

**A DESCRIPTIVE CORRELATIONAL STUDY TO INVESTIGATE FACTORS
THAT INFLUENCE TRANSITION TO MOTHERHOOD
IN FIRST-TIME MOTHERS**

by

Barbara S. Petrowski

**A Thesis
submitted to the
Faculty of Graduate Studies
in partial fulfillment of the
requirements for the degree of**

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Abstract

Becoming a mother for the first-time is a significant event that announces passage to a new role and requires major adaptive changes. The adaptive abilities of first-time mothers are particularly challenged during the transition to motherhood. The degree of success in taking on the role of mother has consequences for the family unit. Transition difficulties may contribute to personal problems for the woman, to relationship problems, or to difficulty in providing for the child's needs.

The Schumacher and Meleis (1994) Nursing Model of Transitions was used as the conceptual framework for this study. Concepts relevant to the study of transition to motherhood are specified in the model. The model conceptualized influencing factors as transition conditions and factors characterizing a healthy transition as indicators of healthy transition.

This prospective, descriptive, correlational study was undertaken to identify relationships between transition conditions (meaning, expectations, level of knowledge/skill, social support, level of planning, and physical and emotional well-being) and indicators of healthy transition (subjective well-being, role mastery, and well-being of relationships). As well, the study sought to determine if any transition conditions predicted healthier transition to motherhood.

Data were collected from a convenience sample of women ($N = 61$) once during the third trimester of pregnancy and again during the early postpartum period. Instruments used to measure defined variables included the Norbeck Social Support Questionnaire

(1981), the Lederman, Weingarten, and Lederman Postpartum Self-Evaluation Questionnaire (1981), the Pridham and Chang What Being the Parent of a Baby Is Like Questionnaire (1989), five visual analog scales developed by the researcher, and demographic questionnaires.

Correlation analyses were conducted using Pearson r correlation coefficients. Predictive analyses used multiple regression analysis and stepwise regression analysis. Results provided support or partial support for 6 of the 7 hypotheses proposed. Meaning of motherhood, expectations, and social support emerged as important predictors of healthier transition to motherhood.

The results of this study add to the knowledge base of transition to motherhood. As well, the results contribute to understanding the complexity of the experience of becoming a mother. The results suggest implications for nursing practice, education and research.

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CHAPTER I

Introduction

Statement of the Problem

Becoming a mother for the first time is a significant adult developmental event that heralds a transition to a new role and requires major changes or adjustments during the transition period and into the early parenting years (Brouse, 1988; Goldberg, 1988; Mercer, 1981, 1985b; Pridham & Chang, 1992). Healthy transition or adaptation to motherhood is dependent on a mother's ability to make the necessary adjustments. As the new mother takes on her role, adaptation needs to occur at several levels: at the physical level, at the psychological or emotional level, at the cognitive level, and at the social level (Koniak-Griffin, 1993). The transition to motherhood requires delicate balancing of individual needs with needs of the new mother-child relationship while sustaining needs of the couple relationship (Broom, 1984). The birth of a child affects every woman in some manner. First-time mothers' adaptive capabilities are particularly challenged during the transition to motherhood (Antonucci & Mikus, 1988).

Although agreement exists among those who study parenthood that parents are impacted by the transition-to-parenthood experience, there are varying opinions as to the nature of the impact (Hobbs & Cole, 1976; LeMasters, 1957; Meyerowitz & Feldman, 1966; Russell, 1974). The transition to parenthood is believed to be a period of significant crises by some (Dyer, 1963; LeMasters, 1957) while others consider it a period of time marked by varying degrees of difficulty (Hobbs & Cole, 1976; Meyerowitz & Feldman,

1966; Russell, 1974). Currently, becoming a parent is considered a transition or developmental phase (Fedele, Golding, Grossman, & Pollack, 1988).

The literature offers several reasons why the transition to parenthood may be difficult. One explanation is that parenthood is romanticized in our culture and this contributes to difficulty in adjusting to parenthood (LeMasters, 1957). Rossi (1968) contends that adjustment to parenthood is difficult due to insufficient instruction on parenting in our educational systems, limited prenatal learning, abruptness of the transition and lack of guidelines to successful parenthood. Other factors that may contribute to the difficulty adjusting to parenthood include single parenting, adolescent parenting, timing of parenthood and insulation of the nuclear family.

Transition to parenthood represents an important event in a parent's development and also signifies the beginning of the new child's development (Goldberg, 1988). Successful transition to the role of parent may facilitate effective, competent parenting whereas transition problems may contribute to marital problems and difficulty in providing for the child's needs (Goldberg, 1988). An infant's emotional well-being and social interaction are believed to be linked to caregiving skills of the parents (Koniak-Griffin, 1993; Koniak-Griffin & Verzemnieks, 1991).

Transition to parenthood and the early parenting experience has been of interest to several disciplines. Each discipline's unique orientation has influenced the focus of inquiry into parenthood. Sociologists have tended to concentrate on couples and the impact of parenting on roles and relationships during transition, while nursing has focused more on

the mother and individual or situational factors that may affect attainment of the maternal role.

According to Walker (1992, chap.10) descriptive studies dominate parenting research and include studies of parenting in different populations (Dormire, Strauss, & Clarke, 1989; Lederman & Lederman, 1987; Meisenhelder & Merservy, 1987; Reece, 1993); differences in the experience (Crnic, Greenberg, Robinson, & Ragozin, 1984; Cronenwett, 1985b; Gottlieb & Medelson, 1995; Lederman, Weingarten, & Lederman, 1981); and changes during the transition (Belsky & Rovine, 1990; Grace, 1993; Mercer, 1985b; Ruble, Fleming, Hackel, & Stangor, 1988; Wallace & Gotlib, 1990). Walker (1992, chap.10) suggested that even though there is an abundance of descriptive research, it has contributed to the knowledge base in this area.

Motherhood is a multidimensional experience and transition to this state requires adaptation at various levels. Lack of clear theoretical definitions has led to identification of outcomes in only a few dimensions of parenting and to the development of highly focused tools that measure specific outcomes of parenting (Walker, 1992, chap. 13). Studies on outcomes are not completely absent in the literature. Ease of parenting has been studied by several researchers (Brouse, 1988; Majewski, 1986; Russell, 1974). Marital satisfaction is a common outcome variable considered (Levy-Shiff, 1994; Tomlinson, 1987; Wallace & Gotlib, 1990; Weingarten, Baker, Manning, & Kutzner, 1990). Other outcomes researched include gratification in the maternal role (Crnic et al., 1984; Grace, 1993; Mercer, 1985a, 1986a; Reece, 1995; Russell, 1974); confidence in infant care (Cutrona & Troutman, 1986; Fleming, Flett, Ruble, & Shaul, 1988; Walker, Crain, & Thompson,

1986a), perceived maternal competence (Bullock & Pridham, 1988; Rutledge & Pridham, 1987); and easy versus difficult adaptation to the role (Curry, 1983). Marital and role satisfaction, and confidence or competence in infant care appear to be the most common outcome variables studied.

Numerous factors have been investigated as variables influencing transition to the maternal role. Variables related to individual maternal factors such as age, parity, and education and situational factors such as social support, stress, and infant characteristics are commonly studied. Age as a variable has been explored extensively (Meisenhelder & Meservey, 1987; Mercer, 1985a, 1986a; Pridham, Lytton, Chang, & Rutledge, 1991; Walker et al., 1986a); as has parity (Grace, 1993; Pridham et al., 1991); education (Grace, 1993; Mercer, 1985a; Pridham et al., 1991; Steffensmeier, 1982); and previous infant care experience (Pridham & Chang, 1992; Williams et al., 1987). Situational factors investigated include: infant temperament (Bullock & Pridham, 1988; Roberts, 1983; Tulman, Fawcett, Groblewski, & Silverman, 1990), social support (Belsky & Rovine, 1984; Gottlieb & Mendelson, 1995; Reece, 1993; Wallace & Gotlib, 1990; Cronenwett, 1985b); as well as, stress (Crnic et al., 1984; Gottlieb & Mendelson, 1995; Reece, 1995). Increased social support and reduced stress have been shown to be consistently related to positive mothering outcomes.

