers and mothers over this time period. Marital stress increased significantly by six to eight months for mothers, but fathers' marital stress remained relatively stable over the eight month time period. Personal stress increased for both, but particularly for new mothers. No attempts were made to examine linkages between these three categories of stressors. These results are consistent with Ryder's (1973) findings that new mothers are more likely than new fathers to report receiving decreased attention from spouses.

Only two studies investigated the relationship between well-being and parent-infant interaction, and each of those is limited to mothers. Nover, Shore, Timberlake, and Greenspan (1984) studied 43 white, middle-class mothers of first-born nine-month-olds.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

No mothers experienced high levels of anxiety. However, the higher the measured anxiety the less contingent responsiveness observed in mother-infant interactions. Higher levels of anxiety were also associated with increased frequency of misperception of infant behavior, which was also associated with decreased contingent responsiveness.

Grossman, Eichler, and Winickoff (1980) studied 23 mothers of first-borns at two months and one year of age. They found emotional well-being and adaptation to the spouse positively related to observed reciprocity of mother-infant interaction. Depression, on the other hand, was negatively related to reciprocity and also to observed maternal adaptation (warmth and sensitivity to infant needs). Their interview measures of maternal adaptation correlated positively with emotional well-being and to adaptation to spouse, and correlated negatively to depression and anxiety. Fathers who were more anxious at two months also reported decreased adaptation to fatherhood. In addition, fathers' well-being at two months predicted their adaptation at one year. This study is the only one that includes well-being, marital quality, and parental behavior (the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

latter only with mothers). However, the relationship between psychological well-being and marital quality was not explored.

Unfortunately, these generally well designed studies use many different measures of psychological well-being and often do not clearly define the concept. They also tend to use multidimensional measures of marital quality. Only one--Wandersman (1980)--studies the behavioral aspect of marriage. None investigates the relationships among marital quality, psychological well-being, and parental sensitivity.

This literature does provide some evidence that the quality of the marriage relationship affects new parents' psychological well-being. There is also some evidence that the relationship is stronger for fathers than for mothers.

Addditionally, well-being is associated with paternal adaptation to fatherhood and to maternal sensitivity in interactions with infants. Unfortunately, neither of the interaction studies included fathers, thereby precluding conclusions about the relationship between paternal well-being and sensitivity.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Focus for the Study

The proposed study attempts to fill several gaps in the knowledge about factors affecting the sensitivity with which both mothers and fathers interact with their infants. Both fathers and mothers will be observed interacting independently with their three-month-old first-born infants. Measures of marital quality will include both behavioral and psychological interdependence in marriage. Relationships among marital quality, psychological well-being, and parental sensitivity will be explored and comparisons made between mothers and fathers. And finally, the effects of parent age and infant gender will be accounted for in tests of statistical significance. The study will (a) test Belsky's proposition that a positive marital relationship increases individual psychological well-being, thereby freeing psychological and physical energy for more sensitive interaction with infants; and (b) identify differences between mothers and fathers for the variables of interest.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Chapter III: Methodology

This chapter describes the design of the study, procedures for subject selection and protection, data collection procedures, and the instrumentation used in the study. Distribution data and reliability measures are presented for the instruments.

Design

This study employs correlational, cross-sectional design to examine relationships among parental marital quality, psychological well-being, age, and infant gender as predictors of parental sensitivity. Table 1 summarizes the theoretical and operational measures. This design was chosen because the independent variables cannot be manipulated, nor is it practical to randomly select subjects. As a result, cause and effect relationships cannot be demonstrated. However, the findings indicate the relative contributions of these variables to parental sensitivity, as well as ascertaining differences between mothers and fathers. These findings provide impetus for additional research and indicate areas for possible nursing intervention.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 1

Summary of Theoretical Definitions and Operational Measures

Independent Variables

Theoretical Terms	Operational Measures
Perceived Marital Quality Subjective evaluations of a married couple's relationship which indicate (a) the "goodness" of the relationship gestalt, and (b) the extent to which spousal behaviors are perceived as positive or negative by members of the marital dyad.	(a) Marital Quality Index (Norton, 1983) 6 items, Range 6-45 (b) Revised Spouse Checklist 92 items (frequencies categorized as pleasing, displeasing, neutral, or no occur)
Psychological Well-being Happiness or emotional balance resulting from the balance between positive feeling (affect) and negative feeling.	Affect Balance Scale (Bradburn, 1969) 10 items, Range 10-40
Parental age Chronological age in years.	Demographic Data Form Range 18-40
Infant Gender Biological sex of infant.	Demographic Data Form

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 1 (cont.)

Dependent Variable	
Parental Sensitivity Ability to monitor and accurately interpret infant cues evidenced by parent-infant interactions that are contingent, reciprocal, and affectively positive.	Nursing Child Assessment Teaching Scale (Barnard, 1978b) 33 items, Range 33-66

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Research Subjects

Subjects were 71 married couples (142 individuals) with first-born three-month-old infants recruited from Childbirth Education Association classes in Southern California. The sample size was based on the recommended number of cases (10) per independent variable used in multiple regression analyses (Hair, Anderson, Tatham & Grablowsky, 1984; Tabachnick & Fidell, 1983). The following inclusion criteria reflect the attempt to control extraneous variables which may influence parent-infant interaction.

1. Married at least one year and living together.
2. Both parents between the ages of 18 and 40.
3. Middle class.
4. Both parents in generally good health.
5. Neither parent has another child (biological or adopted).
6. Parents participated in childbirth education classes.
7. Father was present at delivery of the infant.
8. Healthy, full-term, three-month-old infant.
9. Both parents read and speak English.

On initial contact at childbirth education classes, prior to the birth, eighty couples expressed interest in participating in the study. At the second contact, one

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

month after birth, two families no longer met study criteria because of the infant's physical problems necessitating surgery and special care nursery stays. One couple had moved, did not yet have a phone, and did not respond to a letter. Four couples eventually withdrew before the data collection visit because of scheduling problems secondary to erratic work schedules. The only two black families were in this group. Another family withdrew because the husband had some reservations about "being observed". With the exception of ethnicity, there were no systematic differences between this group and the final sample. Following data collection one family was omitted from the study because the father did not meet study criteria--he is deaf. Although this problem was acknowledged at the childbirth education class, the researcher decided to accept them for data collection but not use the data in the analyses. Seventy-one families were included in the final data analyses. See Table 2 for a description of the study sample.

Mothers' ages ranged from 18-40, with a mean of 28.2 years. Fathers' ages ranged from 20-40, with a mean of 30.9 years. The sample was well educated. Only two (2.8%) mothers and one (1.4%) father had not completed high school. The majority of mothers (n = 29,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 2

Demographic Characteristics of First-Time Parents

	Parent Characteristics					
	Mother (n = 71)			Father (n = 71)		
Characteristic	Freq.	Percent	Mean	Freq.	Percent	Mean
Age			28.2			30.8
Education						
Part High School	2	2.8		1	1.4	
High School Grad	5	7.0		10	14.1	
Part College /Voc.	29	40.8		36	50.7	
College Grad	24	33.8		16	22.5	
Graduate Degree	11	15.5		8	11.3	
Ethnicity						
Caucasian	59	83.1		62	87.3	
Hispanic	8	11.3		3	4.2	
Asian	3	4.2		3	4.2	
Amer. Indian	0	-----		1	1.4	
Other	1	1.4		2	2.8	
Previous Experience with Infants						
None	19	26.8		31	43.7	
Small	25	35.2		28	39.4	
Moderate	19	26.8		11	15.5	
Extensive	8	11.3		1	1.4	

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 2 (cont.)

Family Characteristics			
Characteristics	**Freq.**	**Percent**	**Mean**
Social Status			47.78
Skilled (30-39)	13	18.3	
Technical(40-54)	42	59.2	
Professional(55-66)	16	22.5	
Years Married			3.9
Infant Related Characteristics			
Type Birth			
Vaginal	58	81.7	
Cesarean	13	18.3	
Infant Feeding			
Breast	33	46.5	
Bottle	12	16.9	
Combination	26	36.6	
Infant Gender			
Girl	40	56.3	
Boy	31	43.7	

Note. Because of rounding, not all percentages sum to 100

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

40.8%) and fathers (n = 36, 50.7%) had completed at least a year of college or specialized training. The participants were primarily Caucasian (n = 59, 83.1% mothers; n = 62, 87.3% fathers).

Mothers had more previous experience with infants than did fathers. Most fathers (n = 31, 43.7%) had no previous experience with infants and most mothers (n = 28, 39.4%) mothers reported a small amount of previous experience.

The majority of women (n= 45, 63.3%) who worked or had worked prior to the birth were in technical or professional occupations, as were the men (n = 54, 76%). Family social status scores, reflecting education levels and occupations of both spouses, ranged from 31-66, with a mean of 47.78, indicating a middle class sample (Hollingshead, 1983). All women were employed prior to the birth. A little more than half (n = 38, 53.5%) of the women had returned to employment by the time of the data collection visit at three months after birth. Mothers who were not planning to return to work for at least a year were classified as unemployed for the purposes of calculating the family social status score.

Couples had been married from one-18 years. All but 13 couples had been married at least two years, with a mean of 3.9 years.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The majority of births were vaginal (n = 58, 81.7%) rather than cesarean (n = 13, 18.3%). At the time of data collection babies were being fed primarily by breast (n = 33, 46.5%) or a combination of breast and bottle (n = 26, 36.6%). Girl infants (n = 40, 56.3%) outnumbered boys (n = 31, 43.7%).

Procedures for Data Collection

The procedures described here were followed during the data collection phase of the study.

Subject Recruitment

Subjects were recruited from Childbirth Education Association classes. The researcher obtained permission from the Childbirth Education Association to attend classes to contact potential subjects. At the classes the researcher briefly explained the study, answered questions about the study, and distributed the consent form and recruitment flyer further explaining the study (see Appendices A and B). At the end of the class, couples indicating interest left their names and phone numbers with the researcher with the understanding that the researcher would contact them by phone one month after the expected birth date to confirm interest

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

in participating. During this follow-up call the researcher also screened further to ensure interested couples met study criteria (full term healthy newborns).

When the infant was approximately two months of age, the researcher made an additional phone call to schedule a convenient appointment for data collection within a week of the three month birthday. This appointment was scheduled for a time the infant would likely be awake and receptive to interaction. A surprising number of women were returning to work near the time of the data collection. As a result, the researcher decided to also track the number of women who were back at work by the data collection date.

The researcher or research assistant made a confirmatory phone call to each couple the day of the scheduled data collection appointment. These calls minimized forgotten appointments and allowed for rescheduling in the case of unanticipated problems such as illness. Written consent was obtained in couples' homes at the time of data collection.

Data Collection

All data collection was done by the researcher or the research assistant--a master's prepared public health nurse certified in the use of the observation instrument and trained by the researcher. Data were

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

collected using questionnaires and observation in subjects' homes. The home setting was chosen to promote comfort and natural behaviors. At the home visit, the data collector reviewed the study and collected signed consents. Demographic data were collected first, incorporating the Hollingshead Four-Factor Index of Social Status (1983), length of marriage, type of birth, type of infant feeding, previous experience with infants, and infant gender (See Appendix C). An effort was made to put couples at ease in order to facilitate natural behaviors in the observational phase.

At this point, the data collector asked the spouses to complete the other tasks in separate rooms. While the data collector observed one parent-infant interaction using the Nursing Child Assessment Teaching Scale (NCATS) (Appendix D), the other parent completed the Quality Marriage Index (Appendix E), the Revised Spouse Checklist (Appendix F), and the Affect Balance Scale (Appendix G). After parents completed the first task(s), they switched rooms and completed the other task(s). In an effort to equalize testing and maturational effects for parents, the data collector

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

alternated the order of mothers and fathers completing the questionnaires and the parent-infant interaction task.

Parents were free to ask questions prior to the questionnaire and observation tasks. Questions that arose as participants filled out questionnaires were noted and held until the data collector completed the observation.

Each parent was told that the data collector would be completely silent during the observation task in order not to distract either the parent or infant. The data collector positioned herself to keep such distraction to a minimum, yet be able to observe parent-infant interactions. Instructions for the task were introduced in this manner:

> I'd like to have you teach X to learn to do one or two things. I'll explain exactly what I'd like to have X do, and you can help him/her learn it any way you want. You may move around any way you like, change your position or X's position, do whatever feels comfortable, and take as much time as you like. Just let me know when you're done (Barnard, 1978b, p. 51).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

An age-appropriate infant task was selected and the appropriate toy washed and given to the parent (see Appendix H for description of age-appropriate teaching tasks listed in order of difficulty). An example of an appropriate task for a three-month-old is teaching him or her to reach for a dangling red ring. Typical instructions would be: "See if you can teach X to reach toward the ring" (Barnard, 1978b, p. 45). If the infant did the task easily, the data collector praised the accomplishment and asked the mother or father to teach him or her a slightly more advanced task. If the infant didn't do well, the data collector acknowledged the difficulty and noted that, (even) "...some older children find this one difficult" (Barnard, 1978b, p. 51). All infants were able to successfully complete one or more of these tasks.

Different age-appropriate tasks were assigned to each parent to eliminate ease of accomplishment due to prior learning. The tasks were alternately assigned to parents to eliminate either gender parent consistently using the same task. At least 10 minutes elapsed between mothers' and fathers' teaching tasks, allowing "time-out" for the infant. The typical time necessary to complete the teaching task was six to ten minutes.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The questionnaires and observation measures were completed in approximately 45 to 60 minutes. The visit concluded by giving each parent two more copies of the Revised Spouse Checklist and instructions for completing them during the next week.

Parents were instructed to independently complete the checklist at the same time each day for two more days selected during the next week--to include one week-end day if the data collector's visit occurred during the work week. The data collector advised the couple to select an anchoring event such as dinner to establish the 24-hour period covered by the checklist. The data collector also instructed them to elect the two additional days to complete the checklist based on their mutual judgement that these days would be typical for them.

The decision to have participants complete the first checklist at the time of the home visit was based on the ability to quickly resolve questions that arose about the checklist and potentially increase compliance. The three day schedule was an effort to adequately sample behavior for several days of the week (acknowledging that week days are different from week-end days), yet not overwhelm the participants. A phone call from the researcher, placed near the chosen

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

anchoring event on each of the scheduled independent data collection days, helped couples remember to complete the checklist as instructed. This phone contact also enabled the researcher to answer additional questions related to the checklist. Such questions were rare--the most common was to confirm the 24 hour time frame covered by the checklist. Couples were instructed to independently mail the checklists to the researcher at the end of each data collection day in the stamped, addressed envelopes provided. The decision to require mailing after each completion was an attempt to avoid potential bias resulting from participants comparing responses for previous days.

The data collector concluded the exchange by giving participants the Bibliography of Infant Development Resources (see Appendix I). Because all parents expressed an interest in the results of the study, the researcher sent all of them a thank-you letter with a copy of the abstract after the study was completed. A follow-up letter asked families if they are interested in participating in a follow-up study within a year or two. For those interested, a mechanism for keeping in touch was established.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Protection of Human Subjects

Subjects gave verbal and written consent prior to participation in the study. The study, recruitment flyer, and the consent form (see Appendices A and B) were approved by The University of Texas at Austin Institutional Review Board, San Diego State University Human Subjects Committee, and the Childbirth Education Association's Board of Directors. Participation in the study did not affect the medical treatment received by parents or infants. Participation was voluntary and individuals could withdraw at any time. Neither questionnaires nor observations dealt with unusually sensitive information.

Although the infant was not the subject of the study, the measure of parental sensitivity required observation of each parent interacting with the infant. Care was taken in data collection procedures to prevent undue stress on the infant. For example, the observation of parent-infant interaction focused on an age-appropriate teaching task which can be accomplished in approximately six to ten minutes and should be fun for both parent and infant. The task was done in the familiar home setting when the infant was awake and ready for interaction. Approximately 10 minutes elapsed

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

between the first parent-infant interaction and the second. This "recovery" time was built in to prevent infant fatigue. If the infant had difficulty with a particular task, a less difficult task was selected. If the infant unexpectedly experienced distress, yet the parents persisted, the data collector terminated the session in a tactful manner. Such termination was necessary on two occasions--one infant experienced some digestive upset secondary to a new formula and the other simply fell asleep. In each case the session was terminated smoothly and rescheduled at a time when the infant was ready for interaction.

Care was taken so that feedback on the infant's task performance was positive. For example, if the child did not do well on a particular task, the data collector said something like, "That one seemed hard for X to do. That's not unusual; some older children find this one difficult" (Barnard, 1978b, p. 51). As mentioned previously, all infants were able to successfully complete one or more of the age-appropriate tasks. Parents seemed genuinely pleased to know that their infants were able to accomplish these tasks.

Given the previously discussed subject criteria and infant safeguards, the researcher believes that there were no physical, social, or legal risks to

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

participants. Parents may initially have felt some uneasiness during the observation session. However, the data collector was careful to put them at ease prior to that part of the data collection. They were reassured that they were not being judged on their performance, but rather the purpose of the study was to learn more about family relationships and infant development. Identifying the more specific nature of the study (i.e., to study the relationships among marital quality, psychological well-being, and parental sensitivity) might have caused some distress, biased parents and therefore introduced extraneous variance.

These measures and the knowledge that their participation was voluntary and that they could freely withdraw from the study at any time appeared to keep psychological stress to a minimum. In return for participating in the study, parents were given a bibliography of resources to help them find appropriate ways to stimulate their infant's development. As indicated, all families received a copy of the study abstract.

Confidentiality for participants was maintained by removing all identifying information and substituting code numbers. Access to the data was restricted to the researcher and a research assistant. The master list

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

linking names and code numbers of those not available for a follow-up study was destroyed upon completion of the study. Results will be presented as aggregated results.

Instruments

Five scales were used in the study--the Four-Factor Index of Social Status (Hollingshead, 1983); the Quality Marriage Index (Norton, 1983), the Revised Spouse Checklist (a revision of an established checklist); the Affect Balance Scale (Bradburn, 1969); and the Nursing Child Assessment Teaching Scale (Barnard, 1978b). A Demographic Data Form provided information necessary to compute the social status score --education and occupation--and further describe the sample--years married, type birth, infant gender, type infant feeding, and previous experience wih infants. Table 3 presents family social status levels for the sample. Table 4 presents internal consistency estimates for the instruments. Table 5 summarizes means and standard deviations for the instrument scores. Table 5 also presents differences between mothers' and fathers' instrument scores.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Four-Factor Index of Social Status (Appendix C)

This scale is designed to determine individual and/or family social status based on occupational title, level of education, gender, and marital status. The original two-factor index has been used extensively in research as an indicator of socioeconomic status. However, the two-factor index does not include gender and marital status factors. Education and occupation scales of the updated index were validated by using data from the 1970 U.S. Census. There is strong correlation between median years of education and the occupation score (r = .835 for males and r = .849 for females). The National Opinion Research Center Index of Prestige Scores has an even higher correlation with the Hollingshead nine-step occupational scale (r = .927).

Computed scores can range from eight to 66, based on the occupation and education of one or two members of the nuclear family or household. Housewives are given a rank of zero and social status is based upon their spouse's education and occupation. If the wife is employed the family social status is a weighted index of both spouses' education and occupations. The instrument assumes the higher the score of the family, the higher the status its members are accorded by other society members.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

For the purposes of this study, the family status score was calculated and used as a monitoring device to ensure a homogeneous sample with regard to this variable. Social status scores were classified into five levels with the highest interval ranging from 55 to 66 (I = professional workers) to the lowest range of eight to 19 (V = unskilled workers) (see Table 3).

Quality Marriage Index (Appendix E)

This six-item index is designed to ascertain spousal evaluations of the marital relationship as a whole (Norton, 1983). This unidimensional scale provides a marital quality measure that avoids the problems associated with current multidimensional measures: (a) inappropriate weighting of items; (b) disproportionate use of items; (c) inability to use any one dimension, such as agreement, as an independent variable (Norton, 1983); and (d) combination of conceptually distinct constructs, thus making it difficult to trace causal connections (Huston & Robins, 1982).

The index was developed by selecting 20 items from the 261 item Partner Communication Scale (PCS). The primary criterion for item selection was the "degree to

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 3

Levels of Family Social Status for First-Time Parents

Social Status Classification	Family Social Status (n = 71) N	Percent	Range	Status Level
Major Business and Professional Worker	16	22.5	55-66	I
Medium Business, Minor Professional, and Technical Worker	42	59	40-54	II
Skilled Craftsmen, Clerical and Sales Worker	13	18.3	30-39	III
Machine Operator and Semiskilled Worker	---	---	20-29	IV
Unskilled Laborer and Menial Service Worker	---	---	8-19	V

Note. I = highest social status; V = lowest social status based on the Hollingshead Four Factor Index of Social Status.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

which the items reflect an evaluative gestalt that both describes and commends the whole relationship" (Norton, 1983, p. 144).

In an effort to establish construct validity, pilot data on the original 20 items were collected from 430 people (80% married couples) and analyzed by correlation coefficients and factor analysis. The final six items reflect the most cohesive set with the highest loadings on Factor I (.68 to .83), and correlation coefficients ranging from .74 to .85. Internal consistency using Cronbach's alpha was .96 (Norton, 1983).

In a study of 200 first-time parents of six to 52 week old infants, Fox (1989) reported a Cronbach alpha coefficient of .93 for fathers, with a mean inter-item correlation of .77 and an item-total correlation of .73 to .90. For mothers, the Chronbach alpha coefficient was .92 with a mean inter-item correlation of .73 and item-total correlation of .68 to .89.

Predictive validity for the final six-item index was established by investigating the relationships between scores on the Quality Marriage Index (QMI) and three variables not included in the final scale: (a) similarity of attitudes, (b) estimated time couple will probably stay together, and (c) number of times couple

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

seriously discussed ending the relationship (Norton, 1983). Similarity of attitudes demonstrated a strong linear relationship. Estimated time the couple will probably stay together discriminated between the lowest 12th percentile and the rest of the sample, reflecting a more complex phenomena. The number of times the couple seriously discussed ending the relationship discriminated the lowest 50th percentile of the sample.

The six-item index used in this study consists of five items rated on a seven-point scale ranging from "very strong disagreement" (1) to "very strong agreement" (7), and a sixth item rated on a ten-point scale ranging from "very unhappy" (1) to "perfectly happy" (10). To avoid problems of reactivity to daily events, questionnaire instructions ask individuals to think about their marriage during the last few weeks. The total possible score ranges from six to 45.

The instrument's internal consistency in this study is slightly lower than that reported by Norton or Fox. Cronbach alpha coefficient for fathers is .90 with a mean inter-item correlation of .67 and an item-total correlation of .63 to .91. For mothers, Cronbach alpha coefficient is .82 with a mean inter-item correlation of .51 and an item-total correlation of .48 to .79 (see Table 4).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 4

First-Time Parents' Reliability Estimates for Instruments

	Parent	
	Mother (n = 71)	Father (n = 71)
Instrument	**Reliability Est.**	**Reliability Est.**
Quality Marriage Index [a]	.82	.90
Revised Spouse Checklist [b]		
Pleasing	.92**	.97**
Displeasing	.92**	.91**
Neutral	.95**	.94**
No-Occur	.92**	.94**
Affect Balance Scale [a]	.70	.62
Nursing Child Assessment Teaching Scale (total) [a]	.82	.85
Sensitivity to Cues	.59	.61
Response to Distress	.69	.80
Socio-emotional Growth Fostering	.67	.68

Note. [a] Cronbach alpha coefficients [b] Split half correlations (Spearman-Brown adjustment)

** $p<.01$

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Mothers' mean scores are slightly higher than fathers', but fathers' scores have more variance (Table 5). Mothers rate their overall marital quality (Quality Marriage Index) significantly higher than do fathers (t = 2.54, df = 126.9, p<.01). (See Table 5.)

Revised Spouse Checklist (Appendix F)

The Revised Spouse Checklist (RSC) used in this study combines parts of two established checklists: The Spouse Observation Checklist (SOC), and a revision of the SOC--the Marital Observation Checklist (MOC).

The Spouse Observation Checklist (SOC). The original SOC is an eight page checklist of 440 items reflecting twelve areas (affection, companionship, consideration, sex, communication, coupling activities, child care and parenting, household management, financial decision making, employment-education, personal habits and appearance, and self and spouse independence) of instrumental or affective behaviors in marriage. The checklist is completed for a 24-hour period by each marital partner. The checklist, based on a social exchange perspective, grew out of therapists' need for a list of daily exchanges of goods and services characteristic of sustained intimate relationships (Weiss & Perry, 1981, p. 65).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 5

First-Time Parents' Responses for Study Instruments

	Parent				
	Mother (n = 71)		Father (n = 71)		
Instrument	M	SD	M	SD	t
Quality Marriage Index	40.6	3.9	38.6	5.5	2.54**
Revised Spouse Checklist					
Pleasing	106.7	46.5	124.7	70.2	-1.80
Displeasing	9.5	11.4	10.9	13.8	-.66
Neutral	21.6	20.5	39.7	32.9	-3.93**
No-Occur	114.4	40.7	104.2	41.5	1.48
Affect Balance Scale	30.6	4.6	31.2	4.O	-1.38
Nursing Child Assess.					
Teaching Scale (total)	63.3	3.2	63.1	3.5	.50
Sensitivity to Cues	20.7	1.5	20.5	1.6	.81
Response to Distress	21.4	1.1	21.5	1.1	-.61
Socio-emotional growth fostering	21.2	1.2	21.0	1.4	.83

** p<.01

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The original checklist has demonstrated construct validity, consistently discriminating between maritally distressed and nondistressed couples (Gottman et al., 1976; Williams, 1979). Wills, Weiss, and Patterson (1974) provided evidence of convergent validity. Seven nondistressed married couples made daily observations of spousal pleasing and displeasing behaviors for 14 consecutive days. Pleasing events correlated positively and displeasing events correlated negatively with ratings of marital happiness. Displeasing behaviors (instrumental and affectional) accounted for 65% of the explained variance, whereas pleasing behaviors accounted for only 25% of the variance. Since the average rate of pleasing behaviors was approximately three times the rate of displeasing behaviors, the researchers concluded that partners disproportionately weigh displeasing behaviors. Similar results were obtained by Christensen and Nies (1980) and by Jacobson, Follette, and McDonald 1981).

Jacobson et al. (1981) provided concurrent validity for the SOC. These researchers noted that distressed couples reported lower rates of positive behaviors and higher rates of negative behaviors than

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

did nondistressed couples. These findings are consistent with previous research (Barnett & Nietzel, 1979; Birchler, Weiss & Vincent, 1975; Margolin, 1981; Weiss, Hopps & Patterson, 1973).

Marital Observation Checklist. Christensen, Sullaway, and King (1983) developed a modified version of the SOC by randomly selecting 25% of the "we" items and 25% of the "spouse" items. Then they developed reciprocal "I" items for each "spouse" item in order to more fully assess agreement between spouses and egocentric bias in reporting. The total number of 170 items on the MOC includes 25 "we" items, 77 "spouse" items, and 77 "I" items.

Christensen et al. (1983) found support for the content validity of the MOC scale. However, like the full version of the SOC, the MOC appears to have only modest reliability in terms of spousal agreement on occurrence of behaviors (Christensen & Nies, 1980; Jocobson & Moore, 1981). Agreement between spouses may not be the most appropriate way to measure reliability for this instrument. Findings may reflect problems of perception rather than reliability.

Christensen and Nies (1980) found that the ability of a couple to agree on behavioral occurrences was, in part, a function of their daily happiness--the less

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

happy, the less agreement about behavior. The researchers also noted that there was greater agreement on more objective and molar events, though these same events were evaluated as less important in relationships. Christensen et al. (1983) also found a consistent egocentric bias in the results of the SOC (i.e., a tendency to overreport one's own contributions and to underreport the contributions of the spouse). These results tend to cast doubt on the accuracy with which respondents can report the behavior of their spouses. They concluded that the SOC and MOC may be subjective rating scales more than measures of objective behavior. However, since perceptions of behavior play a significant role in reciprocal behavior, these measures remain important tools for research and clinical use.

Revised Spouse Checklist. The length of the original SOC, and the inapplicability of many items for first-time parents of infants in both the SOC and the MOC were obvious disadvantages for this study. Therefore, the researcher revised the SOC, using the MOC as a starting point. First, the reciprocal "I" items were eliminated since the primary objective was not to look at spousal agreement. The remaining items were retained only if they met the following criteria: (a) appropriate for first-time parents (no references to

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

older children); (b) appropriate for the age of the child in this study (infants); (c) no reference to illegal activities (i.e., drug use); and (d) a reasonable probability that the activity will occur in any given week. The latter criterion was established in an effort to minimize missing data. In addition, the researcher decided to eliminate items from the employment, independence, and personal habit categories because they could not clearly be grouped as instrumental or as emotional benefits and costs, and were of only peripheral interest to this study.

The resulting 72 items reflected 25% of the "we" items and 25% of the spouse items on the MOC. Because this instrument examines the occurrence of microbehaviors, wide sampling of behaviors is desirable. Thus, in an effort to more completely sample behaviors, the researcher randomly selected 40 additional items from the SOC and used the same criteria previously described to determine whether or not to retain those items.

The resulting list of 112 items maintained the same 25% breakdown of "we" and "spouse" items. In an effort to establish content validity, determine the probability of each item occurring in a typical week, and further pare the list, the list of 112 items was

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

reviewed by three married, middle-class couples--all parents of infants between the ages of three and ten months. Each spouse was asked to review the items for clarity and likelihood they would occur during a typical week. In addition they were asked to indicate whether they would find reviewing a list of 90+ such items on three different days in a given week too difficult.

All spouses agreed that they had no difficulty in completing the task and would persist for three days if involved in the study. Two items were eliminated due to lack of clarity. Of the remaining 110 items 34 were checked as occurring by all three couples. Twenty-eight additional items were checked as occurring by two couples, and 25 additional items were checked as occurring by one of the three couples. Two couples further reviewed those items not checked by any of the couples and estimated whether or not those items would be likely to occur for other acquaintances who have small infants.

The final Revised Spouse Checklist includes 92 items (73 spouse items, 19 we items). The set reflects 25% of the original SOC items in the categories pertaining to this study. It also closely approximates the proportion (each at 25%) of "we" and "spouse" items.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Spouses were asked to indicate the frequency for each item on the day it occurred, and to indicate whether the behavior was pleasing, neutral, displeasing, or did not occur by placing a mark in the appropriate column(s). Spouses agreed on an anchoring event such as the evening meal for their 24-hour checklist recording. Completion time was approximately 15 minutes. The checklist was scored by totaling frequencies for each of the pleasing, displeasing, neutral and no-occur behavior categories for the three days data was collected.

Internal consistency, using split-half (Pearson) correlation coefficients for pleasing, displeasing, neutral, and no- occur behaviors are similar for mothers and fathers. For fathers, correlations range from .97 (pleasing) to .91 (displeasing). For mothers, correlations range from .95 (neutral) to .92 (pleasing, displeasing, and no-occur). (See Table 4).

Split-half correlations, rather than alphas, were done for these scales because of the possibility that any behavior might occur more than once, or not occur at all; and also because individuals were able to categorize each behavior that did occur in three different ways--pleasing, displeasing, or neutral. Alternate items were chosen to construct each "split". Spearman-Brown prophecy formula was used to correct the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

underestimation of reliability for each whole scale that occurs with the split-half method of determining internal consistency (Polit & Hungler, 1983, p. 390).

Mean scores are relatively similar for mothers and fathers. Fathers have higher mean scores for pleasing, neutral, and displeasing spousal behaviors than do mothers. Mothers have a higher mean score for no-occur spousal behaviors than do fathers (see Table 5). However, only the frequency of neutral behaviors is significantly different--fathers categorize significantly more behaviors as neutral than do mothers (t = -3.9, df = 117.1. p<.01). (See Table 5.) There is a great deal of variability in the way individuals respond for each category of behavior (see Table 5). This variability is no doubt due to the large number of items (92), the possibility that any behavior might not occur, and the ability to categorize each behavior that did occur in three different ways--pleasing, displeasing, neutral--depending on how it is perceived.

Affect Balance Scale (Appendix G)

This 10-item scale is designed to measure avowed happiness or the feeling of psychological well-being of people in the general population (Bradburn, 1969). A person's psychological well-being is seen as a function of the individual's position on two independent

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

dimensions--one of positive affect (feelings), and the other of negative affect (Bradburn, 1969, p. 9). Overall well-being is described as the balance between these two compensatory forces.

The 10-item, self-administered scale consists of five questions measuring positive feelings and five questions measuring negative feelings. Bradburn (1969) studied 2,006 adults as part of a National Opinion Research Center Survey on mental health. He provides evidence of construct validity by citing agreement between his scale questions and other commonly used indices of well-being. Others also note similar strong positive relationships (Bild & Havinghurst, 1976; Engel, 1987). Response contrasts between rich and poor, employed and unemployed, between different occupational levels, and high versus low adjustment in marital and occupational roles provide evidence of discriminant validity (Bradburn, 1969).

The scale is widely used in research, and several of Bradburn's findings have been replicated. In particular, independence of positive and negative affect scores, and their low correlation with age have been replicated (Beiser, 1974; Cherlin & Reeder, 1975; Phillips, 1967; Warr, 1978).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Bradburn (1969) reports test-retest reliability results over three days for 174 subjects: .90 to .97 for nine of the items and .86 for the "excited or interested" question. He also reports three-month test-retest reliability results for the larger sample: Q values for the positive items averaged .50 for Wave I of the study and .56 for Wave II. Q values for the negative items averaged .54 for Wave I and .56 for Wave II. Cherlin and Reeder (1975) report internal consistency measures from a number of subsamples ranging from .55 to .73 for the positive scale and from .61 to .73 for the negative scale.

Bradburn's (1969) original research utilized dichotomous yes or no replies. Others have since used a rating scale of three, four, or five points representing the frequency of experiencing the feelings (McDowell & Newell, 1987). A four-point scale (often = 1, sometimes = 2, rarely = 3, never = 4) was used in this study. Positive items were reverse scored so that a higher total score reflects greater psychological well-being. The total possible score ranges from 10-40. To avoid problems of reactivity to daily events the questionnaire asks individuals whether they experienced these feelings during the past two weeks.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The instrument's internal consistency in this study is slightly higher for mothers than for fathers. Cronbach alpha coefficient for fathers is .62 with a mean inter-item correlation of .14 and an item total correlation of .11 to .49. For mothers, Cronbach alpha coefficient is .70 with a mean inter-item correlation of .20 and an item total correlation of .18 to .51 (see Table 4).

Fathers' mean scores are somewhat higher than mothers' as are the variances (see Table 5). However, there is no significant difference between fathers' and mothers' psychological well-being scores (see Table 5).

Nursing Child Assessment Teaching Scale (Appendix D)

The Nursing Child Assessment Teaching Scale (NCATS) was developed to measure parent-child interaction during teaching episodes. The authors of this 73-item scale see the parent-infant interaction system as a dialogue--a mutually adaptive "dance" between partners (Barnard et al., in press). They note that there are several characteristics of successful parent-infant interaction: (a) each partner in the dialogue must possess a sufficient repertoire of behaviors, including the ability to read each other's signals; (b) partners' responses need to be contingent on the other; (c) stimuli such as verbal behavior and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

positive affect contribute to dyadic competency and to the child's development; and (d) interactive patterns must change over time.

Thus, the NCATS was designed for observing these characteristics of parent-infant interaction. Because of the rather restrictive nature of the teaching task, this scale does not fully measure the richness of the interactive stimuli. However, it has been widely used in research and clinical settings because of its rather straightforward nature and training. In addition, the teaching interaction is brief (approximately 10 minutes) and is novel for the parent and infant. Thus it places some stress on the interactive system, much as the "Strange Situation" does in the study of attachment of older infants (Barnard et al., in press). It has also been used successfully with both mothers and fathers, a necessary attribute for this study.

The scale consists of 73 yes-no items divided into six subscales: sensitivity to cues (11 items), response to distress (11 items), social-emotional growth fostering (11 items), cognitive growth fostering (17 items), clarity of cues (10 items), and responsiveness to parent (13 items). The first four subscales are based on parental performance, the latter two on infant performance.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The fourth subscale--cognitive growth fostering--is designed to assess a) whether the parent is knowledgeable about the infant's current level of understanding, and b) parental teaching skills such as verbally labeling the elements of the task at hand. The last two subscales--clarity of cues and responsiveness to parent--are child behavioral items. These three subscales were not used in this study because they do not measure parental sensitivity. For the purposes of this study, only the first three subscales are relevant--a total of 33 items.

Predictive validity was demonstrated in the following ways on small (22-29) subsamples: one-month NCATS scores correlated with expressive language measures taken at 36 months (r = .71), four-month NCATS scores correlated with expressive language scores at 36 months (r = .76), eight-month NCATS scores correlated with the Bayley 12-month Mental Development Index and Psychomotor Development Index (r = .66), and the 12-month NCATS scores correlated with the Bayley mental Development Index (r = .67) (Barnard et al., in press).

Concurrent validity was demonstrated with the same sample, with significant correlations ($p<.01$) for all subscales with the HOME scale (Barnard et al., in press). A second source of concurrent validity comes

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

from a study observing preterm and term infants at four and eight months in a free play situation (Crnic, Ragozin, Greenberg, Robinson & Basham, 1983). One set of raters used the NCATS and another set of raters scored the interaction with other scales reflecting positive versus negative affect. The correlation between the maternal affect score and the total mother NCATS score was .36 ($p<.01$) for the four-month observation and .41 ($p<.001$) at the eight-month observation. Another study noted that the mother's score on the NCATS correlated -.50 ($p<.04$) with the Profile of Mood States total score such that a more positive mood was associated with a higher maternal NCATS score (Thomas & Barnard, 1985). Construct validity was noted in the ability of the scale to discriminate between groups expected to differ in interactive skill (abusing and non-abusing parents, preterm and term infants) (Barnard et al., in press).

Data on internal consistency and test-retest reliability came from the Nursing Child Assessment Project (NCAP), and were drawn from a cohort group representing every seventh subject admitted to the original NCAP study. The sample consisted of 160 mother-infant pairs observed at one, four, eight, twelve, twenty-four, thirty-six, and forty-eight months of age.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Data are based on 922 teaching observations. The majority of mothers were Caucasian, married, and well educated (Barnard et al., in press).

Internal consistency (Cronbach's alpha) has been demonstrated for each subscale: (a) sensitivity to cues, .60, (b) response to distress, .69, (c) socio-emotional growth fostering, .63, (d) cognitive growth fostering, .69, (e) clarity of infant cues, .56, and infant responsiveness to parent, .58. The higher alpha for the total parent score (.83) suggests that the entire set of parent items (four subscales) measures a common dimension of behavior (Barnard et al., in press). Given the lower subscale alphas, the total score--rather than subscale scores--provide a more reliable basis for comparing groups (Barnard et al., in press).

The instrument used in this study consists of three of the four parent subscales (sensitivity to cues, response to distress, and socio-emotional growth fostering)--a total of 33 items. The total parent score was calculated by summing the total number of yes and no responses (yes = 2, no = 1), and had a possible range of 33-66. Only the total parent score was used in data analyses.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Internal consistency of each subscale and the total scale is slightly higher for fathers than for mothers, but both are comparable to those reported by Barnard. For fathers, Cronbach alpha for the total scale is .85 with a mean inter-item correlation of .19 and an item total correlation of -.10 to .72. For mothers, Cronbach alpha for the total scale is .82 with a mean inter-item correlation of .16 and an item total correlation of .01 to .67 (see Table 4).

Mean scores for fathers and mothers are almost identical as are the variances (see Table 5). Mothers' and fathers' scores are not significantly different for any subscale or for the total scale (see Table 5).

The researcher and the research assistant are certified in the use of this instrument, achieving 94% inter-observer agreement at the onset of data collection. Two additional inter-rater reliability checks at three month intervals, recommended by Barnard, were 94% and 100% respectively. In addition, the researcher and research assistant reviewed the original NCATS training tapes every three months to guard against consensual observer drift (Topf, 1988). The research assistant was carefully trained so that data collection procedures were as similar as possible--an effort to reduce reliability decline (Topf, 1988).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Chapter IV: Presentation of Findings

This chapter presents findings organized under three sections. The first section presents bivariate relationships among variables operationalized for the model of parental sensitivity (see Figure 2, p.18). The six hypotheses are discussed in this section. The second section reports the results of hierarchical multivariate regression analyses related to the four research questions. Selected additional analyses are reported in the third section.