Over time, few new variables have been investigated; the same variables are consistently examined in transition to motherhood studies. More valid and reliable instruments to measure the variables have evolved over time. One can find studies that support and do not support relationships between influencing variables and outcome

variables. Affective and behavioral dimensions of the transition are seldom considered in studies (Koniak-Griffin, 1993). Additional variables, such as the meaning of motherhood, expectations and planning for motherhood, and physical well-being may be important variables facilitating a successful transition to motherhood but they have gone relatively unstudied.

The ability of nurses to determine and meet the needs of childbearing families is dependent on the scope and legitimacy of nursing assessments (Imle, 1990). In the past, mothers remained in hospital 3 or 4 days following a vaginal birth and nurses used this time to monitor a mother's physical recovery, assess her adjustment to her new role, assess family supports and provide instruction in self-care and baby care. Currently, shortened hospital stays after childbirth have resulted in decreased time to carry out these assessments and organize appropriate follow-up measures. Knowledge of factors that help or hinder transition to motherhood and the ability to recognize when a healthy transition is occurring can be of great benefit to the perinatal nurse especially now with shortened postpartum stays. Identification of specific variables that facilitate transition to motherhood is a necessary first step before interventions can be developed to assist mothers who are experiencing difficulty with the transition.

The majority of research on transition to motherhood has been on processes rather than on outcomes. Past research has attempted to isolate factors influencing transition and to identify factors indicative of a successful transition to motherhood. A framework that captures the multiple dimensions of transition to motherhood and provides theoretical underpinnings of concepts relevant to transition to motherhood is of benefit to this area of

research. A prospective correlational study of factors relevant to transition to motherhood was undertaken. The study examined the influence of meanings, expectations, level of knowledge/skill, level of planning, environment, and emotional and physical well-being on subjective well-being, role mastery, and well-being of relationships.

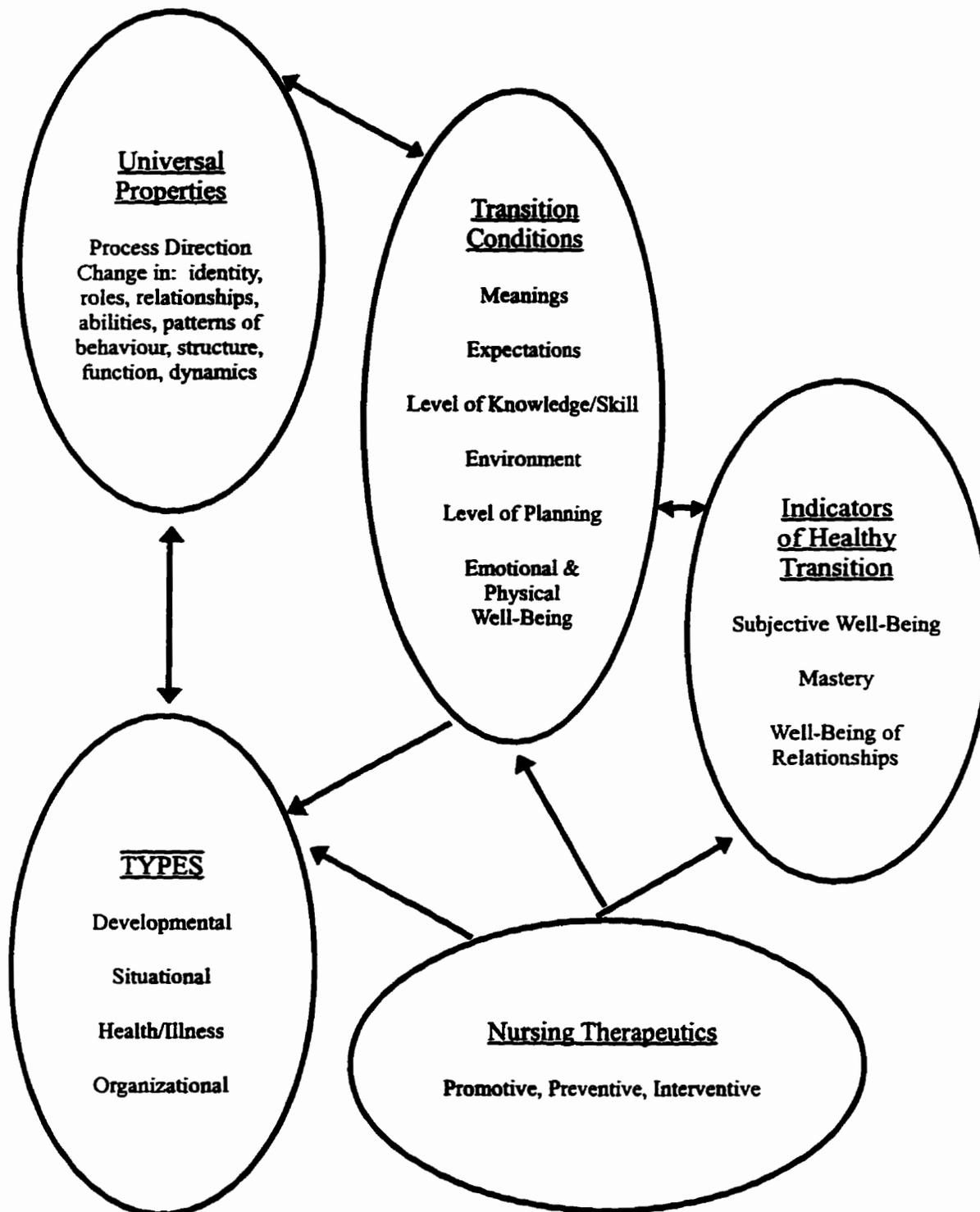
Conceptual Framework

In general, motherhood is considered a multidimensional transition that precipitates changes in the psychological/ cognitive, affective/emotional, physical, and social spheres (Koniak-Griffin, 1993). Schumacher and Meleis' (1994) nursing model of transitions (see Figure 1) was selected as a conceptual framework for this study because it offers a holistic approach to the study of factors which affect transition to motherhood and it provides direction for the study of outcomes. Previous studies on transition to motherhood or on the process of maternal role attainment have explored a variety of concepts and occasionally have used conceptual frameworks. Role theory and concepts such as role acquisition and role transition have been used as a basis for research on motherhood particularly by those with a sociological perspective. The concept of "identity" with its roots in psychology has also been included in conceptual frameworks for research on motherhood. More recently, a life-span developmental perspective has been employed as a framework to study transition-to-parenthood. (Fedele et al., 1988). Nursing has utilized Rubin's (1984) conceptualization of maternal identity as a basis for investigation or Mercer's (1985b) process of maternal role attainment as a theoretical framework.

Schumacher and Meleis' (1994) nursing model of transitions successfully blends concepts considered germane to life transitions and to nursing in their model.

The Schumacher and Meleis (1994) model was developed using findings of a previous concept analysis for the concept of transition (Chick & Meleis, 1986), and findings from an extensive review of the literature. Transition has been conceptually defined as "a multiple concept embracing the elements of process, time span, and perception" (Chick & Meleis, 1986 p. 239). Five major domains in the model provide direction for the study of a wide range of transitions; and in addition, the model suggests relationships among domains. Each domain includes enough detail to permit the study of specific transitions. The model lends itself to the study of transition processes as well as transition outcomes. Factors influencing transitions are delineated and indicators of healthy transition are provided. The five domains in the model are: types of transitions, universal properties, transition conditions, indicators of healthy transitions, and nursing therapeutics. Four of these domains will be used in the framework for this study: types of transitions, universal properties, transition conditions, and indicators of healthy transition. Nursing therapeutics, the fifth domain of the model, is not included in the framework because it is beyond the scope of this present study.

Figure 1. The Schumacher and Meleis (1994) Nursing Model of Transitions



Note: From "Transitions: A Central Concept in Nursing," by K. L. Schumacher and A. I. Meleis, 1994, *Image: Journal of Nursing Scholarship*, 26, p. 125.

Types of Transitions

The model identifies four types of transitions: developmental, situational, health/illness, and organizational. The authors recognize that further research may lead to the identification of additional types of transitions. In the model, parenthood is considered a developmental transition. This is consistent with contemporary thinking with regard to the parenthood experience (Goldberg, 1988).

Universal Properties of Transitions

According to Schumacher and Meleis (1994) there are three specific defining attributes of all transitions. Process, direction and change are considered to be universal properties of all transitions.

In the nursing literature, transitions are frequently referred to as processes or defined in terms that connote processes. Because process usually implies movement from one state to another, direction is identified as the second universal property (Schumacher & Meleis, 1994). Authors suggest that further understanding of the direction of a transition is achieved by identifying stages or phases of the process. For example, Rubin (1984) identified "replication," "fantasy," and "dedifferentiation," as steps in her description of the process of maternal role attainment. Mercer (1985b) delineated four stages in her conceptualization of maternal role attainment.

Lastly, transitions involve changes in identities, roles, relationships, abilities and patterns of behavior at the individual and family level; therefore, change is considered to be the third universal property. During transition to motherhood major adaptive changes

are required in various spheres. For a new mother, the sense of self and relationships are transforming at the same time that she is learning to care for her infant (Chick & Meleis, 1986; Goldberg, 1988).

Conditions Influencing Transitions

In the model, factors which influence a transition are termed transition conditions. Transition conditions include: meanings, expectations, level of knowledge/skill, environment, level of planning, and emotional and physical well-being.

Because the meaning of a transition can vary among individuals, it is important to determine the significance of the transition to the individual. Meanings may be viewed as positive, negative, or neutral and may influence the outcome of the transition (Schumacher & Meleis, 1994). Motivation to conceive a child and become a mother may be closely linked to what motherhood means to a woman. For many women, motherhood signifies attainment of adult status and validation of one's femininity (Woollett, 1991). In addition, other values associated with having children (creativity, love, and affection) may have special meaning to a woman (Woollett, 1991).

Expectations, another transition condition in the model, are subjective ideas about future events or experiences. Formulating expectations may contribute to feeling more prepared and in control of a situation. During pregnancy mothers think about the baby they are carrying and also about life after the baby arrives. They may wonder about the sex of the child, who the child will look like and how they will feel as a new mother.

Expectations can be shaped by previous experience, cultural norms, or role models and they may or may not match the perception of the reality experienced.

The third transition condition is level of knowledge and skills. Individuals may not possess relevant knowledge or skills to make a successful transition (Schumacher & Meleis, 1994). New mothers may have limited exposure to and experience with infants and infant care. Insufficient knowledge or skills about infants may contribute to difficulties in adjusting to the maternal role.

According to Schumacher and Meleis (1994) transitions may also be influenced by the environment. Resources external to a person may contribute to outcomes. Social support or lack of it is an example of a resource in the environment which may mediate a transition experience and be instrumental in achieving positive outcomes. Commonly, childbearing families seek out various kinds of support from family and friends.

Planning before and during a transition may facilitate a smooth transition and healthy outcomes (Schumacher & Meleis, 1994). The amount of planning done to prepare for a new baby may differ greatly among expectant mothers. At one end of the planning continuum, planning may be limited to purchasing baby furniture, clothes, and supplies. At the other end of the continuum, plans may have been established to deal with a broad variety of anticipated needs.

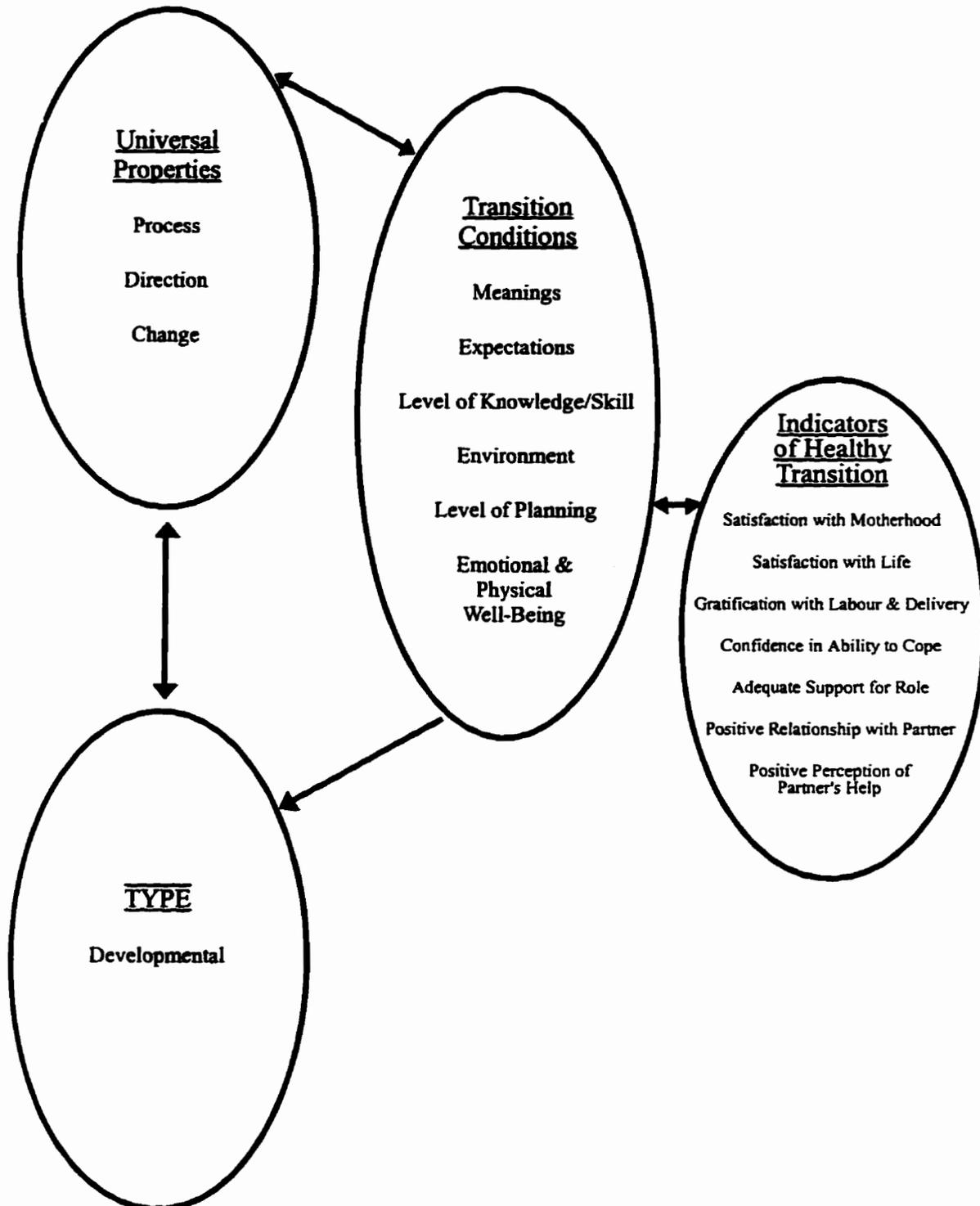
The sixth and final transition condition in the model is physical and emotional well-being. Limited resources in either of these areas may contribute to a poor transition outcome. Pregnancy, childbirth and ensuing parenthood may tax a woman's internal psychological and physical resources and negatively affect transition to the maternal role.

Indicators of Healthy Transition

Lastly, the model contains a domain which facilitates evaluation of transition outcomes. Not only has outcome research on motherhood been lacking, it generally has been restricted to a few dimensions of the maternal role. The Schumacher and Meleis model (1994) suggests that three broad areas be assessed to determine if a healthy transition has occurred. Indicators of healthy transitions are: subjective well-being, mastery, and well-being of relationships.

In summary, the Schumacher and Meleis (1994) nursing model of transitions provides a comprehensive framework to study transition to first-time motherhood. Application of this framework to study transition to motherhood allows concurrent exploration of multiple factors. As well, outcomes in several dimensions relevant to motherhood may be examined. The model has been modified to fit the purpose of this study on transition to motherhood (see Figure 2).

Figure 2. The Schumacher and Meleis (1994) Nursing Model of Transitions as a Conceptual Framework for a Study of Transition to Motherhood



Note: Adapted from "Transitions: A Central Concept in Nursing," by K. L. Schumacher and A. I. Meleis, 1994, *Image: Journal of Nursing Scholarship*, 26, p. 125.

Purpose of the Study

The purpose of this study is to answer the following questions:

1. What is the relationship between transition conditions and degree of healthy transition to motherhood?
2. Which, if any, transition condition is the strongest predictor of healthier transition to motherhood?