Summary of Data Analytic Strategies

This study had three purposes: (a) to test an operational model suggesting that marital quality contributes to parental sensitivity by affecting the psychological well-being of first-time mothers and fathers, (b) to learn if adding parental age and infant gender increases the model's power to predict parental sensitivity, and (c) to learn if the operational model differs for first-time mothers and fathers.

Questionnaire and observational techniques were used to gather data at home visits within one week of the infant's three-month birthday. Data were analyzed using the Statistical Package for the Social Sciences (SPSS-X) on the VAX mainframe computer at San Diego

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

State University. Descriptive statistics describe the sample and evaluate the distributions of all variables (see Chapter III, Tables 2 and 5, p. 105 and p. 126). Cronbach's alpha and split half correlations indicate internal consistency for all instruments (see Chapter III, Table 4, p. 124).

For Hypotheses 1-5, Pearson Product-Moment correlations measure the strength of bivariate relationships. For Hypothesis 6, t-tests for mothers and fathers determine if parent sensitivity differs for same or opposite gender infants.

Separate hierarchical regressions for mothers and fathers test the operational model, with variables entered in the following order: (a) perceived marital quality, (b) psychological well-being, (c) parent age, and (d) infant gender. This order reflects Belsky's (1984) conceptual framework which suggests that perceived marital quality influences parental sensitivity by increasing psychological well-being of parents. He also suggests that parental characteristics such as age are more influential in determining parental sensitivity than are infant characteristics such as gender.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Differences between mothers and fathers are computed using differences in R square for each step in the regression analysis and for the whole model.

Bivariate Relationships

Maternal and Paternal Findings

Separate correlation matrices for mothers and fathers were generated from the independent variables. These matrices indicate no intercorrelations of .70 or greater--an index of multicollinearity--among maternal or paternal independent variables (marital quality index, please, displease, and no-occur behaviors, psychological well-being, parent age, infant gender). See Table 6. The bivarate results are discussed for each major study variable, followed by a determination of whether or not the hypotheses are supported.

Marital quality. For mothers, the strongest relationship is between measures of marital quality--frequency of spousal displeasing behaviors and spousal no-occur behaviors ($r = -.53$, $p<.01$). Displeasing spousal behaviors are also associated with the frequency of neutral spousal behaviors ($r = .49$, $p<.01$), and pleasing spousal behaviors are associated with the frequency of no occur spousal behaviors ($r = -.36$,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 6

Correlation Matrix of Variables in Maternal Model of Parental Sensitivity (n = 71)

Variables	1	2	3	4	5	6	7	8	9
1. Parent Age	—	.08	.04	.01	-.40**	-.13	.03	.11	.25*
2. Infant Gender		—	-.27**	.09	.07	.14	-.05	-.17	.09
3. Quality Marriage Index			—	.28*	.11	.11	-.24*	.28*	-.09
4. Please Behaviors				—	.04	.05	-.36**	.17	-.26*
5. Displease Behaviors					—	.49**	-.53**	-.21*	-.16
6. Neutral Behaviors						—	-.36**	-.16	-.08
7. No Occur Behaviors							—	.12	.33**
8. Psych. Well-Being								—	.18
9. Parental Sensitivity									—

Correlation Matrix of Variables in Paternal Model of Parental Sensitivity (n = 71)

Variables	1	2	3	4	5	6	7	8	9
1. Parent Age	—	.18	.09	-.30**	-.08	.04	.06	.06	.07
2. Infant Gender		—	.08	-.03	.06	.11	-.24*	.10	-.01
3. Quality Marriage Index			—	.49**	-.38**	-.004	-.16	.19	.19
4. Please Behaviors				—	-.16	.12	-.13	.09	.15
5. Displease Behaviors					—	.25*	-.39**	-.28*	-.18
6. Neutral Behaviors						—	-.31**	.03	.18
7. No Occur Behaviors							—	.10	-.09
8. Psych. Well-Being								—	.31**
9. Parental Sensitivity									—

Note. Parental Sensitivity is dependent variable

* $p<.05$ ** $p<.01$

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

$p<.01$). Thus, mothers who perceive more displeasing behaviors also perceive more neutral behaviors and therefore, fewer no-occur behaviors. As expected, mothers who perceive more pleasing spousal behaviors also tend to perceive fewer spousal no-occur behaviors. Fewer spousal no-occur behaviors indicate high levels of fathers' participation in family life.

Mothers' perception of overall marital quality (Quality Marriage Index score) is not highly correlated with the pleasing, displeasing, and no-occur behavioral measures. However, there is an association between Quality Marriage Index and frequency of pleasing spousal behaviors ($r = .28$, $p<.05$), and between Quality Marriage Index and number of no-occur spousal behaviors ($r = -.24$, $p<.05$). For mothers, the more pleasing spousal behaviors they perceive, then the higher their Quality Marriage Index. Also for mothers, the fewer no-occur spousal behaviors--indicating greater spousal participation in family life--they perceive, then the higher their Quality Marriage Index.

For fathers, as was the case for mothers, the strongest relationship among marital quality measures is between Quality Marriage Index and frequency of pleasing spousal behaviors ($r = .49$, $p<.01$). The Quality

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Marriage Index is also associated with frequency of displeasing spousal behaviors (r = -.38, p<.01). Thus fathers who rate Quality Marriage Index higher tend to perceive more pleasing spousal behaviors and fewer displeasing spousal behaviors.

The frequency of fathers' perceptions of spousal displeasing behaviors is also associated with the frequency of neutral behaviors (r = .25, p<.05) and with the frequency of no-occur behaviors (r = -.39, p<.01). Fathers who perceive more displeasing spousal behaviors also perceive more neutral and therefore, fewer no-occur spousal behaviors, as do mothers. Unlike mothers, fathers' perception of pleasing behaviors is not related to no-occur behaviors.

Psychological well-being. Of mothers' marital quality measures, only Quality Marriage Index and displeasing spousal behaviors are associated with psychological well-being (r = .28, p<.05 and r = -.21, p<.05, respectively). Mothers who rate the Quality Marriage Index higher and those who perceive fewer displeasing spousal behaviors indicate greater psychological well-being. Although the number of pleasing and even neutral spousal behaviors far

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

outnumber displeasing behaviors, it appears that mothers weight displeasing behaviors more heavily with regard to psychological well-being.

Of fathers' marital quality measures, the frequency of displeasing spousal behaviors is related to psychological well-being (r = -.28, p<.05). Like mothers, fathers who perceive fewer displeasing spousal behaviors have greater psychological well-being. Although the number of pleasing and neutral spousal behaviors far outnumber displeasing behaviors, it appears that fathers, like mothers, weight displeasing behaviors more heavily with regard to psychological well-being.

Parent age. Maternal age is negatively correlated with displeasing spousal behaviors (r = -.40, p<.01), indicating that older mothers perceive fewer displeasing spousal behaviors. In contrast, paternal age is negatively correlated with pleasing spousal behaviors (r = -.30, p<.01). Older fathers tend to perceive fewer pleasing spousal behaviors.

Infant gender. Mothers of girls tend to rate their marriages more positively than do mothers of boys (t = 2.21, df = 50.15, p<.05). See Table 7. Fathers of

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

boys perceive fewer no-occur spousal behaviors than do fathers of girls (t = 2.05, df = 69, p<.05). See Table 7.

Parental sensitivity. Only three of the independent variables show small, but significant relationships with the dependent variable for mothers: Pleasing spousal behaviors (r = -.26, p<.05), no-occur spousal behaviors (r = .33, p<.05), and maternal age (r = .25, p<.05). See table 6. Mothers who are older, those who perceive fewer spousal pleasing behaviors, and those indicating more spousal no-occur behaviors tend to be more sensitive to their infants. The surprising findings--mothers who perceive fewer pleasing spousal behaviors and those indicating more spousal no-occur behaviors tend to be more sensitive--led to additional analyses related to maternal employment status discussed in a later section.

For fathers, only one of the independent variables shows a small but significant relationship with the dependent variable. The greater fathers' psychological well-being, the more sensitive they are to their infants (r = .31, p<.01).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Hypothesis 1. The greater the perceived marital quality, the greater the parental sensitivity of first-time mothers and fathers of three-month -old infants.

For mothers, two of the marital quality measures are significantly related to parental sensitivity, but relationships are not in the expected direction. Pleasing spousal behaviors are negatively correlated with parental sensitivity (r = -.26, p<.05), and no-occur spousal behaviors are also correlated with parental sensitivity (r = .33, p<.01).

The other three marital quality measures--Quality Marriage Index, displeasing, and neutral spousal behaviors--are not related to the dependent variable. In fact, those mothers who rate Quality Marriage Index higher perceive more pleasing and fewer no-occur spousal behaviors--just the opposite of those with greater parental sensitivity. Although both pleasing spousal behaviors and no-occur spousal behaviors are significantly related to maternal parental sensitivity, the relationships are small and not in the expected direction. Thus, for mothers, the evidence does not support Hypothesis 1.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

For fathers, none of the marital quality measures are significantly related to parental sensitivity, suggesting support for the null hypothesis rather than Hypothesis 1.

Hypothesis 2. The greater the perceived marital quality, the greater the sense of psychological well-being of first-time mothers and fathers of three-month-old infants.

Mothers' Quality Marriage Index ratings and frequency of displeasing spousal behaviors are significantly associated with psychological well-being (r = .28, p<.05 and r = -.21, p<.05, respectively). Mothers who rate Quality Marriage Index higher and those who perceive fewer spousal displeasing behaviors have greater psychological well-being. The other marital quality measures--pleasing, no-occur, and neutral spousal behaviors--are not significantly related to psychological well-being. The evidence provides partial support for Hypothesis 2 for mothers.

As was the case with mothers, fathers who perceive fewer spousal displeasing behaviors tend to rate themselves higher on psychological well-being (r = -.28, p<.05). Other marital quality measures--Quality Marriage Index, pleasing, neutral, no-occur spousal

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

behaviors--are not associated with fathers' psychological well-being. For fathers, then, the evidence only partially supports Hypothesis 2.

Hypothesis 3. Perceived marital quality will be more strongly correlated with psychological well-being for first-time fathers than for first-time mothers of three-month-old infants.

One marital quality measure is related to psychological well-being for fathers--displeasing spousal behaviors (r = -.28, p<.05). The same measure is related to psychological well-being for mothers, although to a lesser degree (r = -.21, p<.05). In addition, marital quality ratings (Quality Marriage Index) are also associated with psychological well-being for mothers. More indicators of perceived marital quality are related to psychological well-being for mothers than for fathers. Therefore Hypothesis 3 is not supported.

Hypothesis 4. The greater the sense of psychological well-being, the greater the parental sensitivity of first-time mothers and fathers of three-month-old infants.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

As noted previously, psychological well-being is not significantly related to mothers' parental sensitivity. The weak correlation between psychological well-being and parental sensitivity is not significant at the .05 level (r = .18, p = .07). Therefore, the evidence does not support Hypothesis 4 for mothers.

In contrast, psychological well-being is moderately correlated with parental sensitivity for fathers (r = .31, p<.01). Hypothesis 4 is supported by the data on fathers.

Hypothesis 5. Older first-time mothers and fathers of three-month-old infants will display more parental sensitivity than will younger first-time mothers and fathers.

Indeed, older mothers are more sensitive to their infants (r = .25, p<.05). Hypothesis 5 is supported for mothers.

Older fathers, on the other hand, do not demonstrate more parental sensitivity to their infants than do younger fathers (r = .07, p = .29). Hypothesis 5 is not supported for fathers.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Hypothesis 6. First-time mothers and fathers of three-month-old infants will display more parental sensitivity to opposite-gender infants than to same-gender infants.

The t-test results indicate that mothers do not display more parental sensitivity to male infants than to female infants (t = -.79, df = 69, p = .43). See Table 7. Hypothesis 6 is not supported for mothers.

Likewise, t-test results indicate that fathers do not display more parental sensitivity to female infants than to male infants (t = .12, df = 69, p = .91). See Table 7. Hypothesis 6 is not supported for fathers.

Multivariate Relationships

Type of birth is the only demographic variable significantly associated with the dependent variable, and only for mothers (r = .20, p = .05). A t-test indicates that mothers of babies born by cesarean section are more sensitive to their infants than are mothers of babies born vaginally (t = -2.60, df = 69, $p<.05$). As a pre-check, demographic variables were entered in stepwise regression analyses. None of the demographic variables, including the type of birth, significantly contributes to the model in stepwise

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 7

t-tests for First-Time Parents' Differences in Study Variables Based on Infant Gender

	Mothers (n = 71)				
	Female Infants (n = 40)		Male Infants (n = 31)		
Variables	**M**	**SD**	**M**	**SD**	**t**
Quality Marriage Index	41.53	3.08	39.42	4.56	2.21*
Spousal Behaviors					
Pleasing	102.98	38.73	111.58	55.16	-.74
Displeasing	8.83	11.48	10.35	11.50	-.56
Neutral	24.18	24.59	18.29	13.16	1.29
No Occur	116.28	39.83	112.00	42.41	.44
Psych. Well-Being	30.93	4.39	29.35	4.90	1.42
Parent Age	27.98	4.43	28.61	4.40	-.65
Parental Sensitivity	63.08	3.32	63.68	3.03	-.79
	Fathers (n = 71)				
Quality Marriage Index	38.20	6.26	39.06	4.27	-.69
Spousal Behaviors					
Pleasing	126.80	77.75	122.03	60.16	.28
Displeasing	10.18	15.80	11.84	10.95	-.52
Neutral	36.50	31.34	43.81	34.99	-.93
No Occur	112.90	43.05	92.97	37.24	2.05*
Psych. Well-Being	30.88	3.94	31.71	4.07	-.87
Parent Age	30.15	5.05	31.87	4.52	-1.49
Parental Sensitivity	63.10	3.10	63.00	4.03	.12

*p<.05

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

regression analyses. Therefore, none of the demographic variables were entered into the hierarchical regression analyses.

Separate four-step hierarchical regression models were generated for mothers and for fathers to test the operational model. Marital quality factors--Quality Marriage Index, pleasing, displeasing, and no-occur spousal behaviors--were entered as a block at step one. This combination of marital quality factors contributes most to the explained variance. Since neutral spousal behaviors contributes little, that measure was deleted from the model--results reported here are those of the revised model. Psychological well-being (affect) was entered at step two, parent age entered at step three, and infant gender at step four.

Maternal and Paternal Findings

Results of the hierarchical multivariate regression analyses provide mixed support for the relationships predicted by the operational model. For each of the research questions, mothers' results are presented first, followed by fathers' results.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Research Question 1. Does the level of psychological well-being significantly increase the prediction of parental sensitivity for first-time mothers and fathers of three-month-old infants after perceived marital quality has been controlled?

Mothers' marital quality factors entered at the first step produces a multiple *R* of .37 (*R* square = .13, *F* = 2.54, *p*<.05). Psychological well-being entered at the second step yields a multiple *R* of .41 (*R* square = .17, *F* = 2.61, *p*<.05). Psychological well-being yields an *R* square change of .03 (*F* change = 2.64, *p* change = .11), accounting for 3% of the variance (see Table 8). Final *t*-values indicate that psychological well-being does not contribute significantly to the prediction of mothers' parental sensitivity, after controlling for marital quality factors.

When fathers' marital quality factors are entered at the first step, multiple *R* is .27 (*R* square = .07, *F* = 1.28, *p* = .29). Psychological well-being entered at the second step produces a multiple *R* of .37 (*R* square = .14, *F* = 2.12, *p* = .07). Psychological well-being yields an *R* square change of .07 (*F* change = 5.18, *p* change <.05), accounting for 7% of the variance.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 8

Hierarchical Regression Analysis of Selected Independent Variables on Parental Sensitivity of First-Time Mothers and Fathers

		Mothers (n = 71)						
		Final Step						
Step	Variable Entered	Beta	SE	T	Sig T	Multiple R	R^2	R^2 Chg.
1	Perceived Marital Quality							
	Quality Marriage Index	.04	.10	.28	.78			
	Please Behaviors	-.21	.01	-1.69	.10			
	Displease Behaviors	.18	.04	1.16	.25			
	No Occur Behaviors	.33	.01	2.18	.03	.37	.13	.13*
2	Psych Well-Being	.20	.08	1.66	.10	.41	.17	.03
3	Parent Age	.28	.09	2.23	.03	.48	.23	.07*
4	Infant Gender	.14	.75	1.21	.23	.50	.25	.02
		F (7, 64) = 3.03, p<.01						
		Adjusted R^2 = .17						

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 8 cont.

		Fathers (n = 71)						
		Final Step						
Step	Variable Entered	Beta	SE	T	Sig T	Multiple R	R^2	R^2 Chg.
1	Perceived Marital Quality							
	Quality Marriage Index	-.01	.10	-.08	.94			
	Please Behaviors	.11	.01	.77	.44			
	Displease Behaviors	-.15	.04	-1.02	.31			
	No Occur Behaviors	-.19	.01	-1.38	.17	.27	.07	.07
2	Psych Well-Being	.28	.11	2.31	.02	.37	.14	.07*
3	Parent Age	.10	.09	.79	.43	.38	.15	.01
4	Infant Gender	-.09	.86	-.77	.45	.39	.15	.01
		F (7, 64) = 1.6, p = .14						
		Adjusted R^2 = .06						

* p<.05

Although the overall model does not account for a significant amount of the variance in the dependent variable, final t-values indicate that psychological well-being contributes significantly to the prediction of parental sensitivity for fathers after controlling for marital quality factors (see Table 8).

Research Question 2. Does the addition of parent age increase the prediction of first-time mothers' and fathers' sensitivity after perceived marital quality and psychological well-being have been controlled?

When maternal age is entered at the third step, multiple R is .48 (R square = .23, F = 3.26, p<.05). Maternal age yields an R square change of .07 (F change = 5.61, p change<.05), accounting for 7% of the variance. Final t-values indicate that maternal age does contribute significantly to the prediction of mothers' parental sensitivity after controlling for marital quality factors and psychological well-being.

When paternal age is entered at the third step, multiple R is .38 (R square = .15, F = 1.8, p = .11). Paternal age yields an R square change of .01 (F change = .45, p change = .51), accounting for 1% of the variance. Final t-values indicate that paternal age

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

does not predict fathers' parental sensitivity after controlling for marital quality factors and psychological well-being.

Research Question 3. Does the addition of infant gender increase the prediction of first-time mothers' and fathers' sensitivity after perceived marital quality, psychological well-being, and parent age have been controlled?

Infant gender entered at the fourth step of the maternal model produces multiple R of .50 (R square = .25, F = 3.03, p<.05). The R square change is .02 (F change = 1.45, p change = .23), accounting for 2% of the variance. Final t-values indicate that infant gender does not predict mothers' parental sensitivity after controlling for marital quality factors, psychological well-being, and maternal age.

When infant gender is entered at the fourth step of the paternal model, the multiple R is .39 (R square = .15, F = 1.6, p = .14). Adding infant gender to the model yields an R square change of .01 (F change = .588, p change = .45), accounting for less than 1% of the variance. Final t-values indicate that infant

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

gender does not predict fathers' parental sensitivity after controlling for marital quality factors, psychological well-being, and paternal age.

Research Question 4. Does the operational model of parental sensitivity differ for first-time mothers and fathers of three-month-old infants?

Of the four perceived marital quality factors entered as a block--pleasing, displeasing, no-occur spousal behaviors, and Quality Marriage Index--final t-values indicate that only no-occur spousal behaviors contributes significantly to the model for mothers. None of the marital quality factors contribute significantly to the model for fathers. See Table 8. The difference between mothers and fathers in R square change for this block of variables is .06. Thus, 6% of the difference in variance accounted for by perceived marital quality can be attributed to parent gender.

Psychological well-being (affect) contributes significantly to the model for fathers, but not for mothers (see Table 8). The difference between mothers and fathers in R square change for this variable is less than .04. Thus, less than 4% of the difference in variance accounted for by psychological well-being can be attributed to parent gender.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Parental age contributes significantly to the model for mothers, but not for fathers (see Table 8). The difference between mothers and fathers in R square change for this variable is .06. Thus, 6% of the difference in variance accounted for by parental age can be attributed to parent gender.