Definition of Terms

Meaning: Subjective assessment of an anticipated or experienced transition (Schumacher & Meleis, 1994, p. 121).

Expectations: Subjective ideas about occurrences in the future that may be known or unknown and may or may not match perceptions of reality (Schumacher & Meleis, 1994, p. 122).

Knowledge/skill: New knowledge and skill pertinent to a transition experience (Schumacher & Meleis, 1994, p. 122).

Environment: Support within the environment that may help during a transition (Schumacher & Meleis, 1994, p. 123).

Planning: Identification of problems, issues, and needs which may ensue during a transition (Schumacher & Meleis, 1994, p. 123).

Emotional Well-being: Absence of stress and emotional distress during a transition (Schumacher & Meleis, 1994, p. 123).

Physical Well-being: Energy, bodily predictability, and normal operation of the body during a transition (Schumacher & Meleis, 1994, p. 123).

Subjective well-being: Feelings of wellness when a successful transition is occurring (Schumacher & Meleis, 1994, p. 124).

Role Mastery: Skilled role performance and ease with functions associated with a new role (Schumacher, 1994, p. 124).

Well-being of Relationships: Positive feelings and rewarding interactions among family members (Schumacher & Meleis, 1994, p. 124).

CHAPTER II

Review of the Literature

Introduction

A review of the literature was undertaken to gain insight into the transition to motherhood, to identify factors relevant to the transition and to gain support for the study of factors delineated in Schumacher and Meleis' (1994) nursing model of transitions. Literature from several disciplines was examined including sources from nursing, psychology, and sociology.

Schumacher and Meleis' (1994) nursing model of transitions served as a framework to organize a selective review of the literature. The literature review was organized into three sections as follows: (1) motherhood as a developmental transition (2) conditions influencing transition to motherhood, and (3) indicators of healthy transition to motherhood.

Motherhood as a Developmental Transition

Research on parenthood which focuses on parents rather than on the child has its beginnings in the discipline of sociology, although currently the topic has captured the interest of psychology, medicine, social work and nursing (Goldberg, 1988). Parenthood, until the mid 1950s, was a romanticized concept as the experience was believed to be joyful and fulfilling (Cowan & Cowan, 1988). This view changed as a result of findings reported by LeMasters in a 1957 study. For the next twenty years the experience of parenthood was conceptualized rightly or wrongly as a "crisis." The meaning of crisis as

proposed by Reuben Hill in Families Under Stress (1949) (as cited in Cowan and Cowan, 1988) implied a need for new behaviors in the face of change and that definitions deviated from the original intent giving rise to negative, narrow interpretations of the term. Limitations inherent in this view were recognized.

Rossi (1968) suggested that viewing parenthood as a “crisis,” or “normal crisis,” or as a step in maturation and personality growth, inhibited an examination of both the positive and negative aspects of parenthood. The belief that rewards of parenthood were not being addressed with a crisis perspective was advanced by others during this time (Meyerowitz & Feldman, 1966; Jacoby, 1969). In addition, results of research undertaken indicated that adjustment to parenthood was perhaps difficult for the majority of couples but did not constitute a crisis (Hobbs & Cole, 1976; Meyerowitz & Feldman, 1966; Russell, 1974). New views and research on the process of becoming a parent gave rise to a reconceptualization of parenthood as a transition. Research now began to focus on parenthood as a transition or a developmental stage.

During the time sociologists were reexamining and reformulating their view of parenthood as a transition, nursing was developing a theoretical basis for the experience of motherhood as a developmental task. Maternal role attainment and maternal identity are constructs that have been created within the nursing community to understand the experience of becoming a mother. These constructs emphasize the cognitive, emotional, psychosocial and occasionally behavioural components of becoming a mother. Reva Rubin (1967a, b; 1984) is credited with the first description of the process of maternal role

attainment which ends with formulation of the maternal identity at about 6 months postpartum.

Mercer (1981) has extended the work of Rubin by describing maternal role attainment as a four stage process: anticipatory, formal, informal and personal. Based on the literature and her own work, Mercer has suggested attainment of the maternal role takes between 3 and 12 months postpartum (Mercer, 1981; 1985b). Mercer identified the importance of a theoretical framework for the study of factors influencing maternal role attainment and used role theory and existing literature to guide her early research (Mercer, 1981).

Walker et al.(1986a) has suggested that the process of maternal role attainment has behavioural as well as the subjective components described by Mercer (1981). This perspective of maternal role attainment incorporates concepts of maternal identity, and perceived and demonstrated role attainment in its conceptualization. Demonstrated role performance requires an objective assessment of mothering behaviours.

Both the transition to parenthood and maternal role attainment perspectives consider becoming a mother to be a developmental event. During the last 30 years a substantial amount of research has been conducted on this topic in an attempt to isolate factors that impact on becoming a mother. A greater understanding of the experience may help caregivers to promote a healthy transition not only for the mother but for her family.

Conditions Influencing Transition to Motherhood

Level of Knowledge/Skill

According to Schumacher and Meleis (1994) current levels of knowledge and skill may be inadequate to meet the demands of a transition. Knowledge of infants and skill in infant care are necessary for performing the maternal role. A woman may possess such information and skill prior to becoming a mother or she may acquire it during pregnancy or the early parenting period. Women may chose to learn more about infants and infant care by participating in a variety of experiences such as prenatal classes, postpartum infant care classes and rooming-in. As well, women may read parenting literature to become more informed about parenting.

The influence of age, education or parity on knowledge and skill level regarding infant care is relatively unexplored and thus unknown. Age and education level may indirectly contribute to general knowledge and skill level of a new mother. Parity may also influence knowledge or skill level; a multiparous woman's previous experience with infants may make her feel more confident and competent in caring for infants.

Few studies have explored relationships between level of knowledge/skill and outcomes of transition to the role. Knowledge and skill level may have been indirectly assessed when concepts such as confidence, competence and self-efficacy were examined as independent variables.

Williams et al. (1987) assessed development of the maternal-child relationship in 238 primigravid women at 8 months of pregnancy and 165 at 1 month postpartum using self-report measures. Participants were predominately middle-class. However the sample

was not homogeneous as there was a wide range of values for demographic variables. Their hypothesis that parenting confidence would play a pivotal role in postpartum adaptation to motherhood was supported in preliminary analysis. Previous experience with infants and expectations about how well prepared a woman felt to care for her baby predicted postpartum confidence, postpartum attachment, postpartum emotional state, and postpartum adaptation to motherhood (items related to looking after the baby). A longitudinal design, large sample size and use of many pre-existing data collection instruments are strengths of the study. A heterogeneous sample (although most were middle-class) supports the generalizability of these findings to a wider population of pregnant first-time mothers.

Pridham and Chang (1992) considered maternal appraisal of problem-solving competence of infant care to be one transition marker in the transition-to-motherhood process. In a longitudinal study, data was collected during the first 30 days postpartum and the next 60 postpartum days. Authors predicted previous infant care experience (i.e. past experience in caring for an infant rated on a 5 point scale) would have a positive effect on self-appraised problem-solving competence (measured by an 11 item questionnaire). In their study of 38 primiparous and 24 multiparous women of healthy newborns, Pridham and Chang found, contrary to their prediction, that previous experience with infants had no effect on problem-solving competence and concluded that previous experience with infants did not influence adaptation as each new child presents a challenge to maternal adaptation. Methodological limitations of this study included a small

sample size and unknown validity and reliability of the instrument used to measure past experience.

Mercer (1985a) analyzed data from a previous longitudinal study to determine the relationship of maternal role gratification (assessed by a checklist adapted from Russell, 1974) to specific maternal variables among three age groups of mothers at eight months postpartum. The original study involved 294 first-time mothers between the ages of 15 and 42 at 37 weeks gestation or later who delivered at a university hospital. Following the birth of an infant with no anomalies mothers who agreed to participate were interviewed at 1, 4, 8, and 12 months postpartum. Mercer analyzed data collected at the eight month time period in the three different age groups. At the eight month time period, 250 subjects remained in the study. The hypothesis that greater role clarity (assessed by rating extent of previous experience in caring for infants) would be related to greater gratification with mothering was supported only for women within the 30-42 age group. For the total sample, Mercer found previous experience with infants to be weakly but significantly related to gratification. Results are interpreted cautiously as validity and reliability data for several of the tools are not reported.

Previous experience with infants and children was included as one study variable in a descriptive factor-relating design by Curry (1983). Using a small sample size (n=20) and a content analysis to determine adaptation status, Curry reported that the only difference between those women who perceived themselves as “easy adapters” from “difficult adapters” was previous experience with infants. In this study, the amount of past experience with infants and children was assessed. Generally, others evaluate past

experience with infants only. Generalizability of these results is restricted due to a small sample size.

Mercer and Ferketich (1990) tested theoretical models for predicting parent-infant attachment (one component of the parenting role) in a sample of 481 low-risk and high-risk women and their partners. Using a longitudinal design, data was collected during the 24th -34th week of pregnancy, during the 1st week postpartum and at 1, 4, and 8 months postpartum. A number of predictor variables were studied including parental competence. Questionnaire items for competence tapped knowledge/skill for the role and value/comfort in the role. Model results for 1 week postpartum and 8 months postpartum were reported. Authors indicated that results for 1 and 4 months postpartum were not substantially different than the 1 week and 8 month results reported. For low-risk women ($n = 182$), parental competence was a major predictor of attachment. Use of instruments with established reliability and validity as well as a longitudinal design with a large sample size are notable strengths of the study.

In summary, research findings are conflicting regarding relationships between level of knowledge/skill and various outcomes of transition to motherhood. Studies reviewed have presented similar problems including: different operational definitions for concepts (making it difficult to compare results), lack of reporting validity and reliability measures for instruments used and use of small, homogeneous convenience samples. In spite of these limitations, there is enough evidence to support investigating relationships between level of knowledge and skill and transition outcomes, specifically, confidence and competence in parenting and satisfaction with motherhood.

Environment

Social support from family, friends and others is considered to be a resource within the environment that may help an individual in achieving a successful developmental or personal transition (Schumacher & Meleis, 1994). Several dimensions of support are included in many conceptualizations of social support. However, controversy exists as to whether social support is a multidimensional (Norbeck, Lindsey, & Carrieri, 1981; Tilden, 1985) or unidimensional construct (Brown, 1986). Generally, conceptualizations include three broad dimensions of the construct: sources of support, types of support and nature of support (Norbeck et al., 1981; Stewart, 1989; Reece, 1993; Norwood, 1996). Support from others may be potentially available to persons but may or may not be provided to and used by them. It has been suggested that many nurse researchers fail to develop or use instruments that measure both support that is available, as well as support that is actually received (Stewart, 1989).

Research on parenting suggests strongly that social support plays a positive role in adaptation to parenthood (Reece, 1993; Gottlieb & Mendelson, 1995). The way in which social support works to influence positive outcomes has not been established definitively but explanations have been offered using the beneficial-effect model and the stress-buffering model (Gottlieb & Mendelson, 1995). The effect of social support on transition to motherhood has been studied in diverse populations including adolescents, mothers of high-risk infants, and primiparous and multipararous women of various ages.

Reece (1993) conducted a longitudinal descriptive study to investigate relationships among social support, social networks and the experience of early

parenthood in 91 primiparous women 35 years of age and older. The experience of early parenting was assessed using Pridham and Chang's WPL-R Questionnaire (1989). Social support was assessed by the Norbeck Social Support Questionnaire (1981) between 30 and 40 weeks of pregnancy and at 1 month postpartum. Authors found few associations between antepartum social support variables and parenting outcomes. However, functional support from partner, family and friends measured at 1 month postpartum was positively related to self-evaluation in parenting. Self-evaluation in parenting was also significantly associated with parenting support (measured with the Parenting Support Questionnaire). Stress, another outcome variable, was inversely related to functional support from family and friends but was not associated with support from the partner. Reece suggested that the partner's own transition to parenthood may have affected his ability to provide support.

Dormire et al. (1989), in a retrospective, descriptive correlational study, investigated relationships between social support and adaptation to parenting in adolescent mothers. Eighteen first-time mothers between the ages of 15 to 19 years who met the study criteria completed questionnaires between 4 and 5 weeks postpartum. The majority of participants were unmarried, black, and in the lower socioeconomic class. Adaptation to the parent role was defined as parenting stress and parent-infant interactions. The Norbeck Social Support Questionnaire (1981) measured various dimensions of social support. Using nonparametric testing, authors found a significant positive relationship between overall functional support and parent infant interaction. No relationship was

found between total parent stress and total social support. Generalizability of these results are limited due to the small sample size and homogeneous characteristics of the sample.

The influence of 4 different types of social support on antepartum and postpartum mood states was examined in a short-term longitudinal correlational study (Gottlieb & Mendelson, 1995) in 50 married women ranging in age from 24-40 years who were expecting a second child. Authors used the Norbeck Social Support Questionnaire (NSSQ) (Norbeck et al., 1981) to measure general spousal support and general network support from network members. Satisfaction with support and situation-specific support were also assessed with instruments developed by the investigator. The greatest number of significant relationships (7) were found between postpartum support variables and postpartum mood variables. Postpartum women who reported more available support from a spouse reported being less angry. Similarly, women who were more satisfied with support received were more likely to be less depressed and/or angry. In addition, appropriate amounts of situation-specific support were associated with less depression, anger, anxiety and fatigue. Further analysis indicated that the connection between postpartum stress and moods or fatigue was not reduced by postpartum support. Finally, antepartum support (after controlling for antepartum mood and fatigue) did not predict postpartum moods or fatigue.

Seventy-two families were followed from the last month of pregnancy until the end of the ninth postpartum month to determine the influence of a new child on family support and network contact (Belsky & Rovine, 1984). Descriptive analysis revealed that family contact and contact with parents of young children increased from pregnancy through the

ninth postpartum month. Secondly, emotional and material support were greater at 3 months postpartum than at the prenatal or 9 month postpartum assessment periods. Relationships among family contact, family support, years in the community and proximity to families of origin were investigated. Closer proximity to families of origin and more years in the community were positively associated with more frequent family contact. However, no relationships were found between proximity to families or years in the community and material or emotional support from families. As stated by the researchers, the assumption cannot be made that frequency of contact with family network members necessarily means that emotional and material support is being provided to parents during the transition to parenthood. The sample was not representative of the general population due to its homogeneity, therefore findings are only relevant to similar samples.

In an exploratory descriptive study, Majewski (1987) studied 86 first-time mothers to determine who was most supportive to them during the transition to motherhood and which source of support contributed to ease of transition. The majority of women (77%) identified their partner as being most supportive. However, with regard to the type of support they received, most women (90%) reported receiving physical assistance from their partner but only 35% of partners provided emotional support. Results also revealed that women who named non-immediate family members as most supportive tended to report more difficulty in making the transition. Similar demographic characteristics (white, married, and well-educated) of the sample preclude generalizing these findings to the general population.

Crnic et al. (1984) conducted a study examining the impact of social support and stress on maternal attitudes and mother-infant behaviours at 1, 8, and 18 months postpartum. The sample was comprised of 105 mother-infant pairs of which one-half were mother premature infant pairs and one-half were full-term mother-infant pairs. Mothers were predominately white, middle class, married women and about half were first-time mothers. After finding no significant differences between the groups on social support, life stress or maternal attitude measures, analysis were conducted on the entire sample. Results showed significant relationships between both social support and stress and the outcome variables of maternal life satisfaction and satisfaction with parenting. Increased satisfaction with life and motherhood were associated with greater amount of support and less stress. Authors found these relationship to be stronger when variables were measured concurrently. Furthermore, mothers' postpartum stress levels at 1 month predicted sensitivity to their infant cues at four months. Measuring stress, support and satisfaction concurrently was a limitation of this study as increased stress may be a result of inadequate social support.

In summary, concerns with respect to the multi- versus uni- dimensional nature of social support require resolution in order to test validity of tools. Nonetheless, investigators who subscribe to the multi-dimensional perspective tended to operationalize social support similarly. Unfortunately, variations exist among investigator developed tools. Instrument may not always specify the type of support being measured; available or received support may be measured but satisfaction with support may or may not be assessed (Stewart, 1989). A strength of most studies examining social support was the use

of prospective designs. Limitations included small, convenience, and homogeneous sampling. Notwithstanding these limitations, studies affirmed the importance of social support on transition to motherhood.