Infant gender does not contribute significantly to the model for mothers or for fathers (see Table 8). The difference between mothers and fathers in R square change for this variable is .01. Thus less than 1% of the difference in variance accounted for by infant gender can be attributed to parent gender.

The maternal model accounts for 25% of the variance using the four perceived marital quality measures, psychological well-being, maternal age, and infant gender as predictors. Although the overall regression model is significant, only no-occur spousal behaviors and maternal age are significant predictors of maternal sensitivity. Perceived marital quality factors explain almost twice as much of the variance as does maternal age.

The paternal model accounts for 15% of the variance using the four perceived marital quality measures, psychological well-being, paternal age, and infant

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

gender as predictors. Although the overall model is not significant, psychological well-being does significantly add to the ability to predict fathers' parental sensitivity. However, it is the only predictor to do so.

The difference between mothers and fathers in R square for the overall model is just less than .10. Thus almost 10% of the difference in variance accounted for by the model can be attributed to parent gender. Clearly, this model has more predictive power for mothers than for fathers. Psychological well-being is the only predictor demonstrating greater R square change for fathers than for mothers. The greatest differences between mothers and fathers are in the perceived marital quality and parent age predictors, with mothers' R square change greater on both factors.

Additional Findings

Coincidentally, all mothers in this sample were employed prior to the birth of the child. During the data collection process the researcher noted that many of the mothers had returned to paid employment prior to or around the time of data collection. Many of these employed mothers voiced concerns about juggling yet another role when they returned to work. To explore if

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

returning to work makes a difference, mothers who had returned to either full or part-time employment (n = 38, 54%) were compared with those who had not (n = 33, 46%). Comparisons were also made between fathers whose wives had returned to paid employment and those whose wives had not (see Table 9). Due to the post-hoc nature of these analyses, the researcher was unable to clearly distinguish between mothers employed part-time versus full-time.

These findings are organized under three sections. The first section describes differences between employed and unemployed mothers, and between fathers with employed versus unemployed spouses. The second section presents bivariate relationships among study variables for employed and unemployed mothers and for their spouses. The third section reports the results of hierarchical multivariate regression analyses, testing a revised model of parental sensitivity for mothers.

Unemployed and Employed Sample Differences

There are no significant differences between the employed and unemployed mothers on demographic variables of ethnicity, education, family social status, years married, type of birth, or experience with infants. There are significant differences, however, between

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 9

t-tests for Differences in Study Variables for First-Time Parents Based on Maternal Employment Status

	Mothers (n = 71)				
	Employed (n = 38)		Unemployed (n = 33)		
Variables	**M**	**SD**	**M**	**SD**	**t**
Quality Marriage Index	40.47	3.73	40.76	4.17	.30
Spousal Behaviors					
Pleasing	107.00	43.79	106.42	50.04	-.05
Displeasing	10.08	11.15	8.82	11.89	-.46
Neutral	24.74	23.85	18.00	15.35	-1.43
No Occur	110.37	39.55	119.06	42.18	.90
Psych. Well-Being	30.66	3.82	29.76	5.48	-.79
Parent Age	28.89	4.56	27.45	4.15	-1.38
Parental Sensitivity	64.26	2.24	62.27	3.78	-2.65**

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 9 (cont.)

	Fathers (n = 71)				
	Wife Employed (n = 38)		Wife Unemployed (n = 33)		
Variables	**M**	**SD**	**M**	**SD**	**t**
Quality Marriage Index	38.53	4.68	38.64	6.31	.08
Spousal Behaviors					
Pleasing	115.63	52.27	135.18	86.04	1.14
Displeasing	9.58	10.22	12.42	17.11	.83
Neutral	41.61	36.26	37.48	29.06	-.52
No Occur	101.39	44.53	107.42	38.25	.61
Psych. Well-Being	31.24	3.32	31.24	4.70	.01
Parent Age	30.63	4.42	31.21	5.38	.50
Parental Sensitivity	63.58	2.85	62.45	4.10	-1.32

**p <.01

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

mothers who use different methods of infant feeding (t = -2.65, df = 69, p<.05). More employed mothers (n = 19, 50%) use a combination of breast and bottle feeding than do unemployed mothers (n = 7, 21%). Not surprisingly, more unemployed mothers are breast feeding exclusively (n = 20, 61%) than are employed mothers (n = 13, 34%). An equal number (n = 6, 16% employed and 18% unemployed) in each group only bottle feed.

Employed and unemployed mothers do not differ significantly on any of the independent variables--Quality Marriage Index, pleasing, displeasing, neutral, or no-occur spousal behaviors, psychological well-being, age, and infant gender. However, they do differ on the dependent variable. Employed mothers demonstrate greater parental sensitivity in interactions with their infants than do unemployed mothers (t = -2.65, df = 50.44, p<.05).

In contrast, fathers married to women who returned to paid employment and those married to women who are not employed do not differ on any of the independent variables, or on the dependent variable. The only difference is ethnicity, reflecting the disproportionate numbers of fathers in each category. The wives of all three Asian men and the wife of the one Native American

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

man had not returned to paid employment. The wives of the three Hispanic men, the wives of the two "other" men, and 29 (47%) wives of the 62 Caucasian men had returned to paid employment. Unlike mothers, maternal employment status does not appear to influence parental sensitivity for fathers.

Bivariate Relationships for Unemployed and Employed Mothers and Their Spouses

Because employed and unemployed mothers differ in parental sensitivity, separate correlation matrices were generated from the independent variables for these two groups of mothers and their spouses. These matrices indicate no intercorrelations of .70 or greater--an index of multicollinearity--among independent variables (see Tables 10 and 11). The following sections present bivariate relationships among study variables and significant differences among demographic variables--first for unemployed mothers and their spouses, followed by those for employed mothers and their spouses.

Marital quality. For unemployed mothers, there are a number of moderately strong relationships among measures of marital quality. The strongest relationship is between frequency of displeasing spousal behaviors and neutral spousal behaviors (r = .54, p<.01).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 10

Correlation Matrix of Variables for Unemployed First-Time Mothers (n = 33)

Variables	1	2	3	4	5	6	7	8	9
1. Parent Age	—	.11	.36*	.26	-.49**	-.01	-.09	.11	.18
2. Infant Gender		—	-.14	.05	.16	-.004	-.23	-.23	.26
3. Quality Marriage Index			—	.36*	-.15	.17	-.38*	.15	-.19
4. Please Behaviors				—	-.18	-.02	-.42*	.26	-.18
5. Displease Behaviors					—	.54**	-.46**	-.32	.09
6. Neutral Behaviors						—	-.48**	-.30	.08
7. No Occur Behaviors							—	.07	.32
8. Psych. Well-Being								—	.08
9. Parental Sensitivity									—

Correlation Matrix of Variables for Employed First-Time Mothers (n = 38)

Variables	1	2	3	4	5	6	7	8	9
1. Parent Age	—	.07	-.23	-.22	-.36*	-.24	.17	.07	.27
2. Infant Gender		—	-.40*	.14	-.02	-.22	.11	-.09	-.10
3. Quality Marriage Index			—	.19	-.06	.09	-.10	.46**	.07
4. Please Behaviors				—	.28	.10	-.29	.05	-.45**
5. Displease Behaviors					—	.48**	-.61**	-.08	-.35*
6. Neutral Behaviors						—	-.29	-.12	-.37*
7. No Occur Behaviors							—	.22	.51**
8. Psych. Well-Being								—	.32*
9. Parental Sensitivity									—

Note. Parental Sensitivity is dependent variable

* $p<.05$ ** $p<.01$

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 11

Correlation Matrix of Variables for First-Time Fathers with Unemployed Wives (n = 33)

Variables	1	2	3	4	5	6	7	8	9
1. Parent Age	—	.16	.31	-.27	.01	.12	-.04	.05	-.02
2. Infant Gender		—	.26	-.15	.03	.17	-.39*	.16	.06
3. Quality Marriage Index			—	.44**	-.38*	.06	-.42*	-.04	.20
4. Please Behaviors				—	-.21	.08	-.22	-.02	.19
5. Displease Behaviors					—	.22	-.37*	-.22	-.29
6. Neutral Behaviors						—	-.34	.06	.15
7. No Occur Behaviors							—	.18	.17
8. Psych. Well-Being								—	.26
9. Parental Sensitivity									—

Correlation Matrix of Variables for First-Time Fathers with Employed Wives (n = 38)

Variables	1	2	3	4	5	6	7	8	9
1. Parent Age	—	.19	-.23	-.41*	-.27	-.01	.15	.06	.22
2. Infant Gender		—	-.13	.12	.09	.08	-.14	.04	-.10
3. Quality Marriage Index			—	.59**	-.40*	-.06	.08	.57**	.17
4. Please Behaviors				—	-.09	.20	-.07	.29	.15
5. Displease Behaviors					—	.35*	-.49**	-.39*	.09
6. Neutral Behaviors						—	-.31	.01	.20
7. No Occur Behaviors							—	.02	-.36*
8. Psych. Well-Being								—	.40*
9. Parental Sensitivity									—

Note. Parental Sensitivity is dependent variable

* $p<.05$ ** $p<.01$

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Frequency of displeasing spousal behaviors and pleasing spousal behaviors are associated with the frequency of no-occur spousal behaviors (r = -.46, p<.01, and r = -.42, p<.05, respectively). Frequency of neutral spousal behaviors is negatively correlated with the frequency of no-occur spousal behaviors (r = -.48, p<.01). Unemployed mothers who perceive more displeasing spousal behaviors also perceive more neutral behaviors and therefore, fewer no-occur spousal behaviors. Mothers who perceive more pleasing spousal behaviors also tend to perceive fewer no-occur spousal behaviors. Fewer no-occur spousal behaviors indicate high levels of fathers' participation in family life.

Unemployed mothers' perception of overall marital quality (Quality Marriage Index score) is not highly correlated with the behavioral measures--pleasing, displeasing, neutral, and no-occur spousal behaviors. However, Quality Marriage Index is positively correlated with pleasing spousal behaviors (r = .36, p<.05) and negatively correlated with no-occur spousal behaviors (r = -.38, p<.05). For unemployed mothers, the more pleasing spousal behaviors they perceive, then the higher their Quality Marriage Index. Also for unemployed mothers, the fewer no-occur spousal behaviors

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

they perceive, then the higher their Quality Marriage Index. In addition, unemployed mothers reporting none to moderate prior experience with infants rate their marriages more positively than do those with extensive prior experience with infants ($F = 3.65$, $df = 32$, $p<.05$).

For fathers with unemployed wives, there are several moderately strong relationships among measures of marital quality. The strongest (and only significant) relationship among behavioral measures is between frequency of displeasing spousal behaviors and frequency of no-occur spousal behaviors. Fathers who perceive more displeasing spousal behaviors also perceive fewer no-occur spousal behaviors.

Like their unemployed wives, fathers' perception of overall marital quality (Quality Marriage Index score) is correlated with measures of perceived spousal behavior. Like mothers, fathers' Quality Marriage Index is positively correlated with the frequency of pleasing spousal behavior ($r = .44$, $p<.01$), and negatively correlated with the frequency of no-occur spousal behavior ($r = -.41$, $p<.05$). In addition, fathers' perception of displeasing spousal behavior is negatively correlated with Quality Marriage Index ($r = -.38$, $p<.05$). For fathers with unemployed wives, the more

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

pleasing spousal behaviors they perceive, then the higher the Quality Marriage Index. Also for these fathers, the fewer no-occur spousal behaviors and the fewer displeasing spousal behaviors they perceive, the higher their Quality Marriage Index. Unlike their wives, these fathers' previous experience with infants was not related to any marital quality measure.

For employed mothers, the strongest relationship among marital quality measures is between frequency of displeasing and no-occur spousal behaviors (r = -.61, p<.01). Displeasing spousal behaviors are also associated with neutral spousal behaviors (r = .48, p<.01). Like their unemployed counterparts, employed mothers who perceive greater frequency of displeasing spousal behaviors also perceive more neutral spousal behaviors and therefore, fewer no-occur spousal behaviors.

Unlike unemployed mothers, employed mothers' perception of marital quality (Quality Marriage Index) is not significantly correlated with any behavioral measure. Nor is prior experience with infants associated with employed mothers' Quality Marriage Index ratings, as it is for their unemployed counterparts.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

For fathers with employed wives, as for fathers with unemployed wives, there are several moderately strong relationships among measures of marital quality. The strongest relationship among behavioral measures is between perception of the frequency of displeasing spousal behavior and frequency of no-occur spousal behavior (r = -.49, p<.01). Displeasing spousal behavior is also associated with neutral spousal behavior (r = .35, p<.05). Like their employed wives, these fathers who perceive greater frequency of displeasing spousal behaviors also perceive more neutral spousal behaviors and therefore, fewer no-occur spousal behaviors.

Unlike their employed wives, fathers' perception of marital quality (Quality Marriage Index scores) is significantly correlated with behavioral measures. The frequency of pleasing spousal behavior is positively related to Quality Marriage Index (r = .59, p<.01) and the frequency of displeasing spousal behavior is negatively related to Quality Marriage Index (r = -.40, p<.05). For these fathers, the more pleasing spousal behaviors they perceive and the fewer displeasing spousal behaviors they perceive, the greater their

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Quality Marriage Index. In this regard, these fathers are more like unemployed mothers and their spouses than they are like their own wives.

Psychological well-being. For unemployed mothers and their spouses, none of the marital quality measures is significantly correlated with psychological well-being. In contrast, employed mothers' and their spouses' Quality Marriage Index ratings are positively associated with psychological well-being (r = .46, p<.01, and r = .57, p<.01, respectively). Employed mothers and their spouses who rate the Quality Marriage Index higher indicate greater psychological well-being. For fathers with employed wives, the frequency of displeasing spousal behaviors is also related to their psychological well-being (r = -39, p<.05). Those fathers who perceive fewer displeasing spousal behaviors rate their psychological well-being higher.

Parent age. Unemployed mothers' age is positively correlated with Quality Marriage Index ratings (r = .36, p<.05) and negatively correlated with displeasing spousal behaviors (r = -.49, p<.01). Older unemployed mothers rate their marriages more positively and also

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

perceive fewer displeasing spousal behaviors. The age of fathers with unemployed wives is not significantly related to any study variable.

In contrast to unemployed mothers, for employed mothers, age is not associated with Quality Marriage Index ratings. However, employed mothers' age is negatively correlated with displeasing spousal behaviors (r = -.36, p<.05). Older employed mothers, like their older unemployed counterparts, perceive fewer displeasing spousal behaviors. In contrast, older fathers with employed wives perceive fewer pleasing spousal behaviors.

Infant gender. For unemployed mothers, infant gender is not associated with differences in any study variable. For fathers with unemployed wives, on the other hand, infant gender is related to their perception of no-occur spousal behaviors. These fathers of boys perceive fewer no-occur spousal behaviors than do fathers of girls (t = 2.32, df = 31, p<.05). Fewer no-occur spousal behaviors indicate high levels of mothers' participation in family life.

In contrast to unemployed mothers, employed mothers of girls tend to rate their marriages more positively (t = 2.41, df = 22.16, p<.05). For fathers with

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

employed wives, infant gender is not associated with differences in any study variable. In this regard they are more like unemployed mothers than they are like fathers with unemployed wives or their own spouses.

Parental sensitivity. For unemployed mothers and their spouses, none of the independent variables show significant relationships with the dependent variable. However, unemployed mothers are more sensitive to babies born by cesarean section than to those born vaginally (t = -3.72, df = 27.73, p<.001). Fathers with unemployed wives are more sensitive to breast fed babies than they are to babies fed by bottle or a combination of breast and bottle (F = 4.01, df = 32, p<.05).

The type of birth does not appear to influence parental sensitivity for employed mothers. Employed mothers' parental sensitivity is most strongly associated with the frequency of no-occur spousal behaviors (r = .51, p<.01). The frequency of pleasing, displeasing, and neutral behaviors are all negatively correlated with employed mothers' parental sensitivity (r = -.45, p<.01; r = -.35, p<.05; and r = -.37, p<.05, respectively). Surprisingly, employed mothers who perceive more no-occur spousal behaviors and those who perceive fewer pleasing spousal behaviors

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

demonstrate greater parental sensitivity. Employed mothers who perceive fewer displeasing spousal behaviors, and those who perceive fewer neutral spousal behaviors also demonstrate greater parental sensitivity. In contrast, fathers with employed wives tend to be more sensitive to their infants if they perceive fewer no-occur spousal behaviors (r = -.36, p<.05).

Unlike unemployed mothers and their spouses, employed mothers and their spouses with greater psychological well-being demonstrate greater parental sensitivity (r = .32, p<.05, and r = .40, p<.05, respectfully). In addition, employed mothers reporting less prior experience with infants demonstrate more parental sensitivity than do those reporting more prior experience (r = -.42, p<.01). More highly educated employed mothers also demonstrate more parental sensitivity than do their less educated counterparts (r = .40, p<.05). Specifically, those with partial college or greater levels of education are more sensitive than are those with less education (F = 3.35, df = 37, p<.05). Employed mothers with higher family social status are also more sensitive (r = .34, p<.05).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Summary. Marital quality factors do not appear to affect unemployed mothers' or their spouses' parental sensitivity. For employed mothers and their spouses, on the other hand, a number of marital quality factors are associated with parental sensitivity. Those mothers who perceive fewer displeasing and those who perceive fewer neutral spousal behaviors demonstrate greater parental sensitivity. Unexpectedly, employed mothers who perceive fewer pleasing spousal behaviors and those who perceive more no-occur spousal behaviors also demonstrate greater parental sensitivity. Greater frequency of no-occur spousal behaviors indicates less participation in family life by fathers. In contrast, fathers with employed wives are more sensitive if they perceive greater participation in family life by mothers (fewer no-occur spousal behaviors).

Psychological well-being does not appear to affect unemployed mothers' or their spouses' parental sensitivity. In contrast, psychological well-being is positively associated with employed mothers' and their spouses' parental sensitivity.

One demographic variable--type of birth--is associated with parental sensitivity for unemployed mothers. These mothers are more sensitive to infants

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

born by cesarean section than to infants born vaginally. Type of infant feeding is associated with parental sensitivity for fathers with unemployed wives. These fathers are more sensitive to breast fed infants than they are to infants fed by bottle or a combination of breast and bottle. (Twenty of the 33 infants in this group were breast fed.)

Three demographic variables--prior experience with infants, educational level, and family social status--are associated with employed mothers' parental sensitivity: (a) Mothers with less prior experience with infants are more sensitive than are mothers with more prior experience, (b) mothers with partial college or higher levels of education are more sensitive to infants than are those with less education, and (c) mothers with higher family social status are more sensitive to infants than are those with relatively lower family social status. None of the demographic variables are associated with parental sensitivity for fathers with employed wives.

With the exception of type of birth and infant feeding, these bivariate relationships provide little insight into factors that affect unemployed mothers' and their spouses' parental sensitivity. The findings

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

for employed mothers and their spouses, on the other hand, provide information about factors that may affect their parental sensitivity--marital quality behavioral factors, psychological well-being, prior experience with infants, educational level, and family social status.

Model Revision

The model of parental sensitivity, operationalized in this study, was revised and a new hierarchical regression analysis was run for mothers. With one exception, only those variables that contributed to the model in the original analyses were retained. Psychological well-being was retained in the revised maternal model because it is central to Belsky's theory. Because of the previously reported differences between employed and unemployed mothers, a new variable--maternal employment status--was added to the maternal hierarchical regression model. Because of the low correlations for the fathers in this study--psychological well-being is the only study variable significantly related to parental sensitivity in the original model--and the lack of difference in paternal sensitivity for fathers with employed versus unemployed wives, a revised paternal model was not tested.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

For the revised maternal model, variables were entered in the following order: (a) perceptions of the frequency of no-occur spousal behaviors, (b) employment status, (c) psychological well-being, and (d) maternal age. For the revised paternal model, variables were entered in the following order: (a) maternal employment status and, (b) psychological well-being. The order of entry reflects Belsky's (1984) conceptual framework which suggests that perceived marital quality and paid employment influence parenting by increasing psychological well-being of parents. He also suggests that parental characteristics such as age contribute to parental sensitivity.

As a pre-check, demographic variables were entered in stepwise regression analyses. None of the demographic variables, including type of birth, education, family social status, or prior experience with infants significantly contributes to the revised models in the stepwise regression analyses. Therefore, none of the demographic variables were entered into the hierarchical regression analysis.