Expectations

Childbearing women formulate expectations for their birthing experience and for their role as a new mother. What is experienced may or may not match their expectations. The consequences of incongruent expectations for and reality of the birth experience for women have been investigated. Research findings suggested that agreement between childbirth expectations and the actual experience is important in a woman's perception and evaluation of her birth experience (Heaman, Beaton, Gupton & Sloan, 1992). It may follow that perceptions and evaluation of the parenting experience may be influenced by agreement between expectations for and the actual experience of parenting. Difficulty with transition to parenthood may result from unrealistic expectations or from a lack of knowledge about what to expect in the parenting experience. The role expectations play in transition to motherhood is relatively unknown. Few studies have been conducted examining expectations for and actual experience of the early mothering experience.

Imle (1990) conducted an exploratory-descriptive study to develop a conceptual knowledge base pertaining to the learning needs and concerns of first-time expectant parents. Transition to first-time parenthood was one of three constructs generated in this inductive study. External facilitative and internal facilitative resources emerged as two other major conceptual areas related to transition to parenthood. Concepts identified in the

conceptual model under the construct of transition to parenthood related to defining the baby and oneself as child and parent; being ready for the transition; and taking on parent-role behaviors. Imle suggested that these parent-role related behaviors, feelings and processes change as actual parenthood approaches and are influenced by support and intrapersonal resources of the person. In a proposed model for nursing practice Imle indicated that expectations and experiences of pregnancy and parenthood are relevant factors in the transition to first-time parenthood. Furthermore, factors such as personal support (internal facilitative resources) and external supports (external facilitative resources) interact with a person's expectations and experiences to influence transition to first-time parenthood. Using this model and findings from the literature, Imle proposed that assessments of expectant parents can be refined by assessing personal supports and external supports as well as assessing expectations for and experiences of the transition to parenthood.

Kach and McGhee (1982) investigated the relationship between accuracy of expectations about parenthood and the number of problem areas experienced after the child's birth. It was hypothesized that higher levels of discrepancy between expectations and reality would be positively related to the number of problems areas. Expectations and perceptions regarding parenthood were measured in 3 different groups of couples. Couples in the first group (n = 12) , expecting their first child in 4-6 weeks, were used to test the hypothesis. A second group (n = 7) who had their second child 8 weeks prior to completing the post-test were used as a comparison group to test for effects of completing the pretest. The 3rd group (n = 7) were expecting their second child in 4-6 weeks and were

used to test the influence of previous parenting experience. Expectant couples (group 1 & 3) completed a questionnaire developed by the researcher to measure expectations for the parental role. At 2 months postpartum, perceptions of the parenthood experience were assessed in group 1 & 2 by administering a posttest version of the prenatal questionnaire. Group 1 also completed a questionnaire assessing difficulties encountered in the postpartum period. Mothers' and fathers' scores were analyzed separately and results showed no significant difference between the pre-delivery and post-delivery scores for either mothers or fathers. In this sample of couples, expectations about parenthood matched the perceptions of the actual experience. However, certain individuals had considerably higher discrepancy scores than other individuals. Results obtained from computing correlation coefficients between high discrepancy scores and mean score for incidence of post birth problems showed a significant positive relationship for mothers. It was concluded that mothers with unmet expectations experienced problems in adjusting to parenthood. Findings of this study are viewed cautiously as several conceptual (definition of adjustment) and methodological issues (instruments used to measure variables and small sample size) were evident in the study.

Coffman, Levitt and Brown (1994) conducted a study to test a theoretical model of confirmation of support expectations on parenting outcomes and assess the effect of a prenatal intervention on outcomes. The final study sample consisted of 204 married men and women of which 92% were expecting their first child. The experimental group (N=97) participated in discussions about support issues before and after childbirth while the control group (N=107) took part in discussions about sex role behavior. Participants were

assessed prenatally and between 3 and 6 months postnatally. Parenting outcomes assessed in both groups included emotional affect, attitude towards the baby and relationship satisfaction. As predicted, relationships were found among greater confirmation of support expectations and parenting outcomes. Specifically, greater confirmation of support expectations was significantly associated with satisfaction with the marital relationship. A second hypothesis regarding the independent effect of confirmation of support expectations on relationship satisfaction was partially supported. Path analysis showed that relationship change, for women, was associated more with confirmation of support expectations, and, for men, support received was more significant than confirmation of support expectations.

Curry (1983) conducted a qualitative descriptive study of variables related to adaptation to motherhood. Content analysis of interviews done at three months postpartum identified a group of mothers who found adaptation to motherhood easy and another group of mothers who found adaptation difficult. Curry suggested that expectations play an important role in adaptation as 14 of the 15 "easy adapters" stated that adaptation to motherhood had been easier than they had expected. A small sample size ($n = 20$) and measurement issues restrict the usefulness of these findings.

Zabielski (1994) in an exploratory and descriptive study examined the process of maternal role attainment in preterm mothers. Preterm ($n = 21$) and fullterm mothers ($n = 21$) completed questionnaires and interviews approximately one year after the birth of their first child. Content analysis of data collected during interviews revealed 8 common themes related to perception of maternal identity recognition. Role expectations emerged as the

most common theme discussed by mothers during the interviews; of the total sample, 10 mothers (24%) identified role expectations as one of the 8 themes. Some participants reported that their expectations for the role were met while others (mostly preterm mothers) reported that their expectations were not met. The author concluded that women in the study had established a notion with respect to the maternal role. Participants were required to recall events over a one year period and perceptions may have altered during this period. The retrospective design was a limitation of the study.

Changes in various areas relevant to pregnancy and postpartum were described using a sample of 31, educated Caucasian, couples who were expecting their first child (Feldman & Nash, 1984). Couples completed questionnaires which assessed mood changes, social changes, anticipation/experience of parenthood and satisfaction during the last trimester of pregnancy and at 6 months postpartum. Authors found that women (n = 24) in this sample did not accurately predict the type of mother they thought they would be. On the other hand, men (n = 18) were more accurate in predicting their own parenting behaviours in 3 of the 5 dimensions evaluated. Limitations of this study included a lack of validity and reliability testing for questionnaires and scales used in the study and a small homogeneous sample.

In summary, it appears that women give some thought during pregnancy to the type of mother they will be. Factors such as past experience and societal norms may influence the image a woman formulates of herself as mother prior to the actual experience. Findings support the notion that expectations for the experience of motherhood may be important to various outcomes of transition.

Emotional Well-Being

A variety of emotional responses are believed to occur with a transition experience (Schumacher & Meleis, 1994). Life changes are encountered with the birth of a child and some of these changes may be viewed as negative stressors (Crnic et al., 1984). Stress and conditions indicative of emotional distress (for example, anxiety and depression), as well as attitudes, personality style and other psychosocial factors are frequently investigated in research on motherhood. Many studies have explored postpartum depression as an outcome of transition to motherhood. Psychosocial variables including self-concept/self-esteem, role conflict, role strain and personality traits have also been investigated but usually as predictor variables of postpartum depression and other outcomes of transition.

In a retrospective study, 96 women were interviewed at 6 months postpartum to explore recovery from childbirth, changes in lifestyle and sources of help and factors hindering recovery (Tulman & Fawcett, 1991). Interviews were analyzed using a content-analysis technique. By 6 months postpartum, most women (63%) reported experiencing physical, emotional, and mental recovery from childbirth. Yet, some women indicated not feeling fully recovered emotionally (17%) or mentally (12%). A moderate proportion of the sample (33%) reported that life was becoming easier emotionally and mentally with the passage of time. Although some women (8%) reported that life was better than before childbirth, some women (6%) viewed life more negatively since delivery. Participants in this study were also part of a longitudinal study and women commented that they were not doing as well as they had reported in the questionnaires completed during the prospective study. Generally, retrospective data collection is considered to be a significant

methodological limitation. In this situation, authors felt that a more accurate perspective of recovery was obtained at 6 months postpartum than earlier in the puerperium.

However, different data collection methods were employed during the prospective study than in the exploratory study. Bias due to retrospective data collection may have been controlled by conducting interviews during the 6 months recovery period.