Maternal findings. No-occur spousal behaviors entered at the first step produces a multiple R of .33 (R square = .11, F = 8.48, $p<.01$). Final t-values

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

indicate that mothers' perception of frequency of no-occur spousal behaviors is a significant predictor of mothers' parental sensitivity (see Table 12).

Maternal employment status entered at the second step yields a multiple R of .48 (R square = .23, F = 10.31, p<.01) Maternal employment status yields an R square change of .12 (F change = 10.92, p change<.01), accounting for 12% of the variance. Final t-values indicate that maternal employment status contributes significantly to the prediction of mothers' parental sensitivity after controlling for frequency of no-occur spousal behaviors. The high standard error of beta relative to the beta weight for maternal employment dictates cautious interpretation (Waltz & Bausell, 1981, p. 281).

Psychological well-being entered at the third step yields a multiple R of .49 (R square = .24, F = 7.17, p<.01). Psychological well-being yields an R square change of .01 (F change = .93, p change = .34), accounting for 1% of the variance. Final t-values indicate that psychological well-being does not predict mothers' parental sensitivity after controlling for no-occur spousal behaviors and maternal employment status.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 12

Hierarchical Regression Analysis of Revised Set of Independent Variables on Parental Sensitivity of First-Time Mothers

		Mothers (n = 71)						
		Final Step						
Step	Variable Entered	Beta	SE	T	Sig T	Multiple R	R^2	R^2 Chg.
1	Perceived Marital Quality							
	No-Occcur Spousal Behaviors	.35	.01	3.26	.002	.33	.11	.11**
2	Employment Status	.31	.68	2.91	.004	.48	.23	.12**
3	Psych Well-Being	.09	.07	.83	.41	.49	.24	.01
4	Parent Age	.18	.08	1.64	.11	.52	.27	.03
		F (4, 66) = 6.19, p<.01 Adjusted R^2 = .23						

** p<.01

When maternal age is entered at the fourth step, multiple R is .52 (R square = .27, F = 6.19, p<.01). Maternal age yields an R square change of .01 (F change = 2.69, p change = .11), accounting for 1% of the variance. Final t-values indicate that maternal age does not significantly predict mothers' parental sensitivity after controlling for no-occur spousal behaviors, maternal employment status, and psychological well-being.

The revised maternal model accounts for 27% of the variance using no-occur spousal behaviors, employment status, psychological well-being, and maternal age as predictors. Although the overall regression model is significant, only no-occur spousal behaviors and maternal employment status are significant predictors of mothers' parental sensitivity. Maternal employment status explains slightly more of the variance than does maternal perceptions of the frequency of no-occur spousal behaviors. Maternal age, a significant predictor in the original model, is no longer a significant predictor in the revised model.
The revised model accounts for 2% more variance than does the original.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Chapter V: Discussion, Conclusions, and Recommendations

This chapter includes a discussion of and conclusions drawn from the study findings. The final sections review methodological issues and present recommendations for nursing practice, research, and theory building.

Summary of the Study

This study had three purposes: (a) to test an operational model suggesting that marital quality contributes to parental sensitivity by affecting the psychological well-being of first-time mothers and fathers, (b) to learn if adding parental age and infant gender increases the model's power to predict parental sensitivity, and (c) to learn if the operational model differs for first-time mothers and fathers.

The sample of 71 married couples was recruited from childbirth education classes. Parents completed questionnaires and were observed interacting with their infants during home visits within one week of the infant's three-month birthday.

Six hypotheses deal with bivariate relationships. Four research questions deal with the efficacy of the regression model in predicting parental sensitivity. Hierarchical regression analyses indicate that the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

original model's predictor variables (marital quality, psychological well-being, parent age, and infant gender) account for 25% of the variance in mothers' parental sensitivity and 15% of the variance in fathers' parental sensitivity.

Revision of the maternal regression model incorporates the significant predictors from the original model and a new predictor--maternal work status. Hierarchical regression analysis for the revised maternal model accounts for 27% of the variance in maternal sensitivity--similar to the amount accounted for in the original model.

Discussion of Findings

Given the complex nature of parental sensitivity, it is notable that the original maternal model explains 25% of the variance and the revised model explains 27% of the variance in mothers' parental sensitivity. Perceived frequency of no-occur spousal behaviors, maternal work status, and age explain the most variance in mothers' parental sensitivity.

Clearly, the model is less effective in explaining fathers' parental sensitivity, accounting for 15% of the variance. Only psychological well-being contributes significantly to the prediction of fathers' parental sensitivity.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The following interpretations of study findings are organized under each major study variable.

Perceived Marital Quality

Of the four marital quality factors in the original model, the number of perceived no-occur spousal behaviors is the strongest, and only significant, predictor of mothers' parental sensitivity, accounting for 13% of the variance. This predictor is also significant in the revised model, accounting for 11% of the variance in maternal sensitivity. Mothers indicating greater numbers of no-occur spousal behaviors have greater parental sensitivity in interactions with their infants. This finding is surprising because it indicates that mothers who interact less with their spouses and who perceive that their spouses participate less in married life (household maintenance, financial decision making, child care and parenting, affection, companionship, consideration, sex, communication, and couple activities) are more sensitive to their infants.

If the marriage relationship is an emotional and instrumental support system for partners, as Belsky and Vondra (1985) contend, then one would expect that mothers who perceive more pleasing and fewer displeasing spousal behaviors would perceive higher levels of spousal support and have the most physical and emotional

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

energy to devote to interactions with infants. In this study, neither pleasing nor displeasing behaviors are significant predictors of maternal sensitivity.

One explanation may be that mothers, in particular those who have recently returned to work, may have difficulty juggling work, parenting, and marital roles. In other words, the demands of husbands and infants create conflict, and women are likely to experience that conflict more acutely as they return to employment following the birth of an infant (Barnett & Baruch, 1985; Minuchin, 1974). Spousal behaviors that call for increased couple activities, sex, and affection can result in increased role strain for women. An alternative explanation is that women hold traditional role expectations and engage in a certain amount of "gatekeeping" behavior with regard to instrumental activities and child care (Hines, 1987; Reiber, 1976).

In contrast to the findings for mothers, there is no evidence of a direct relationship between marital quality and fathers' parental sensitivity. However, marital quality factors are associated with fathers' psychological well-being, and psychological well-being is a significant predictor of fathers' parental

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

sensitivity. These findings support Belsky's theory that marital quality may indirectly affect parenting by first influencing psychological well-being.

Maternal Employment

Further analyses compared differences between employed and unemployed mothers and their spouses . There are no differences in any of the independent variables. However, employed mothers are significantly more sensitive to their infants than their unemployed counterparts. Whether or not their wives are employed does not affect fathers' parental sensitivity. The following discussion focuses on bivariate relationship patterns for employed and unemployed mothers and their spouses. These bivariate relationships are cautiously interpreted because of the increased possibility of sampling error that occurs with reduction in sample size when mothers and fathers are divided into employed and unemployed subgroups.

Psychological well-being. Although employed and unemployed mothers and their spouses do not differ in measures of psychological well-being, factors contributing to their psychological well-being are likely to come from different sources. The fact that employed mothers are so sensitive to their infants supports Barnett and Baruch's (1985) conclusion that the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

role of paid worker contributes to one's sense of self-esteem and thus mitigates negative effects of other stressors. In a similar vein, Belsky (1984) posits that employment-parenting associations found in studies are actually mediated by effects that employment conditions have on personality and general psychological well-being (p.90).

Financial concerns are prominent for new fathers (Broom, 1984). For fathers, the increased financial security associated with wives' employment may mediate the stress associated with such employment. Findings from this study indicate that for employed mothers and their spouses, psychological well-being is positively related to their parental sensitivity. The positive association between psychological well-being and parental sensitivity is not evident for unemployed mothers or their spouses.

Marital quality. Neither perceptions of marital quality nor spousal behaviors are correlated with parental sensitivity for unemployed mothers or their spouses. One explanation may be that women who are not employed outside the home are likely to take responsibility for many of the instrumental activities associated with home management and child care, thereby relieving spouses of some of these activities. If

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

wives' and husbands' role expectations are consistent with this traditional set of role behaviors, little role or marital conflict is likely to develop (Heller & Philliber, 1982). Other research supports the conclusion that parents' satisfaction with their roles appears to be more important than the actual arrangement of household and parenting tasks (Cowan, Cowan, Coie, & Coie, 1978; Fein, 1976).

The literature suggests that employed mothers experience more stress--specifically, role overload and role conflict--than do unemployed mothers (Barnett & Baruch, 1985; Holahan & Gilbert, 1979). An alternative explanation for the nonsignificant relationships between marital quality factors and parental sensitivity for unemployed mothers is that under conditions of lower stress, marital support becomes less salient. This explanation may hold for their spouses if these fathers perceive fewer domestic demands and thus less stress.

Employed mothers and their spouses exhibit different patterns. Unlike unemployed mothers and their spouses, employed mothers and their spouses who rate their overall marital quality high also rate their psychological well-being high. Fathers who perceive fewer displeasing spousal behaviors also rate their psychological well-being high. And those mothers and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

fathers with high psychological well-being also are more sensitive to infants. These findings support Belsky's theory that marital quality may indirectly affect parenting by first influencing parental well-being. One explanation for the relationship between marital quality and well-being may be that the marital relationship becomes more directly salient to mothers experiencing the increased stress associated with employment. When mothers are employed, fathers tend to increase time spent in child care and household tasks (Herman & Gyllstrom, 1977; Holahan & Gilbert, 1979). These new fathers, therefore, are likely to experience additional stress related to increased domestic demands. Like their wives, they may find the marital relationship a mediating influence.

For both employed and unemployed mothers and their spouses, perceptions of overall marital quality are not associated with parental sensitivity. However, unlike their unemployed counterparts, employed mothers' and their spouses' parental sensitivity is associated with spousal behaviors. Although pleasing behaviors far outnumber displeasing spousal behaviors, employed mothers who percieve fewer displeasing spousal behaviors have greater sensitivity to their infants. This finding

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

supports the contention that partners disproportionately weigh displeasing behaviors (Christensen & Nies, 1980; Jacobson, Follette & McDonald, 1981).

Some aspects of the marriage relationship may enhance the parenting role--fewer displeasing spousal behaviors--whereas other aspects of the marriage may compete with the parental role. Surprisingly, employed mothers who perceive fewer pleasing and greater numbers of no-occur spousal behaviors are more sensitive to their infants. Greater numbers of no-occur spousal behaviors indicate mothers' perception of low levels of family participation for fathers. One explanation for the latter finding is that mothers who perceive low levels of father involvement in infant care may tend to compensate in their own interactions.

Fathers with employed wives, on the other hand, are more sensitive if they perceive high levels of family participation for wives (few no-occur behaviors). This finding is consistent with Dickie's (1987) results. She found that perception of high marital support has more impact on fathers' competence with infants than it does on mothers' competence.

In spite of changing social attitudes toward employed mothers and greater spousal support for wives' careers, research findings indicate that women tend to

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

do more of the housework and child care than men (Herman & Gyllstrom, 1977; Holahan & Gilbert, 1979). Goode's (1960) scarcity model of human energy maintains that individuals have a limited amount of energy. The model suggests that as the number of roles increases, so does the probability of exhausting one's supply of time and energy, and the greater chance of encountering conflicting obligations, resulting in role strain. Perhaps the characteristically pleasing spousal behaviors that call for increased sex, affection, and couple activities place increased energy demands on employed women. Those mothers with fewer marital demands may simply have more energy to devote to infant interactions, in the scarcity model explanation.

Parental age. Age is not related to parental sensitivity for employed or unemployed mothers or their spouses. Older employed and unemployed mothers perceive fewer displeasing spousal behaviors. Older employed mothers also perceive higher marital quality. These relationships between marital quality factors and age may be an indication of maturity. Fathers with employed wives, on the other hand, perceive fewer pleasing spousal behaviors. The latter finding may simply reflect the many role demands of the employed mother and wife. These findings do not support Belsky's (1984)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

view that parent age, considered one marker of maturity, is more important than marital and employment factors in predicting parental sensitivity.

Infant gender. Infant gender is not related to parental sensitivity for either employed or unemployed mothers or their spouses. These results provide support for Belsky's (1984) theory that infant characteristics are less predictive of sensitive parenting than are marital and employment factors.

Demographic variables. Relationships among demographic variables and parental sensitivity show different patterns for employed versus unemployed mothers. Unemployed mothers are more sensitive to babies born by cesarean section than they are to babies born vaginally. Others found similar differences for fathers, but not for mothers (Grossman, Eichler & Winickoff, 1980; Pedersen, 1981). It is likely that this relationship is transitory, as researchers concluded is the case for fathers (Grossman, Eichler & Winickoff, 1980). This relationship is not evident for employed mothers.

Employed mothers with no prior experience with infants are more sensitive than are mothers with greater prior experience. This may reflect the novelty effect of the first child for those with no prior

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

experience, or how the novelty effect erodes with experience. Employed mothers are likely to spend less total time with their infants than do unemployed mothers, thus the novelty effect may be more pronounced for these mothers.

Employed mothers with partial college or higher levels of education are more sensitive to infants than are those with less education. Employed mothers with higher family social status are also more sensitive to infants than are those with lower family social status. Because educational level is a weighted component of the family social status score, the similar relationships for family social status and education with parental sensitivity are not surprising. These findings are consistent with those of others (Barnard, Bee & Hammond, 1984; Grossman, Eichler & Winickoff, 1980; Nover, Shore, Timberlake & Greenspan, 1984; Walker, Crain & Thompson, 1986). Although educational levels and family social status do not differ for employed versus unemployed mothers, it is possible that these variables are more salient for employed mothers than they are for unemployed mothers.

Demographic variables are not associated with parental sensitivity for fathers with employed or unemployed wives.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The differences between employed and unemployed mothers and their spouses found in this study indicate the need to take into account the impact of employment in parenting studies and in nursing practice.

Revised model. Maternal employment status contributes to the prediction of mothers' parental sensitivity after no-occur spousal behaviors are controlled. Maternal employment status accounts for 11% of the variance in maternal sensitivity. This finding tends to support the contention that employment mitigates the effects of other stressors. It also reinforces the need to examine the impact of maternal employment in research and practice.

For fathers, maternal work status is not significantly associated with parental sensitivity. Nor is there a significant difference in paternal sensitivity between fathers with employed versus fathers with unemployed wives. Others found that when mothers are employed, fathers tend to increase time spent in child care (Herman & Gyllstrom, 1977; Holahan & Gilbert, 1979). Still others conclude that the amount of time spent with infants does not predict the quality of the parent-infant interactions (Lamb, 1981; Lewis, Feiring &

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Weinrub, 1981; & Parke, 1978). Therefore, it is not surprising that maternal work status does not predict paternal sensitivity with infants.

Pychological Well-Being

In tests of the original and revised models, mothers' psychological well-being does not contribute significantly to the prediction of mothers' parental sensitivity. However, perceptions of marital quality and displeasing spousal behaviors are associated with maternal psychological well-being. These findings support Belsky's (1984) theory that the quality of the marital relationship contributes to psychological well-being. However, marital quality factors that contribute to mothers' psychological well- being are different from those that directly affect mothers' parental sensitivity. Maternal employment status is not associated with mothers' psychological well being, but is related to their sensitivity. In other words, the results for mothers in this study do not support Belsky's (1984) theory that marital quality and employment conditions affect parenting indirectly by influencing parents' psychological well-being. Both may mediate stress in other ways, thus contributing to mothers' parental sensitivity.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

An alternative explanation is that mothers may be able to sublimate their own needs as they respond to those of their infants. The latter is consistent with findings in previous research indicating that more mature mothers are likely to place infant needs ahead of their own (Grossman, Eichler & winnickoff, 1980; Jones, Green & Krauss, 1980).

Unlike for mothers, psychological well-being for fathers significantly predicts fathers' parental sensitivity. It is the only factor to do so. The same two marital quality factors that correlate with mothers' psychological well-being also correlate with fathers' psychological well-being. These findings support, in the case of fathers, Belsky's (1984) theory that marital quality affects parenting indirectly by first influencing psychological well-being.

Parent Age

In the original regression model, maternal age contributes significantly to the prediction of maternal sensitivity, accounting for 7% of the variance. This evidence suggests older mothers are more likely to place their infant's needs ahead of their own needs and well-being. This finding is consistent with previous research suggesting older mothers' personal well-being is less important in determining mothers' parental

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

sensitivity than are infant needs (Grossman, Eichler & Winnickoff, 1980; Jones, Green & Krauss, 1980). The findings also support Belsky's theory that parental psychological resources such as maturity, are important determinants of parental sensitivity.

In contrast, in the revised model, maternal age does not add significantly to the prediction of mothers' parental sensitivity. Its lack of contribution in the revised model may be a function of shared variance with maternal work status. This discrepancy in findings regarding maternal age as a predictor of parental sensitivity provides conflicting evidence for Belsky's theory.

For fathers, age does not contribute significantly to the prediction of parental sensitivity. Although there is empirical support for the effects of age on maternal sensitivity, little is known about the effect of age on paternal sensitivity. Contrary to Belsky's (1984) theory, age does not appear to affect fathers' ability to be sensitive in interactions with their infants.

In addition, older fathers with employed wives tend to perceive fewer pleasing spousal behaviors than do their younger counterparts. As indicated, employed mothers' conflicting role demands may explain this

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

finding. Another explanation not tested in this research is that older fathers are more likely to have greater professional responsibilities and spend less time interacting with their wives. In the study sample, older fathers tended to be engaged in higher status occupations likely to have significant professional responsibilities (r = .20, p = .05).

Infant Gender

Infant gender does not contribute significantly to the prediction of either mothers' or fathers' parental sensitivity. Although employed mothers of girls rate marital quality higher than do mothers of boys, infant gender does not predict maternal sensitivity. These results are consistent with those of other researchers (Dickie, 1987; Graham, 1986).

Fathers with unemployed wives who have boys perceive fewer no-occur spousal behaviors, indicating relatively more interaction and participation in family life by mothers of boys than by mothers of girls. Otherwise, for fathers, infant gender is not significantly related to other marital quality factors, psychological well-being, or parental sensitivity. These findings support Belsky's (1984) theory that

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

parental psychological resources are more influential in determining parental sensitivity than are infant characteristics.

Conclusions

As anticipated, these middle-class, married couples demonstrate relatively high levels of marital quality, psychological well-being, and parental sensitivity. The only significant difference between fathers and mothers for these variables is that mothers rate marital quality higher than do fathers.

Clearly, the original Model of Parental Sensitivity operates differently for mothers and fathers. The maternal model explains more variance than does the paternal model. The maternal model accounts for 25% of the variance, and the paternal model accounts for 15% of the variance in parental sensitivity.

The findings of this study support Belsky's theory of a direct relationship between marital quality and parental sensitivity for mothers, but do not support that theoretical relationship for fathers. The findings also support Belsky's theory in that marital quality indirectly influences fathers' parental sensitivity by affecting their psychological well-being. This indirect causal relationship does not hold for mothers, however.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Maternal employment status is related to parental sensitivity for mothers, but not for fathers. However, the quality of the marital relationship appears to be more salient for mothers and fathers when the wife is employed than if she is unemployed.

Parental age is related to parental sensitivity for mothers in the original model, but not in the revised model. Age is not related to parental sensitivity for fathers. Infant gender does not affect parental sensitivity for either parent. These findings support Belsky's theory that parental psychological resources--well-being, and marital and employment sources of support--are more influential in determining parental sensitivity than are infant characteristics. However, they provide conflicting evidence that age--a questionable marker of maturity--is a significant predictor of parental sensitivity for mothers.

Based on this study, it is obvious that the Parental Sensitivity Model works differently for mothers and fathers.

Methodological Considerations

In retrospect, it would have been useful to determine the number of hours women were employed outside the home, the date they returned to employment relative to data collection, and whether they considered

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

their employment to be a career or simply a job. Research findings indicate that life satisfaction--a measure of psychological well being--is greater for those employed in careers versus jobs (Holahan & Gilbert, 1979). It is also likely that mothers most recently returned to employment and those working greater numbers of hours experienced greater role overload and conflict.

In spite of efforts to limit the time elapsed when recalling events, self-reports of spousal behaviors may not accurately reflect the occurrence of daily behaviors. Difficulty in recalling events in part may account for absence of many behaviors ("no-occur") reported by fathers and mothers. Although the pleasing, displeasing, neutral and no-occur behaviors have high internal consistencies for both mothers and fathers, the checklist needs further revision to increase the instrument's ability to document actual behaviors.

Subjects completed the behavioral checklist on three different "typical" days in an effort to adequately sample behaviors. One must weigh the advantages of such sampling against the possible testing effects.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Revising the behavioral checklist, eliminating items not suited to parents of three-month-old infants and decreasing the number of items undoubtedly increased completion and return rates. Reminder phone calls also prompted high completion and returns. Further revision of this instrument calls for factor analyses to determine the various dimensions of family interaction. Clearly identifying these dimensions will enable researchers to explain which areas of family life are most related to judgements of marital quality, and to psychological well-being and parental sensitivity.

Interpreting the incidence of "no-occur" spousal behaviors as an indicator of spousal interaction and participation in family life was done cautiously. Future research needs to incorporate a better measure of such interaction and participation.

There is evidence of convergent validity between spousal behaviors and the Quality Marriage Index. Perceptions of pleasing spousal behaviors are positively correlated with Quality Marriage Index for both fathers and mothers. For fathers, perceptions of displeasing spousal behaviors are negatively correlated with Quality Marriage Index. Surprisingly, that is not the case for mothers. No-occur spousal behaviors were negatively correlated with Quality Marriage Index for

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

mothers, but not for fathers. In other words, low levels of spousal interaction and participation in family life are associated with lower ratings of marital quality for mothers, but not for fathers.

Cronbach alpha coefficients for the Quality Marriage Index are lower than those reported by Fox (1989) in her study of 200 married couples (.82 and .90 versus .92 and .93 for mothers and fathers, respectively). The differences in internal consistency values probably reflect both the more homogenous and smaller sample size in this study and Fox's standardized scores.

Cronbach alpha coefficients for the psychological well-being instrument are .70 for mothers and .62 for fathers. Cherlin and Reeder (1975) report slightly higher internal consistency at .73. A minimum of .70 is usually considered desirable for measurement reliability (Polit & Hungler, 1987). Increasing the number of items is likely to increase reliability.

An equally important consideration for the measurement of psychological well-being is the validity of limiting the measure to happiness (affect) as Bradburn's Affect Balance Scale does (Oleson, 1990). As discussed in the literature review, perceived happiness and life satisfaction are the attributes most

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

frequently identified as manifestations of psychological well-being. Campbell (1981) observed that these two attributes are related but not identical. Currently no one scale exists that measures happiness and life satisfaction. Using established measures of happiness and satisfaction to derive a composite score is one solution to this dilemma.

This study reports high levels of parental sensitivity and low variability for both mothers and fathers. These findings may be attributed in part to parental efforts to do their best in an observational setting. However, the researcher and research assistant agreed that these parents were quite responsive to infant behavior throughout the interview process, not just during the teaching task observed for the parental sensitivity measure. The assigned teaching task limits the variety of interactive behaviors the researcher systematically observes, but may unduly constrain behavior of those being observed. Observing a wider range of interactions may increase the opportunity to accurately measure parental sensitivity, therefore increasing measurement reliability and validity. If a wider range of interactions is used to measure parental sensitivity, however, videotaping would likely improve the researcher's accuracy and ensure high interrater

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

reliability. Whatever the reason for the limited variability in parental sensitivity, this factor no doubt contributed to the relatively low correlations found in this study.

Recommendations for Theory Building and Research

Recommendations for future studies fall into two areas: (a) refinement of the Model of Parental Sensitivity, and (b) additional studies.

Model Refinement

The model needs refinement to provide a more powerful explanation of the impact of the marital relationship on parental sensitivity. Future research should continue to incorporate measures of spousal behaviors as well as subjective evaluations of the marital relationship in an effort to gain insight into these complex relationships. For example, couples can be observed as an interacting dyad as they work to accomplish a given task.

Gilliss (1983) advocates using the family as the unit of analysis, rather than individual members, in order to better relate individual to family behaviors and family to individual behaviors. Using a coorientational approach to investigate parental consensus about expectations of spousal behaviors is one method of developing a couple measure (McLeod & Chaffee,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

1973). Parental consensus may provide insight into the relationships among marital quality, psychological well-being, and parental sensitivity. One must weigh the advantages of such an approach with the disadvantage of losing the differences between mothers and fathers that are found with individual parent measures.

Other variables known to affect psychological well-being should be investigated in an effort to identify factors within and outside the family that directly or indirectly affect parental sensitivity. For example, exploring the effects of network support for new parents may provide additional information about factors that mitigate the stress of adapting to parenthood.

Given the increasing number of women returning to employment before their infants are a year old, further study of variables related to employment should be done. Holahan and Gilbert (1979) advocate differentiating between those in "careers" versus "jobs"--a reasonable suggestion given their findings that self-esteem is greater for those in careers. Hoffman (1963) found that mothers who like their work display more affection with their children. Job satisfaction or enjoyment may be another variable that mitigates stress and bolsters self-esteem, thereby indirectly influencing parenting. No

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

data gathered in this study indicate whether women perceive their employment as careers versus jobs, or whether they enjoy their work.

Given the conflicting results in this study, parent age should be retained as a predictor of parental sensitivity for mothers. As the model is refined, however, the relationship of this variable to parental sensitivity should be clarified.

Researchers should use infant characteristics other than gender to predict parental sensitivity. The researcher and research assistant observed parents' delight when infants responded with a smile, laughter, or excitement to parental efforts. Infant responsiveness in interactions may enhance parental self-esteem and psychological well-being. Such interactive "rewards" may better predict parental sensitivity than does infant gender (Brazelton, 1974; Brazelton, Koslowski & Main, 1974; Korner, 1974).

Further research should continue to elaborate the models for fathers and mothers. Path analytic methods will help determine the causal paths of the elaborated models.

Additional Studies

Longitudinal studies are needed to document changes in how marital quality influences parental sensitivity

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

as children grow and other children join the family. Research questions include: (a) Does the relationship between no-occur spousal behaviors and mothers' parental sensitivity remain stable over time? (b) To what extent do role demands of marriage and parenting affect parental sensitivity for women in "careers" versus those in "jobs" over time? (c) To what extent do mothers with low marital quality compensate in parent-infant interactions over time? (d) To what extent do mothers who perceive low levels of father involvement compensate in parent-infant interactions over time? Tracking such changes will help nurses formulate nursing interventions to promote healthy marital and healthy parent-child relationships as families grow and develop.

Additional studies of factors related to parental sensitivity are needed with random samples from a variety of family units, such as cohabitating unmarried parents, extended families, and single parents. These groups were not included in this study, but studies of these other family units, families from other (than white) ethnic groups, and those from lower social status levels would help elaborate the model predicting parental sensitivity and help nurses working with these clients.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Refining the operational model and testing it in panel studies would provide empirical evidence on which to base nursing interventions. Longitudinal studies would also document the efficacy of various nursing interventions over the life span of parent-child interaction.

Recommendations for Nursing Practice

Nurses who work with childbearing families will find the family systems perspective useful for assessing families and planning nursing care to foster parental sensitivity. Fathers are the often-neglected clients in childbearing families. Yet their potential for dealing sensitively with infants, thereby promoting healthy child development, is as great as for mothers. Nursing interventions should include both parents. For instance, nurses should teach both fathers and mothers to read infants' subtle cues.

The marital relationship is capable of bolstering each parent's psychological well-being, thus nurses must assess the quality of the marital relationship, particularly when dealing with employed mothers and their spouses. Becoming parents is accompanied by a decrease in the spousal interactions that bring pleasure to each partner. Also, the new relationship between parents becomes characterized less as recreational and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

more as a working partnership (McHale & Huston, 1985). Healthy adjustment to these changes is likely to strengthen the marital relationship, increase individual well-being, and improve parenting. Nurses can teach problem-solving and communication skills to assist couples in adapting to the transition to parenthood.

For instance, nurses can help couples identify behavioral expectations about division of labor for household chores and childcare. Nurses also can encourage couples to identify spousal behaviors that are pleasing and those that are displeasing, and to share those with each other. They also can encourage couples to make time for pleasing interactions and to negotiate ways to decrease displeasing interactions. These activities are particularly suited for groups such as childbirth education classes and parenting classes. However, nurses can also incorporate these discussions in prenatal and postpartum visits.

Nurses can help mothers identify "gatekeeping" tendencies and encourage fathers' participation in all areas of family life--keeping in mind personal and cultural preferences. Nurses should also be alert for signs of maternal compensatory behavior with infants, and help mothers identify and develop "rewards" in other aspects of life.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Nurses can help fathers and mothers to identify other aspects of life, relationships, and activities that promote psychological well-being. New parents should be encouraged to develop these resources, acknowledging the potential benefits for parenting.

Nurses who work with younger mothers should do careful assessments of parental sensitivity. Interventions should help young mothers identify support systems, develop realistic expectations about infant behavior, and learn to read infant cues.

Because many mothers return to work before their infants are one-year old, nurses must recognize and evaluate the impact of employment on mothers' health and well-being, as well as on their relationships with spouses and infants. Interventions for employed-mother families are likely to differ from those for families in which mothers have not rejoined the work force. Nurses must recognize that employment may offer "rewards" that bolster psychological well-being and thus enhance parenting. Nursing interventions should help parents successfully deal with stressors associated with maternal employment, such as child care and household maintenance.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The increasingly common practice of early hospital discharge following birth necessitates evaluating follow-up care. Nurses have a primary role in conducting this evaluation and recommending changes conducive to healthy family and child development.

The nursing interventions suggested here can be incorporated into childbirth classes, prenatal visits, and parenting classes after the infant is born. The family systems perspective is useful for nurses as they assess childbearing families, plan and implement interventions to foster the healthy development of all family members and promote family functioning, and evaluate the impact of interventions on parenting effectiveness.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix A

CONSENT FORM FOR CHILDBIRTH EDUCATION CLASS PARTICIPANTS

The Impact of Marital Quality and Psychological Well-Being on Parental Sensitivity for First-Time Mothers and Fathers: A Nursing Study

---

You, your spouse, and your infant are invited to participate in a study of parent-infant interaction. I am a doctoral candidate at The University of Texas at Austin, School of Nursing, and this is my Ph.D. dissertation research. I hope to learn more about family relationships and infant development.

You were selected as possible participants in this study because you are attending childbirth education classes and because you meet the following requirements:

- English speaking man or woman between 18 and 40 years of age
- Married at least one year and living with spouse
- Middle class
- In generally good health
- This is first child (no other biological or adopted children)
- Participated in childbirth education classes

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

- Father was present for the birth
- Baby is a healthy, full-term infant

You will be one of approximately 70 new mothers and fathers chosen to participate in this study. Participation in the study involves both parents and your baby, is completely voluntary, and will not affect your or your baby's present health care.

If you decide to participate, I will ask you to schedule a convenient time when I may visit you and your infant in your home. The visit will take approximately 45 minutes. The visit should fall within a week of your infant's three month birthday, and be at a time of day when your infant is usually awake and playful.

During that visit, you will be asked to complete some paper and pencil questionnaires. The questions are very brief and there are no right or wrong answers. I anticipate that you will find the experience easy and interesting. You will be asked to:

- Provide basic information about yourself (age, education, etc.) (5 minutes)
- Answer questions about how you have been feeling (pleased, proud, unhappy, etc.) (5 minutes)
- Answer questions about your relationship with your spouse (stable versus unstable, happy versus unhappy, etc.) (5 minutes)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

- Complete a checklist of behaviors which frequently occur in any given household (putting baby to bed, meal preparation, etc.)

(15 minutes)

In addition you will be asked to allow me to observe you and your baby while you teach him/her to play with a toy (approximately 10 minutes). This play period is brief and should be fun for both you and your baby.

You will be asked to complete the behavior checklist two more times of your choice during the following week (approximately 15 minutes each). Please note, some of the items on the behavior checklist are of a personal nature, for example: "We took a shower or bath together". You will be asked to mail the checklists to me in the stamped envelopes provided.

The risks of the study are those related to the time and inconvenience in completing the questionnaires and in being observed playing with your baby. There are no physical risks to you or your baby in the study. If your baby becomes tired or frustrated/fussy, we will stop the play activity. If you participate you will receive a bibliography of infant development resources which may be helpful to you in learning how to stimulate your infant's development. If you participate you will

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

also be helping registered nurses to better understand family relationships and early infant development. Such understanding will better prepare nurses to assist new parents in promoting their infant's development.

All information obtained during the study will remain confidential and will be disclosed only with your permission. Your name will not be used on any of the data collected. Code numbers will be used to keep family members' data together. The master list which links names with code numbers will be destroyed upon completion of the study. The study reports will be written so that you cannot be personally identified.

Your decision whether or not to participate is completely voluntary. If you decide not to participate, it will not prejudice any future relations with The University of Texas at Austin or with your health care providers. If you decide to participate, you are free to discontinue participation at any time without prejudice.

You will be given a copy of this form to keep.

If you have any questions, please ask me. If you have any additional questions later, you may contact me at:

Betty L. Broom
[redacted] (phone: [redacted])

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The chair of my dissertation committee will also be happy to answer questions:

Dr. Alice Redland
The University of Texas at Austin, School of Nursing
[redacted]
(phone: [redacted])

You are making a decision whether or not to participate. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time without prejudice after signing this form, should you choose to discontinue participation in this study.

_____ _____
Signature of Participant Date

_____ _____
Signature of Investigator Date

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix B

First-time Parents?

About the Investigator

Betty L. Broom is a registered nurse by profession. She has been a maternity nurse as well as a teacher of nursing for many years.

Currently she is on the faculty of San Diego State University School of Nursing. Betty is also a doctoral student in the Doctor of Philosophy in Nursing program at The University of Texas at Austin. This study is part of her doctoral program.

[redacted]

Betty L. Broom

Learn more about the study

Call [redacted]

or mail in tear off card

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

You're Needed!

For: A research study on family relationships and infant development.

Why: Very little is known about how family relationships are related to infant development. Although a lot has been written about mother-baby relationships, few studies include fathers.

Who: **First time mothers and fathers.**
- Between the ages of 18 and 40.
- Generally good health
- Participated in childbirth education classes.
- Father present for the birth.
- English speaking.
- Married at least one year and living together.

Healthy infants.

What: 1. One visit with both parents within one week of infant's three month birthday to:
--Fill out four brief questionnaires.
--Teach infant to play with a toy.
2. Fill out a brief checklist on two additional days.

How much time?

The initial visit will be 45 minutes to one hour in length, conducted by Betty Broom, doctoral candidate at the University of Texas at Austin (see reverse side).

The mailed checklist will require approximately 15 minutes to complete on each of two days.

Where: The visit will be conducted in the family's home at their convenience, at a time the infant is likely to be awake and playful.

The mailed checklist will be completed in the family home.

What will participants get out of it?

Parents will receive a bibliography of infant development resources. Participants will help to increase knowledge about family relationships and infant development.

❒-**Yes**, we are definitely interested in participating in this study.

❒-**Yes**, We are interested in this study but want more information about it.

Please call me...

Phone:_____
Time_____
(Hours that are convenient to you).

Name_____
Address_____
_____

Please fill in, cut off, and mail in right away!

Appendix C

DEMOGRAPHIC DATA

LAST 6 DIGITS OF WIFE OR HUSBAND'S SOCIAL SECURITY NUMBER_____

WIFE'S BIRTHDATE_____

WIFE'S ETHNIC BACKGROUND (Circle the letter of one)

a. Asian
b. Black
c. Caucasian
d. Hispanic
e. Native American
f. Other (specify)_____

WIFE'S EDUCATION (Circle the letter of one)

a. less than seventh grade
b. junior high school (through 9th grade)
c. partial high school (10th or 11th grade)
d. high school graduate
e. partial college (at least 1 year) or specialized training
f. standard college or university graduation
g. graduate professional training (graduate degree)

WIFE'S OCCUPATION_____

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

HUSBAND'S BIRTHDATE_____

HUSBAND'S ETHNIC BACKGROUND (Circle the letter of one)

a. Asian

b. Black

c. Caucasian

d. Hispanic

e. Native American

f. Other (specify)_____

HUSBAND'S EDUCATION (Circle the letter of one)

a. less than seventh grade

b. junior high school (through 9th grade)

c. partial high school (10th or 11th grade)

d. high school graduate

e. partial college (at least 1 year) or specialized training

f. standard college or university graduation

g. graduate professional training (graduate degree)

HUSBAND'S OCCUPATION_____

DATE OF MARRIAGE (month & year)_____

TYPE OF BIRTH (Circle one): Vaginal Cesarean

SEX OF INFANT (Circle one): Girl Boy

TYPE OF INFANT FEEDING (Circle one): Breast Bottle Combination

PREVIOUS EXPERIENCE WITH INFANTS (Circle one): None Small Moderate Extensive

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

PLEASE NOTE

Copyrighted materials in this document have
not been filmed at the request of the author.
They are available for consultation, however,
in the author's university library.

227-231, Appendix D - Nursing Child
Assessment Teaching Scale

University Microfilms International

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix E

QUALITY MARRIAGE INDEX

Do not spend too much time on any one question. Give each question a moment's thought and then answer it. Answer all questions with your partner in mind. Your partner should not see or help with the answers.

For each item circle the point which best describes your relationship with your partner during the past few weeks.

---

1. We have a good marriage.

Very strongly disagree						Very strongly agree
1	2	3	4	5	6	7

2. My relationship with my partner is very stable.

Very strongly disagree						Very strongly agree
1	2	3	4	5	6	7

3. Our marriage is strong.

Very strongly disagree						Very strongly agree
1	2	3	4	5	6	7

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

4. My relationship with my partner makes me happy.

Very strongly disagree						Very strongly agree
1	2	3	4	5	6	7

5. I really feel like part of a team with my partner.

Very strongly disagree						Very strongly agree
1	2	3	4	5	6	7

On the scale below, circle the point which best describes the degree of happiness, everything considered, in your marriage. The middle point, "happy," represents the degree of happiness which most people get from marriage. The scale gradually increases on the right side for those few who experience extreme joy in marriage and decreases on the left side for those few who are extremely unhappy.

Very unhappy				happy					Perfectly happy
1	2	3	4	5	6	7	8	9	10

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

PLEASE NOTE

Copyrighted materials in this document have
not been filmed at the request of the author.
They are available for consultation, however,
in the author's university library.

234-241, Appendix F - Instructions for
Revised Spouse Checklist

University Microfilms International

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix G

AFFECT BALANCE SCALE

I am interested in the way new parents are feeling these days. Use the following numbers to indicate your response:

1. Often
2. Sometimes
3. Rarely
4. Never

During the past two weeks, did you ever feel....(circle the number that most represents your situation)

1. Particularly excited or interested in something?

   1 2 3 4

2. So restless that you couldn't sit long in a chair?

   1 2 3 4

3. Proud because someone complimented you on something you had done?

   1 2 3 4

4. Very lonely or remote from other people?

   1 2 3 4

5. Pleased about having accomplished something?

   1 2 3 4

6. Bored?

   1 2 3 4

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

7. On top of the world?

1 2 3 4

8. Depressed or very unhappy?

1 2 3 4

9. Things were going your way?

1 2 3 4

10. Upset because someone criticized you?

1 2 3 4

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

PLEASE NOTE

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

244-246, Appendix H - Age Appropriate Tasks

University Microfilms International

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix I

INFANT DEVELOPMENT RESOURCE LIST

BOOKS--Available in most book stores

Brazelton, T. Berry, M.D. (1983). Infants and Mothers: Differences in Development. Addison Wesley Publishing. (approximately $ 13.95, paperback). Month-by-month development is outlined for infants of different temperament.

Brazelton, T. Berry, M.D. (1984). To Listen to a Child: Understanding the Normal Problems of Growing Up. Addison Wesley Publishing. (approximately $ 9.95, paperback) Deals with handling typical problems of growing up; picking up cues from your child that something is wrong.

Brazelton, T. Berry, M.D. (1987). What Every Baby Knows. Ballatine Books. (approximately $ 8.95, paperback) Practical guidelines for handling problems.