In a longitudinal study, a number of study variables were investigated including emotional state, attachment, parenting confidence, marital relationship, role conflict and concerns, mother-child relationship and postpartum adaptation during transition to motherhood (Williams et al., 1987). A prenatal, postpartum and toddler phase constituted the study. Relationships among variables in each phase were described and measured using correlation coefficients. Relationships between phases were assessed using multiple regression analysis. To evaluate postpartum adaptation at one month, a subset of the prenatal sample was used. One hundred and sixty-five first-time mothers in a stable relationship completed a set of self-report questionnaires. From questionnaire data, 4 variables were used in the postpartum analysis. With regard to prenatal emotional state, it was not an independent predictor of any postpartum variables. Authors found a significant positive relationship between postpartum attachment and postpartum emotional state. Furthermore, emotional state at 1 month postpartum predicted the quality of mother-child relationship at 2 years. One hypothesis of the study was that parenting confidence would be a central determinant in adaptation to motherhood. Postpartum emotional state was predicted by experience with infants, postpartum attachment and prenatal marital agreement/disagreement regarding feelings about pregnancy. Results summarized in the

article are from preliminary analysis, authors reported that causal modeling results are forthcoming. The article lacked sufficient information on measurement tools to assess the appropriateness of tools . Demographic characteristics were heterogeneous except for socioeconomic status therefore, results are generalizable to other middle-class women.

Mercer (1986a) examined differences in maternal role attainment (including gratification with maternal role, maternal attachment, and role performance) 1 year following the birth of a first child among three age groups (total n = 242). In addition, predictor variables of maternal role attainment were investigated. Predictor variables studied included stress, personality traits, self-concept, maternal attitudes, network size, emotional, informational and physical support, and self-concept. These predictor variables were measured between 4 and 12 months postpartum; several variables were measured with investigator developed tools. Mercer found that women in the 20-29 age group reported significantly more gratification with the maternal role than the older age group. Regression analysis were conducted using an index of maternal role attainment. Contrary to Mercer's expectations, none of the social support variables predicted maternal role attainment. Self-concept (measured by the Tennessee Self-Concept Scale) explained 16.9% of the variance for maternal role attainment index with maternal attitudes contributing an additional 7.4% to the variance. Measuring self-concept at 8 months postpartum and maternal attitudes concurrently with the assessment of maternal role attainment at 12 months was a significant methodological limitation of this study. Mothers' experiences in parenting over 1 year may have influenced their feelings about themselves. As, well, attitudes may change over time.

In a prospective study using a large sample ($n = 730$) of primiparous and multiparous, women factors influencing the onset and duration of postpartum depression were examined (Gotlib, Whiffen, Wallace, & Mount, 1991). Variables assessed at approximately 23 weeks gestation and at 1 month postpartum included: diagnosis of depression, depressive symptomology, marital distress, dysfunctional cognitions, quality of parental bonding, stress and coping. A major or minor depression was diagnosed in 10.3% of participants at the pregnancy assessment period. A small percentage (4.9%) of the 655 nondepressed women in pregnancy went on to develop postpartum depression. Women in the postpartum depressed group reported higher levels of depressive symptomology during pregnancy, less marital satisfaction, greater stress, a more negative view of caring from their own parents and greater use of escape-avoidance coping mechanism. Depressed and nondepressed postpartum women were distinguished by these variables, however, authors remarked that the differences existed during pregnancy when all women in this group were nondepressed. All 25 predictor variables examined in this study jointly explained only 12% of the variance in a diagnosis of postpartum depression.

O'Hara, Lewis, Schlechte, and Varner (1991) explored multiple psychological, environmental, hormonal variables as predictors of postpartum depressive symptomology and a diagnosis of postpartum depression in 182 childbearing women and 179 nonchildbearing women. Data collection occurred during the second trimester and 9 weeks postpartum for all variables except hormonal variables. Relationship with partner and self-control behaviors were included in the social and cognitive vulnerability set. Number of stressful life events, number of child care stresses and peripartum stresses were

contained in the life stress set. In childbearing women, 3 sets of variables predicted postpartum depressive symptomology and 2 sets of variables predicted a diagnosis of depression. Depressive symptomology was predicted by previous depression, depression during pregnancy, the number of stressful life events, number of child-care related stressors and a number of vulnerability-stress interactions. A depression diagnosis was predicted by previous depressions, prepartum depression and 2 interactions in the life stress-vulnerability set. The vulnerability-life stress model tested in this study explained a large portion of the variance for both level of depressive symptomology and diagnosis of postpartum depression.

O'Hara, Rehm, and Campbell (1982) used cognitive-behavioral and learned-helplessness theories in a study examining predictors of postpartum depressive symptomology. Relationships among prepartum depression, life stress, attribution style, self-control behaviors, cognitive distortions, social reinforcement and postpartum depression were investigated in 170 women during the second trimester of pregnancy and at 3 months postpartum. All predictor variables were measured during pregnancy except the life-stress variable. A set of predictor variables explained 40% of the variance in depression level. Prepartum depression accounted for 26 % of the explained variance with cognitive-behavioral variables and life-stress variables contributing an additional 4.2% and 9.4%, respectively. Of the 4.2% explained by cognitive-behavioral variables, attribution style accounted for more than one-half of the 4.2%. Stress was measured concurrently with postpartum depression and stress level may have influenced the level of depression or

depression level may have influenced stress level. Thus, timing of data collection is a limitation of the study.

Mercer (1985a) examined the relationship between age and other variables including role strain and gratification in mothering in three age groups of women using data from a previous longitudinal study. At eight months postpartum, 250 participants remained in the study. For the 20-29 year old age group only, there was a significant negative relationship between role strain and gratification with mothering. Methodological problems of this study included no validity and reliability measures reported for a number of instruments used and no clear indication of when independent variables were measured.

In a descriptive correlational study, the relationship between role conflict and ease of transition to the maternal role was investigated among three groups of first-time mothers (Majewski, 1986). Of the 86 participants, 41 were in the unemployed group, 30 were in the mothers with careers group and 15 were in the mothers with jobs group. The only significant difference in demographic variables among the women was mean age. The hypothesis that the greater the extent of perceived role conflict, the less ease in making the transition to the maternal role for mothers regardless of their employment status was supported. Mothers, in all three groups, with more role conflict had more difficulty making the transition to the maternal role. Specifically, women who had greater role conflict in their spouse, parent and self roles tended to experience less ease in making the transition to the maternal role. Data collection occurred when the child was between 5 and 18 months old. This was a significant limitation of the study as children were at different

developmental stages and children at differing ages have distinct needs which place various demands on mothers.

Prevalence of depression and relationships between depression and age, marital relationship, life events and other demographic and social factors were explored in 104 of primiparous and multiparous women (Paykel, Emms, Fletcher, & Rassaby, 1980). Data was collected from the majority of participants between 5 and 8 weeks postpartum. For this sample, authors found a prevalence rate for depression of approximately 20%. Several significant relationships were found between depression and other study variables, however, depression was most strongly related to undesirable or negatively perceived life events; poor marital relationship and decreased social support were moderately associated with depression. Details of the sample characteristics (parity, marital status, etc.) were not provided, therefore the representativeness of the sample cannot be determined. Another limitation of this study was the use of unstandardized data collection tools.

Infant temperament has been conceptualized as a stressor influencing postpartum mood state. Hopkins, Campbell and Marcus (1987) researched the contribution of difficult infant temperament, other life stressors and level of social support to the development of postpartum depression in 25 depressed and 24 nondepressed, married, primiparous women. The Beck Depression Inventory was used to screen for depressive symptomatology at 6 weeks postpartum then, selected participants were interviewed and a diagnosis of postpartum depression was made using the Schedule for Affective Disorders and Schizophrenia. Authors found that the 2 groups did not differ on life-event stress measures, level of social support or marital satisfaction but they did differ significantly on

3 of 4 infant-related stress measures. Results of hierarchical regression analysis showed that infant medical status and infant temperament predicted severity of postpartum depression. The infant complication variable contributed 12% to the variance in depression level while infant temperament variable accounted for an additional 5% of the variance.

Cutrona and Troutman (1986) tested a model of postpartum depression in 55 married, multiparous and primiparous women. The model suggested that parenting self-efficacy mediated the influence of difficult infant temperament and social support on postpartum depression. Data collection occurred during the second or third trimester and at 3 months postpartum. Results of analysis showed that paths proposed in the model explained 45% of the variance for postpartum depression. As predicted in the model, infant temperament was indirectly (through the mechanism of self-efficacy) related to postpartum depression. Mothers who reported their infants to be more difficult tended to have a less competence in the parenting role and to have higher depression scores. Although not proposed in the model, when a direct relationship between infant temperament and postpartum depression was tested, difficult infant temperament explained 30% of the variance for postpartum depression. Authors caution that results from the second model testing be viewed as tentative, as the model was not proposed a priori. As predicted in the model, social support affected postpartum depression through the mediation of self-efficacy; higher levels of social support were associated with increased self-confidence and less depression.