Brazelton, T. Berry, M.D. (1983). Working and Caring. Addison Wesley Publishing. (approximately $ 8.95, paperback) Based on interviews with working parents; discusses issues of concern to working parents.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Caplan, Frank (1973). The First Twelve Months of Life. Perigee Publishing. (approximately $ 10.95, paperback) A month-by-month description of developmental changes.

Chase, Richard A., Fisher, John J., Rubin, Richard R. (1984). Your Baby: The First Wondrous Year. Johnson & Johnson Co. (approximately $ 14.95, paperback) Covers physical and social development and typical problems. One of the authors is a physician.

Eisenberg, Arlene, Murkoff, Heidi, & Hathaway, Sandee (1989). What to Expect the First Year. Workman Publishing. (approximately $ 12.95, paperback). Thick book with lots of practical tips. One of the authors is a nurse and there is emphasis on health issues.

Leach, Penelope (1988). Your Baby and Child From Birth to Age Five. Knopf Publishing. (approximately $ 16.95, paperback) Covers physical and social development.

Ludington-Hoe, Susan, & Golant, Susan (1985). How to Have a Smarter Baby. Bantam Books. (approximately $ 4.95, paperback) Discusses the benefits of stimulating infant senses (visual, auditory, etc.), and provides a specific program for doing so.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Maccoby, Eleanor E. (1980). Social Development. Psychological Growth and the Parent-Child Relationship. Harcourt Brace Jovanovich, Publishers. (approximately $ 16.95, paperback) A scholarly work that focuses on personality development. More likely to find in a university book store.

McClure, Vimala (1989). Infant Massage. Bantam Books. (approximately $ 6.95). Discusses the benefits of infant massage; outlines a method of massage and uses pictures; includes rhymes and games to play with baby.

Spock, Benjamin, & Rothenberg, Michael B. (1985). Dr. Spock's Baby and Child Care. (approximately $ 4.95) An update of an old standby. Covers development, practical advice for typical problems, medical advice.

VIDEOTAPES --Available for rent in most video stores

What Every Baby Knows by T. Berry Brazelton, M.D.

On Being A Father by T. Berry Brazelton, M.D.

Newborn Care Step by Step

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

PUBLICATIONS--Available from the NATIONAL INFANT DEVELOPMENT EDUCATION ASSOCIATION--

Service Headquarters, Drawer 13320

San Antonio, TX 78213, phone: 512-342-4632

Are You There, Mommy and Daddy? Techniques for infant stimulation written from "the baby's point of view." Pub. #1, 8 pgs...$1.60 ea. ($1.25 postage & handling).

Infant Stimulation--Popular Books Bibliography Several dozen books listed in alphabetical order which deal with the subject of infant stimulation. Listings include prices and publishers. Includes a special 2-page reference section for parents. Includes information on special publications, newsletters, specifically related to infant development. Pub. # 6, 7 pgs...$1.40 ea. ($1.25 postage & handling).

General Information about Infant Stimulation: Some theory and Sensory Interventions by S. Ludington, RN, Ph.D. Topics covered: development of the senses, why infant stimulation is important, providing infant stimulation, and infant stimulation interventions. Provides concrete specifics on how to provide

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

pleasing infant stimulation for each of baby's senses. Includes 3-page bibliography. Pub. #8, 15 pgs...$3.00 ea. ($1.75 postage & handling).

What Can Newborns Really See? by S. Ludington, RN, Ph.D.

Discusses specifics about newborn visual capabilities (acuity, fixation, discrimination, etc.). Also gives ideas for mobile-making, toy-crafting, etc. Pub. #24, 15 pgs...$3.00 ($1.75 postage & handling).

The Baby Connection News Journal A monthly newspaper for parents interested in infant sensory stimulation. One year subscription, $18.00; 6 month subscription, $9.00. Published by Parent Education for Infant Development, P.O. Box 13714, San Antonio, TX 78213.

Baby's Mart Catalog A catalog featuring the official toys of the National Infant Development Education Association, designed by Susan Ludington, RN, Ph.D. For free catalog, write to Baby's Mart Catalog Co., P.O. Box 13714, San Antonio, TX 78213.

THANKS SO MUCH FOR PARTICIPATING IN THE STUDY! I HOPE YOU FIND THIS LIST HELPFUL... Betty L. Broom, RN, MSN, San Diego State University School of Nursing

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

References

Ainsworth, M. S. (1969). Object relations, dependency, and attachment: A theoretical review of the infant-mother relationship. Child Development, 40, 969-1025.

Ainsworth, M. S. (1972). Attachment and dependency: A comparison. In J. L. Gewirtz (Ed.), Attachment and dependency (pp. 97-137). Washington D. C.: Winston.

Ainsworth, M. S., & Bell, S. M. (1969). Some contemporary patterns of mother-infant interaction in the feeding situation. In A. Ambrose (Ed.), Stimulation in early infancy (pp. 133-170). New York: Academic Press.

Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). Patterns of attachment. Hillsdale, N. J.: Lawrence Erlbaum.

Arendell, T. (1986). Mothers and divorce. Berkeley, CA: University of California Press.

Bakeman, R., & Brown, L. (1977). Behavioral dialogue: An approach to the assessment of mother-infant interaction. Child Development, 48, 195-203.

Barnard, K. E. (1978a). Nursing child assessment satellite training: Learning resource manual.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

(Available from Kathryn Barnard, RN, Ph.D., University of Washington, School of Nursing, Seattle, Washington 98195)

Barnard, K. E. (1978b). Nursing child assessment satellite training: Nursing child assessment teaching scale. (Available from Kathryn Barnard, RN, Ph.D., University of Washington, School of Nursing, Seattle, Washington 98195)

Barnard, K. E., Bee, H. L., & Hammond, M. A. (1984). Developmental changes in maternal interactions with term and preterm infants. Infant Behavior and Development, 7, 101-113.

Barnard, K. E., Hammond, M. A., Booth, C. L., Bee, H. L., Mitchell, S. K., & Spieker, S. J. (in press). Measurement and meaning of parent-child interaction. In F. Morrison, C. Lord, & D. Keating (Eds.). Applied developmental psychology: Vol. III. New York: Academic Press.

Barnett, R. C., & Baruch, G. K. (1985). Women's involvement in multiple roles and psychological distress. Journal of Personality and Social Psychology, 49(1), 135-145.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Barnett, L. R., & Nietzel, M. T. (1979). Relationship of instrumental and affectional behaviors and self-esteem to marital satisfaction in distressed and nondistressed couples. Journal of Consulting and Clinical Psychology, 47, 946-957.

Bateson, G. (1979). Mind and nature: A necessary unity. New York: Dutton.

Beiser, M. (1974). Components and correlates of mental well-being. Journal of Health and Social Behavior, 15, 320-327.

Bell, S. M., & Ainsworth, M. S. (1972). Infant crying and maternal responsiveness. Child Development, 43, 1171-1190.

Bell, R. Q., & Costello, N. (1964). Three tests for sex differences in tactile sensitivity in the newborn. Biologia Neonatorum, 7, 335-347.

Bell, R. Q., & Darling, J. F. (1965). The prone head reaction in the human neonate: Relation with sex and tactile sensitivity. Child Development, 36, 943-949.

Belsky, J. (1979a). The interrelation of parental and spousal behavior during infancy in traditional nuclear families: An exploratory analysis. Journal of Marriage and the Family, 41, 749-755.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Belsky, J. (1979b). Mother-father-infant interaction: A naturalistic observational study. Developmental Psychology, 15, 601-607.

Belsky, J. (1980). A family analysis of parental influence on infant exploratory competence. In F. Pedersen (Ed.), The father-infant relationship: Observational studies in a family context (pp. 87-110). New York: Praeger.

Belsky, J. (1984). The determinants of parenting: A process model. Child Development, 55, 83-96.

Belsky, J. (1985). Experimenting with the family in the newborn period. Child Development, 56, 407-414.

Belsky, J., Gilstrap, B., & Rovine, M. (1984). Stability and change in mother-infant and father-infant interaction in a family setting: 1 to 3 to 9 months. Child Development, 55, 692-705.

Belsky, J., Lerner, R. M., & Spanier, G. B. (1984). The child in the family. Reading, Mass: Addison-Wesley.

Belsky, J., Spanier, G., & Rovine, M. (1983). Stability and change in marriage across the transition to parenthood. Journal of Marriage and the Family, 45, 567-577.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Belsky, J., & Vondra, J. (1985). Characteristics, consequences, and determinants of parenting. In L. L'Abate (Ed.), The handbook of family psychology and family therapy, Vol. 1 (pp. 523-556). Homewood, IL: Dorsey.

Bijou, S. W., & Baer, D. M. (1965). Child development: Vol. 2 Universal stage of infancy. New York: Appleton-Century-Crofts.

Bild, B., & Havighurst, R. (1976). Senior citizens in great cities: The case of Chicago. Gerontologist, 16, 1-88.

Biller, H. B. (1974). Paternal deprivation. Lexington, Mass: D. C. Health.

Birchler, G. R., Weiss, R. L., & Vincent, J. P. (1975). A multimethod analysis of social reinforcement exchange between maritally distressed and nondistressed spouse and stranger dyads. Journal of Personality and Social Psychology, 31, 349-360.

Bowen, S. M., & Miller, B. C. (1980). Paternal attachment as related to presence at labor and delivery and preparenthood classes: A pilot study. Nursing Research, 29, 307-311.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Bowlby, J. (1969). Attachment and loss: Vol. I. Attachment. New York: Basic Books, Inc.

Boyle, J. S., & Andrews, M. M. (1989). Transcultural concepts in nursing care. Glenview, IL: Scott, Foresman/Little Brown College Division.

Bradburn, N. M. (1969). The structure of psychological well-being. Chicago: Aldine.

Bradburn, N. M., & Caplovitz, D. (1965). Reports on happiness. Chicago: Aldine.

Brazelton, T. B. (1974). Does the neonate shape his environment? In D. Bergsman (Ed.), The infant at risk. Vol. 10. Birth Defects: Original article series. White Plaines, N. Y.: National Foundation March of Dimes.

Brazelton, T. B. (1979). Behavioral competence of the newborn infant. Seminars in Perinatology, 3, 35-44.

Brazelton, T. B., Koslowski, B., & Main, M. (1974). The origins of riciprocity: The early mother-infant interaction. In M. Lewis & L. A. Rosenblum (Eds.), The origins of behavior. Vol. I: The effect of the infant on its caregiver (pp. 49-76). New York: John Wiley & Sons.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Brody, S. (1956). Patterns of mothering. New York: International Universities Press.

Brody, S., & Axelrad, S. (1970). Anxiety and ego formation in infancy. New York: International Universities Press.

Brody, S., & Axelrad, S. (1978). Mothers, fathers, and children. New York: International Universities Press.

Bronfenbrenner, U. (1974). Developmental research, public policy and the ecology of childhood. Child Development, 45, 1-5.

Broom, B. L. (1984). Consensus about the marital relationship during transition to parenthood. Nursing Research, 33, 223-228.

Burr, W. R. (1970). Satisfaction with various aspects of marriage over the life cycle: A random middle class sample. Journal of Marriage and the Family, 32, 29-37.

Campbell, A., Converse, P., & Rodgers, W. (1976). The quality of American life. New York: Russell Sage.

Carey, W. B. (1970). A simplified method for measuring infant temperament. Journal of Pediatrics, 77, 188-194.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Cherlin, A., & Reeder, L. G. (1975). The dimensions of psychological well-being: A critical review. Sociological Methods and Research, 4, 189-214.

Christensen, A., & Nies, D. C. (1980). The Spouse Observation Checklist: Empirical analysis and critique. The American Journal of Family Therapy, 8, 69-79.

Christensen, A., Sullaway, M., & King, C. E. (1983). Systematic error in behavioral reports of dyadic interaction: Egocentric bias and content effects. Behavioral Assessment, 5, 129-140.

Clarke-Stewart, K. A. (1978). And daddy makes three: The father's impact on mother and young child. Child Development, 49, 466-478.

Cohen, L. J., & Campos, J. J. (1974). Father, mother and stranger as elicitors of attachment behaviors in infancy. Developmental Psychology, 10, 146-154.

Cowan, C. P., Cowan, P., Coie, L., & Coie, J. D. (1978). Becoming a family: The impact of the first child's birth on the couple's relationship. In W. B. Miller & L. F. Newan (Eds.), The first child and family formation (pp. 296-324). Chapel Hill, NC: Carolina Population Center.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Crnic, K. A., Greenberg, M. T., Robinson, N. M., & Ragozin, A. S. (1984). Maternal stress and social support: Effects on the mother-infant relationship from birth to eighteen months. American Journal of Orthopsychiatry, 54, 224-235.

Crnic, K. A., Ragozin, A. S., Greenberg, M. T., Robinson, N. M., & Basham, R. B. (1983). Social interaction and developmental competence of preterm and full-term infants during the first year of life. Child Development, 54, 1199-1210.

Cronenwett, L. R. (1982). Father participation in child care: A critical review. Research in Nursing and Health, 5, 63-72.

Dentler, R. A., & Pineo, P. (1960). Sexual adjustment, marital adjustment and personal growth of husbands: A panel analysis. Marriage and Family Living, 22, 45-48.

Dickie, J. R. (1987). Interrelationships within the mother-father-infant triad. In P. W. Berman & F. A. Pedersen (Eds.), Men's transitions to parenthood (pp. 113-143). Hillsdale, N. J.: Lawrence Erlbaum

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Dickie, J. R., & Gerber, S. C. (1980). Training in social competence: The effect on mothers, fathers, and infants. Child Development, 51, 1248-1251.

Dunn, J. B. (1977). Patterns of early interaction: Continuities and consequences. In H. R. Schaffer (Ed.), Studies in mother-infant interaction (pp. 457-474). New York: Academic Press.

Dyer, E. D. (1963). Parenthood as crisis: A re-study. Marriage and Family Living, 25, 196-201.

Engel, N. S. (1987). Menopausal stage, current life change, attitude toward women's roles, and perceived health status. Nursing Research, 36, 353-357.

Engel, R., Crowell, D., & Nishijima, S. (1968). Visual and auditory response latencies in neonates. In B. N. D. Fernando (Ed.), Felicitation Volume in Honor of C. C. DeSilva (pp. 1-10). Ceylon: Kularatne & Co., Ltd.

Erikson, E. (1950). Childhood and society. New York: Norton.

Farber, B., & McHale, J. (1959). Marital integration and parents' agreement on satisfaction with their child's behavior. Marriage and Family Living, 21, 65-69.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Fein, R. A. (1976). The first weeks of fathering. The importance of choices and supports of new parents. Birth and the Family Journal, 3(2), 53-58.

Feiring, C., & Lewis, M. (1978). The child as a member of the family system. Behavioral Science, 23, 225-233.

Feldman, S. S., Nash, S. C., & Aschenbrenner, B. G. (1983). Antecedents of fathering. Child Development, 54, 1628-1636.

Field, T. (1978). Interaction behaviors of primary versus secondary caretaker fathers. Developmental Psychology, 14, 183-185.

Figley, C. R. (1973). Child density and the marital relationship. Journal of Marriage and the Family, 35, 272-282.

Fortier, J. C. (1988). The relationship of vaginal and cesarean births to father-infant attachment. Journal of Obstetric, Gynecologic and Neonatal Nursing, 17, 128-134.

Fox, M. L. (1989). Parental competence: Determinants of parental involvement with infants. (Doctoral dissertation, The University of Texas at Austin, TX., 1989). Dissertation Abstracts International, 50(6), 2335B.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Friedman, S., Thompson, M., Crawley, S., Criticos, A., Crake, D., Iacobbo, M., Rogers, P., & Richardson, L. (1976). Mutual visual regard during mother-infant play. Perceptual and motor skills, 42, 427-431.

Frodi, A. M., Lamb, M. E., Hwang, C. P., & Frodi, M. (1983). Father-mother-infant interaction in traditional and nontraditional Swedish families: A longitudinal study. Alternative Lifestyles, 5, 142-163.

Gewirtz, J. L. (1956). A program of research on the dimensions and antecedents of emotional dependence. Child Development, 27, 205-221.

Gewirtz, J. L. (1961). A learning analysis of the effects of normal stimulation, privation, and deprivation on the acquisition of social motivation and attachment. In B. M. Foss (Ed.), Determinants of infant behavior (pp. 213-299). New York: Wiley.

Gewirtz, J. L. (1969). Mechanisms of social learning: Some roles of stimulation and behavior in early human development. In D. A. Goslin (Ed.), Handbook of socialization theory and research (pp. 57-212). Chicago: Rand McNally.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Gewirtz, J. L. (1972). Attachment, dependence, and a distinction in terms of stimulus control. In J. L. Gewirtz (Ed.), Attachment and dependency (pp. 139-177). Washington, D. C.: Winston.

Gewirtz, J. L. (1977). Maternal responding and the conditioning of infant crying: Directions of influence within the attachment acquisition process. In B. C. Etzel, J. M. LeBlanc & D. M. Baer (Eds.), New developments in behavioral research: Theory, method, and application. Hillsdale, N. J.: Lawrence Erlbaum.

Gilliss, C. L. (1983). The family as a unit of analysis: Strategies for the nurse researcher. Advances in Nursing Science, 5(3), 50-59.

Goldberg, S. (1983). Parent-infant bonding: Another look. Child Development, 54, 1355-1382.

Goldberg, W. A., & Easterbrooks, M. A. (1984). Role of marital quality in toddler development. Developmental Psychology, 20, 504-514.

Goode, W. J. (1960). A theory of strain. American Sociological Review, 25, 483-496.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Gottman, J., Notarius, C., Markman, H., Bank, S., Yoppi, B., & Rubin, M. E. (1976). Behavior exchange theory and marital decision making. Journal of Personality and Social Psychology, 34. 14-23.

Graham, M. V. (1986). An ecological analysis of face-to-interaction between parent and infant. Unpublished doctoral dissertation, The University of Texas at Austin, Tx.

Greenberg, M., & Morris, N. (1974). Engrossment: The newborn's impact upon the father. American Journal of Orthopsychiatry, 44, 520-531.

Grossman, F. K., Eichler, L. S., & Winickoff, S. A. (1980). Pregnancy, birth and parenthood. San Francisco: Jossey-Bass.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Grablowsky, B. J. (1984). Multivariate data analysis with readings. New York: Macmillan.

Hawkins, J. L. (1968). Association between companionship, hostility, and marital satisfaction. Journal of Marriage and the Family, 30, 647-650.

Heller, D. V., & Philliber, W. W. (1982). Predicting marital and career success among dual-worker couples. Journal of Marriage and the Family, 44 53-62.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Herzog, E., & Sudia, C. (1973). Children in fatherless families. In B. M. Caldwell & H. N. Ricciuti (Eds.), Review of child development research, Vol. 3. Chicago: University of Chicago Press.

Hess, R. D., & Torney, J. (1967). The development of political attitudes in children. Chicago: Aldine.

Hines, J. D. (1987). First-time fatherhood: Integrating childbearing experiences into the self-concept. (Doctoral dissertation, University of California, San Francisco, 1987). Dissertation Abstracts International, 48(3), 703B.

Hobbs, D. F. (1965). Parenthood as crisis: A third study. Journal of Marriage and the Family, 27, 367-372.

Hobbs, D. F., & Cole, S. P. (1976). Transition to parenthood: A decade replication. Journal of Marriage and the Family, 38, 723-731.

Holahan, C. K., & Gilbert, L. A. (1979). Interrole conflict for working women: Careers versus jobs. Journal of Applied Psychology, 64, 86-90.

Hollingshead, A. B. (1983). Four factor index of social status. Unpublished manuscript, Yale University, New Haven.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Huston, T. L., & Ashmore, R. D. (1986). Women and men in personal relationships. In R. Ashmore & F. Del Boca (Eds.), The social psychology of female-male relations (pp. 167-210). New York: Academic Press.

Huston, T. L., & Robins, E. (1982). Conceptual and methodological issues in studying close relationships. Journal of Marriage and the Family, 44, 901-925.

Jackson, D. D. (1965). The study of the family. Family Process, 4, 1-20.

Jacobson, N. S., & Moore, D. (1981). Behavior exchange theory of marriage. In J. P. Vincent (Ed.), Advances in family intervention, assessment and theory, Vol 2 (pp. 183-213). Greenwich, CT: JAI Press.

Johnson, S., & Lobitz, G. (1974). The personal and marital adjustment of parents as related to observed child deviance and parenting behaviors. Journal of Abnormal Child Psychology, 78, 160-176.

Jones, F., Green, V., & Kraus, D. (1980). Maternal responsiveness of primiparous mothers during the postpartum period: Age differences. Pediatrics, 65, 579-583.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Kelley, H. H., Berscheid, E., Christensen, A., Harvey, J. H., Huston, T. L., Levinger, G., McClintock, E., Peplau, L. A., & Peterson, D. R. (1983). Analyzing close relationships. In H. Kelley, E. Berscheid, A. Christensen, J. Harvey, T. Huston, G. Levinger, E. McClintock, L. Peplau, & D. Peterson (Eds.), Close relationships (pp. 20-67). New York: W. H. Freeman & Co.

Klaus, M. H., & Kennell, J. H. (1976). Maternal-infant bonding. St. Louis: Mosby.

Klein, M. (1952). Some theoretical conclusions regarding the emotional life of the infant. In M. Klein, P. Heimann, S. Isaacs, & J. Riviere (Eds.). Developments in psychoanalysis (pp. 198-236). London: Hogarth.

Korner, A. F. (1974). The effect of the infant's state, level of arousal, sex, and ontogenetic stage on the caregiver. In M. Lewis, & L. A. Rosenblum (Eds.), The effect of the infant on its caregiver (pp. 105-121). New York: John Wiley & Sons.

Kotelchuck, M. (1976). The infant's relationship to the father: Experimental evidence. In M. E. Lamb (Ed.), The role of the father in child development (pp. 329-343). New York: John Wiley & Sons.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Lamb, M. E. (1977). Father-infant and mother-infant interaction in the first year of life. Child Development, 48, 167-181.

Lamb, M. E. (1980). The development of parent-infant attachments in the first two years of life. In F. Pedersen (Ed.). The father-infant relationship: Observational studies in the family setting. New York: Praeger.

Lamb, M. E. (1981). The development of father-infant relationships. In M. Lamb (Ed.). The role of the father in child development (2nd ed.) (pp. 459-488). New York: John Wiley & Sons.

Lamb, M. E., & Easterbrooks, M. A. (1981). Individual differences in parental sensitivity: Origins, components, and consequences. In M. E. Lamb & M. A. Easterbrooks (Eds.), Infant social cognition (pp. 127-153). Hillsdale, N. J.: Lawrence Erlbaum.

Lamb, M. E., & Lamb, J. E. (1976). The nature and importance of the father-infant relationship. The Family Coordinator, 25, 379-385.

Leiderman, P. H. (1978). The critical period hypothesis revisited. Mother to infant social bonding in the neonatal period. In F. D. Horowitz (Ed.), Early

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

developmental hazards: Problems and precautions. American Academy for Advancement of Science, selected symposia 9. Boulder: Westlake Press.

LeMasters, E. E. (1957). Parenthood as crisis. Marriage and Family Living, 19, 352-355.

Levinger, G. (1964). Task and social behavior in marriage. Sociometry, 27, 433-448.

Lewis, M. (1972). State as an infant-environment interaction: An analysis of mother-infant interactions as a function of sex. Merrill-Palmer Quarterly, 18, 95-121.

Lewis, M., Feiring, C., & Weintraub, M. (1981). The father as a member of the child's social network. In M. Lamb (Ed.), The role of the father in child development (2nd ed.) (pp. 259-294). New York: John Wiley & Sons.

Lewis, M., & Goldberg, S. (1969). Perceptual-cognitive development in infancy: A generalized expectancy model as a function of the mother-infant interaction. Merrill-Palmer Quarterly, 15, 81-100.

Lewis, M., & Lee-Painter, S. (1974). An interactional approach to the mother-infant dyad. In M. Lewis &

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

L. A. Rosenblum (Eds.), The effect of the infant on its caregiver (pp. 21-48). New York: John Wiley & Sons.

Lewis, R., & Spanier, G. (1979). Theorizing about the quality and stability of marriage. In W. Burr, R. Hill, F. Nye & I. Reiss (Eds.), Contemporary theories about the family, Vol. 1 (pp. 286-293). New York: The Free Press.

Lewis, M., & Wilson, C. D. (1972). Infant development in lower class American families. Human Development, 15, 112-127.

Lipsitt, L. P., & Levy, N. (1959). Electrotactual threshold in the human neonate. Child Development, 30, 547-554.

Lynn, D. B. (1974). The father: His role in child development. Monterey, CA: Brooks/Cole.

Luckey, E. (1966). Number of years married as related to personality perception and marital satisfaction. Journal of Marriage and the Family, 28, 44-48.

Margolin, G. (1981). The reciprocal relationship between marital and child problems. In J. P. Vincent (Ed.),

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Advances in family intervention, assessment and theory: An annual compilation of research, Vol. 2 (pp. 131-182). Greenwich, CT: JAI Press.

Martone, D. J., & Nash, B. R. (1988). Initial differences in postpartum attachment behavior in breastfeeding and bottle feeding mothers. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 17, 212-213.

McLeod, J. M., & Chaffee, S. H. (1973). Interpersonal approaches to communication research. American Behavioral Scientist, 16(4), 469-499.

McHale, S. M., & Huston, T. (1984). Men and women as parents: Sex role orientations, employment, and parental roles with infants. Child Development, 55, 1349-1341.

McHale, S. M., & Huston, T. L. (1985). The effect of the transition to parenthood on the marriage relationship. Journal of Family Issues, 6, 409-433.

Meleis, A. I., & Sorrell, L. (1981). Bridging cultures: Arab American women and their birth experiences. Maternal Child Nursing, 6, 171-176.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Mercer, R. (1980). Teenage motherhood: The first year: Part 1. The teenage mother's views and responses: Part 2. How their infants fared. Journal of Obstetric, and Gynecologic Nursing, 9, 16-27.

Meyerowitz, J. H. (1970). Satisfaction during pregnancy. Journal of Marriage and the Family, 32, 38-42.

Miller, B. C. (1976). A multivariate developmental model of marital satisfaction. Journal of Marriage and the Family, 38, 643-658.

Miller, B., & Sollie, D. (1980). Normal stresses during the transition to parenthood. Family Relations, 29, 459-465.

Minuchin, S. (1974). Families and family therapy. Cambridge: Harvard University Press.

Moss, H. A. (1967). Sex, age, and state as determinants of mother-infant interaction. Merrill-Palmer Quarterly, 13, 19-36.

Moss, H. A. (1974). Early sex differences and mother-infant interaction. In R. C. Friedman, R. M. Richart & R. L. VandeWiele (Eds.), Sex differences in behavior (pp. 149-163). New York: John Wiley & Sons.

Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. Journal of Marriage and the Family, 45, 141-151.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Nover, A., shore, M. F., Timberlake, E. M., & Greenspan, S. I. (1984). The relationship of maternal perception and maternal behavior: A study of normal mothers and their infants. American Journal of Orthopsychiatry, 54, 210-223.

Oleson, M. (1990). Subjectively perceived quality of life. Image: Journal of Nursing Scholarship, 22(3), 187-190.

Orthner, D. K. (1975). Leisure activity patterns and marital satisfaction over the marital career. Journal of Marriage and the Family, 37, 91-104.

Palkovitz, R. (1984). Parental attitudes and fathers' interactions with their five-month old infants. Developmental Psychology, 20, 1054-1060.

Parke, R. D. (1978). Perspectives in father-infant interaction. In J. Osofsky (Ed.), Handbook of infancy (pp. 549-590). New York: John Wiley & Sons.

Parke, R. D., & O'Leary, S. E. (1976). Family interaction in the newborn period: Some findings, some observations, and some unresolved issues. In K. F. Riegel & J. A. Meacham (Eds.), The developing individual in a changing world: Vol. II. Social and environmental issues (pp. 653-663). Chicago, IL: Aldine.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Parke, R. D., & Sawin, D. B. (1980). The family in early infancy: Social interactional and attitudinal analyses. In F. A. Pedersen (Ed.), The father-infant relationship: Observational studies in the family setting (pp. 44-70). New York: Praeger.

Pedersen, F. A. (1975, September). Mother, father and infant as an interactive system. Paper presented at the Meeting of the American Psychological Association, Chicago, IL.

Pedersen, F. A. (1976). Does research on children reared in father-absent families yield information on father influences? The Family Coordinator, 25, 459-464.

Pedersen, F. A. (1981). Father influences viewed in a family context. In M. Lamb (Ed.), The role of the father in child development (2nd ed.) (pp. 295-317). New York: John Wiley & Sons.

Pedersen, F. A., Anderson, B. J., Cain, R. L. (1980). Parent-infant and husband-wife interactions observed at age 5 months. In F. A. Pedersen (Ed.), The father-infant relationship: Observational studies in the family setting (pp. 71-86). New York: Praeger.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Pedersen, F. A., & Robson, K. (1969). Father participation in infancy. American Journal of Orthopsychiatry, 39, 466-472.

Pedersen, F., Rubenstein, J., & Yarrow, L. (1979). Infant development in father-absent families. Journal of Genetic Psychology, 135, 51-61.

Peterson, G. H., Mehl, L. E., & Leiderman, H. (1977). The role of some birth related variables in father attachment. American Journal of Orthopsychiatry, 49, 330-338.

Phillips, D. L. (1967). Social participation and happiness. American Journal of Sociology, 72, 479-488.

Pollack, W. S., & Grossman, F. K. (1985). Parent-child interaction. In L. L'Abate (Ed.), The handbook of family psychology and family therapy. Vol. 1 (pp. 586-621). Homewood, IL: Dorsey.

Porter, B., & O'Leary, K. D. (1980). Marital discord and childhood behavior problems. Journal of Abnormal Child Psychology, 8, 287-295.

Ragozin, A. S., Basham, R. B., Crnic, K. A., Greenberg, M., & Robinson, N. M. (1982). Effects of maternal age on parenting role. Developmental Psychology, 18, 627-634.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Rebelsky, F., & Hanks, C. (1971). Fathers' verbal interacation with infants in the first three months of life. Child Development, 42, 63-68.

Reiber, V. D. (1976). Is the nurturing role natural to fathers? The American Journal of Maternal Child Nursing, 1, 366-371.

Ricks, S. S. (1985). Father-infant interactions: A review of empirical research. Family Relations, 34, 505-511.

Robson, K. S., & Moss, H. A. (1970). The Journal of Pediatrics, 77(6), 976-985.

Rollins, B. C., & Cannon, K. F. (1974). Marital satisfaction over the family life cycle: A reevaluation. Journal of Marriage and the Family, 36, 271-282.

Rollins, B. C., & Feldman, H. (1970). Marital satisfaction over the family life cycle. Journal of Marriage and the Family, 32, 20-28.

Ruesch, J., & Bateson, G. (1951). Communication: The social matrix of psychiatry. New York: Norton.

Ruff, C. (1987). How well do adolescents mother? The American Journal of Maternal/Child Nursing, 12, 249-253.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Russell, C. S. (1974). Transition to parenthood: Problems and gratifications. Journal of Marriage and the Family, 36, 294-301.

Ryder, R. G. (1973). Longitudinal data relating marriage satisfaction and having a child. Journal of Marriage and the Family, 35, 604-606.

Sander, L. W. (1962). Issues in early mother child interaction. Journal of the American Academy of Child Psychiatry, 1, 141-166.

Sander, L. W. (1975). Infant and caretaking environment: Investigation of adaptive behavior in a system of increasing complexity. In E. J. Anthony (Ed.), Explorations in child psychiatry (pp. 129-166). New York: Plenum.

Sander, L. W. (1977). The regulation of exchange in the infant-caretaker system and some aspects of the context-content relationship. In M. Lewis & L. R. Rosenblum (Eds.), Interaction, conversation, and the development of language (pp. 133-156). New York: John Wiley & Sons.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Shereshefsky, P. M., Liebenberg, B., & Lockman, R. F. (1973). Maternal adaptation. In P. M. Shereshefsky & L. J. Yarrow (Eds.), Psychological aspects of a first pregnancy and early postnatal adaptation (pp. 165-180). New York: Raven.

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. Journal of Marriage and the Family, 38, 15-28.

Spanier, G. B., & Cole, C. L. (1976). Toward clarification and investigation of marital adjustment. International Journal of the Sociology of the Family, 6, 121-146.

Spanier, G. B., & Filsinger, E. E. (1983). The dyadic adjustment scale. In E. Filsinger (Ed.), Marriage and family assessment (pp. 155-168). Beverly Hills: Sage.

Spanier, G. B., Lerner, R. M., & Aquilino, W. (1978). The study of child-family interactions: A perspective for the future. In R. M. Lerner & G. B. Spanier (Eds.), Child influences on marital and family interaction (pp. 327-344). New York: Academic

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Spanier, G. B., Lewis, A., & Cole, C. L. (1975). Marital adjustment over the family life cycle: The issue of curvilinearity. Journal of Marriage and the Family, 37, 263-275.

Stern, D. N. (1974). Mother and infant at play: The dyadic interaction involving facial, vocal, and gaze behaviors. In M. Lewis & L. A. Rosenblum (Eds.), The effect of the infant on its caregiver (pp. 187-213). New York: John Wiley & Sons.

Streissguth, A. P., & Bee, H. L. (1972). Mother-child interactions and cognitive development in children. In W. W. Hartup (Ed.). The young child: Reviews of research, Vol. 2 (pp. 158-183). Washington, D. C.: National Association for the Young Child.

Svejda, M. J., Campos, J. J., & Emde, R. N. (1980). Mother-infant "bonding": Failure to generalize. Child Development, 51, 775-779.

Tabachnick, B. G., & Fidell, L. S. (1983). Using multivariate statistics. New York: Harper & Row.

Thibaut, J., & Kelley, H. H. (1959). The social psychology of groups. New York: John Wiley & Sons.

Thoman, E. B., Leiderman, P. H., & Olson, J. P. (1972). Neonate-mother interaction during breast-feeding. Developmental Psychology, 6, 110-118.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Thoman, E. B., Acebo, C., Dreyer, C. A., Becker, P. T., & Freese, M. P. (1979). Individuality in the interactive process. In E. B. Thoman (Ed.), Origins of the infant's social responsiveness (pp. 305-338). New York: Lawrence Erlbaum.

Thomas, R., & Barnard, K. E. (1985). The Seattle family measurement study: A comparison of family easurement tools. Unpublished manuscript, University of Washington, Seattle, WA.

Tomlinson, P. S. (1987). Spousal differences in marital satisfaction during transition to parenthood. Nursing Research, 36, 239-243.

Topf, M. (1988). Interrater reliability decline under covert assessment. Nursing Research, 37, 47-49.

Tulman, L. J. (1981). Theories of maternal attachments. Advances in Nursing Science, 3, 7-14.

U. S. Bureau of the Census. (1985). Statistical abstract of the United States, 1985. National data book and guide to sources. Washington, D.C.: U. S. Government Printing Office.

Vincent, J. P., Cook, N. I., & Brady, C. P. (1981). The emerging family: Integration of a developmental perspective and social learning theory. In J. P.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Vincent (Ed.), Advances in family intervention, assessment and theory, Vol. 2 (pp. 89-129). Greenwich, CT: JAI Press

von Bertalanffy, L. (1968). General systems theory: Foundations, development, applications. New York: George Braziller.

Waldron, H., & Routh, D. K. (1981). The effect of the first child on the marital relationship. Journal of Marriage and the Family, 43, 785-788.

Walker, L. O. (1985). Preliminary nosology of violations of early mother-baby reciprocity. Presented at the Council of Nurse Researchers, San Diego.

Walker, L. O., Crain, H., & Thompson, E. (1986). Mothering behavior and maternal role attainment during the postpartum period. Nursing Research, 35, 352-355.

Walsh, F. (1982). Conceptualizations of normal family functioning. In F. Walsh (Ed.), Normal family processes (pp. 3-42). New York: The Guilford Press.

Waltz, C., & Bausell, R. B. (1981). Nursing research: Design, statistics and computer analysis. Philadelphia: F. A. Davis Co.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Wandersman, L. P. (1980). The adjustment of fathers to their first baby: The roles of parenting groups and marital relationship. Birth and the Family Journal, 7, 155-161.

Wandersman, L., Wandersman, A., & Kahn, S. (1980). Social support in the transition to parenthood. Journal of Community Psychology, 8, 332-342.

Warr, P. (1978). A study of psychological well-being. British Journal of Psychology, 69, 111-121.

Watson, J. S. (1966). The development and generalization of "contingency awareness" in early infancy: Some hypotheses. Merrill-Palmer Quarterly, 12, 123-135.

Watson, J. S. (1979). Perception of contingency as a determinant of social responsiveness. In E. B. Thoman (Ed.), Origins of the infant's social responsiveness (pp. 33-64). Hillsdale, N. J.: Lawrence Erlbaum.

Weinraub, M., & Frankel, J. (1977). Sex differences in parent-infant interaction during free-play, departure and separation. Child Development, 48, 1240-1249.

Weiss, R. L. (1978). The conceptualization of marriage and marriage disorders from a behavioral perspective. In T. J. Paolino & B. S. McCrady (Eds.), Marriage and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

treatment of marital disorders from psychoanalytic, behavioral, and systems theory perspectives (pp. 165-297). New York: Brunner/Mazel.

Weiss, R. L., Hops, H., & Patterson, G. R. (1973). A framework for conceptualizing marital conflict, a technology for altering it, some data for evaluating it. In L. A. Hamerlynck, L. C. Handy & E. J. Mash (Eds.), Behavior change: Methodology concepts and practice (pp. 309-342). Champaign, IL: Research Press.

Weiss, R. L., & Perry, B. A. (1981). The Spouse Observation Checklist: Development and clinical applications. In E. Filsinger & R. Lewis (Eds.), Assessing marriage: New behavioral approaches (pp. 65-84). Beverly Hills: Sage.

Westbrook, M. T. (1978). The reactions to childbearing and early maternal experience of women with differing marital relationships. British Journal of Medical Psychology, 51, 191-199.

Williams, A. M. (1979). The quantity and quality of marital interaction related to marital satisfaction: A behavioral analysis. Journal of Applied Behavioral Analysis, 12, 665-678.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Wills, T. A., Weiss, R. L., & Patterson, G. (1974). A behavioral analysis of the determinants of marital satisfaction. Journal of Consulting and Clinical Psychology, 42, 802-811.

Winnicott, D. W. (1960). The theory of the parent-infant relationship. International Journal of Psycho-analysis, 41, 585-595.

Wolff, P. H. (1966). The causes, controls and organization of behavior in the neonate. Psychological Issues, 5,(1, Monograph 17).

Wolff, P. H. (1969). The natural history of crying and other vocalizations in early infancy. In B. M. Foss (Ed.), Determinants of infant behavior, Vol. IV (pp. 113-138). London: Methuen.

Yarrow, L. J. (1961). Maternal deprivation: Toward an empirical and conceptual re-evaluation. Psychological Bulletin, 58, 459-490.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

VITA

Betty L. Broom was born in Alton, Illinois, on [redacted], the daughter of Dena Myers Bollinger and Ray Edward Bollinger. After graduating from Bond County High School, Greenville, Illinois in 1960, she entered St. Luke's Hospital School of Nursing, St. Louis, Missouri. She received a Diploma in Nursing from St. Luke's Hospital School of Nursing in 1963. She married Glen M. Broom in 1963. During the following years she was employed as a nurse at Carle Hospital, the University of Illinois Health Service, and in a private physician's office in Urbana, Illinois. She completed her Bachelor of Science in Nursing at the University of Illinois at the Medical Center, Chicago, Illinois, in 1972.

During the following years she was employed as a nurse at St. Mary's Hospital Medical Center, and as an instructor of nursing at Madison General Hospital School of Nursing, Madison, Wisconsin. She completed her Master of Science in Nursing at the University of Wisconsin, Madison, Wisconsin, in 1979. Publications include a master's thesis: "Marital Consensus:

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Concerns About the Marriage Relationship During the Transition to Parenthood," and an article with the same title in Nursing Research.

Following completion of her master's degree, she has been employed as a lecturer at San Diego State University School of Nursing, San Diego, California. During these years, she has also been employed part-time as a nurse at Sharp Memorial Hospital and at Kaiser Permanente Hospital in San Diego. In June 1984, she entered the Graduate School of the University of Texas at Austin.

Permanent Address: [redacted]

This dissertation was typed by the author.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.