In summary, emotional factors relative to transition to motherhood have frequently been studied by exploring the concept of postpartum depression. Most studies have

conceptualized postpartum depression as an outcome (albeit undesirable) of transition to motherhood. Many psychosocial, environmental, and hormonal factors have been investigated as possible predictors of postpartum depression. Several methodological issues have been identified with studies on postpartum depression including use of unstandardized tools, various data collection points and small, convenience samples. Incidence rates for postpartum depression have been reported to range from 7% to 30% (Dalton, 1971; Gordon, Kapostins, & Gordon, 1965; Kumar & Robson, 1984; Whiffen, 1988). More recent studies have used standardized scales (for example, Beck Depression Inventory and General Health Questionnaire) to measure depressive symptomology or rigorous standard diagnostic criteria to assess the syndrome of postpartum depression. Improvements in measurement have resulted in reports of incidence rates between 3% and 14% (Gotlib et al., 1991). The majority of new mothers do not appear to experience postpartum depression and variables explored to date have failed to explain a large portion of the variance in postpartum depression. Conceptualization of postpartum depression as an outcome of childbirth will likely continue until the construct postpartum depression has a clear theoretical definition or until outcomes for the transition to motherhood have been isolated. Other measures of emotional well-being as possible predictors of healthy outcomes of transition to motherhood need to be explored.

Physical Well-Being

Immediately following childbirth, a woman's body undergoes rapid physiologic adjustments as it shifts from a pregnant state to a non-pregnant state and these changes

continue during the puerperium. During her physical recovery, a mother is expected to care for herself and her child and gradually resume responsibilities for the family and household. Research has suggested a mother's ability to perform duties and assume responsibilities of the maternal role is associated with her state of postpartum health (Tulman & Fawcett, 1990). Specific health variables such as parity, type of delivery, physical energy, maternal and neonatal complications, and method of infant feeding should be included when studying role performance as it relates to transition to the maternal role (Tulman & Fawcett, 1990). Factors relating to maternal health during the puerperium have been relatively unstudied.

Tulman and Fawcett (1991) conducted a descriptive study to examine recovery from childbirth, changes in lifestyle, sources of help and factors impeding recovery. Ninety-six primiparous and multiparous women participated in semi-structured interviews 6 months following vaginal or cesarean birth. Content analysis was used to analyze data. By 6 months postpartum, the majority of women (63%) had recovered physically, mentally, and emotionally from childbirth. Though, a large proportion of women (25%) revealed that they had not recovered completely by 6 months postpartum. Some women (7%) commented that they still felt fatigued and had decreased energy levels.

Tulman et al. (1990) in a longitudinal study investigated changes in role performance (operationally defined as readiness to assume infant care and to resume usual activities) and correlates of functional status at 3 weeks, 6 weeks, 3 months and 6 months postpartum. The sample was comprised of well, married primiparous (n = 48%) and multiparous women who had delivered a healthy newborn vaginally (n = 57) or by

cesarean section ($n = 40$). The final sample consisted of 87 subjects at 3 weeks and 97 subjects at the remaining time periods. With regard to changes in components of functional status, 66.5 % of mothers assumed full responsibility of infant care activities by 3 weeks postpartum and 75.3 % had done so by 6 weeks postpartum. For most women, it took considerably longer for them to resume their usual household, social and community, self-care, or occupational activities. By 3 months postpartum between 57% and 66% of women had fully resumed household and social and community activities. Authors examined a number of health, psychosocial, family and demographic variables as possible correlates of functional status. Psychosocial variables were assessed using the Postpartum Self-Evaluation Questionnaire (Lederman et al., 1981). At 3 weeks postpartum one set of variables (level of energy, type of delivery and occupation) was significantly related to functional status. At 3 weeks postpartum, more physical energy, having a vaginal birth, and working outside the home were related to higher functional status in 3 of 5 functional activities. By 6 weeks postpartum physical energy, and parity were the only health variables in a set of variables associated with functional status. At 6 weeks postpartum greater physical energy, having more children, increased confidence in ability to cope and having a baby with a temperament that could be anticipated were associated with increased levels of functioning in household, social, and self-care activities. Level of energy was found to be the variable most strongly related to functional status postpartum. Authors found that full functional status was not achieved for some women by 6 months postpartum.

In a retrospective exploratory study of return of functional ability in 70 women following vaginal and cesarean births, Tulman and Fawcett (1988) found a statistically significant difference in percentages for the vaginal birth group and cesarean birth group with respect to regaining usual energy level. Seventy-two per cent women with vaginal deliveries reported regaining their usual level of energy by 6 weeks postpartum compared to only 34% of the cesarean group doing so by 6 weeks postpartum. Women in the vaginally delivered group reported taking .5 of a day to assume infant care activities whereas, women in the cesarean group reported taking 4 days to assume infant care. There was no significant association between parity and length of time to regain functional ability. In addition, no association was found between maternal complications in the early postpartum period and return of functional ability with the exception of returning to work. The occurrence of postpartum complications affected a woman's ability to return to work. Criteria for inclusion in the study included being within 5 years of delivering a full-term infant. Retrospective data collection was a significant weakness of this study.

In summary, few studies have explored the influence of maternal health during the puerperium on outcomes of transition to the maternal role. There is some evidence that various health factors are important to functional status after delivery. Further exploration of relationships between physical health status and other outcomes of transition to motherhood may be useful in understanding the transition to motherhood experience.

Meaning

Knowing what a transition means to an individual is important to understanding his/her transition experience (Schumacher & Meleis, 1994). In the case of motherhood, being a mother has symbolic, psychological, and interpersonal meanings which are linked in complex ways; for many women motherhood means achieving adult status and validating their female identity (Woollett, 1991). As well, cultural expectations and opportunities may shape a woman's motive for motherhood (Robinson & Stewart, 1989).

Meanings may be shaped by the importance of values associated with having children. Values germane to motherhood may include: achievement and creativity, primary group ties and affection, adult status and social identity, stimulation and fun, expansion of self and moral values (Woollett, 1991; Michaels, 1988). Women may possess different values with respect to motherhood or values may have varying degrees of importance. Therefore, women may cite various reasons for wanting to become a mother (Woollett, 1991). But, overall, women view motherhood as a positive experience (Oakley, 1980).

In brief, motivation for motherhood may be based on a number of factors within and external to a woman and may only be known to the woman herself. However, knowing what the experience means to a woman may help in understanding a woman's transition experience and providing assistance to her, if necessary. The concept of meaning as it relates to transition to motherhood is relatively unstudied and therefore, examination of this factor is warranted.

Planning

Planning that begins before a transition and continues during a transition contributes to a favorable transition outcome (Schumacher & Meleis, 1994). By working through the planning process, individuals are able to identify potential problems, issues and needs relevant to the transition and explore possible solutions. Expectant couples engage in several activities such as reading and attending childbirth education classes to learn about pregnancy and the birthing experience. However, preparation for the experience of parenthood may not receive the same amount of attention or time.

Couples have commented that although they have prepared well for childbirth they felt ill-prepared for the work of parenthood (Starn, 1991). Planning is generally focused on buying the material items needed to care for a newborn rather than on the emotional and psychological aspects of parenthood. The unanticipated demands of parenthood may affect a mother's feelings about herself as a mother or may produce stress between the couple. Starn (1991), a childbirth educator, has suggested that couples spend time planning who will do what chores/activities after the baby arrives. To facilitate this type of planning, Starn sets aside class time for couples to work through an exercise to help them plan for the new parent workload. Decisions are made regarding baby care, household chores, and family maintenance. Feedback from couples indicate that this exercise has been beneficial to them.

Couples who have divergent views on childrearing may have difficulty adapting to parenthood (Starn, 1992). Couples need to develop a parenting style that blends each partner's thought and attitudes about parenting. Starn has designed a childbirth education

activity to help couples formulate their own parenting style. Couples discuss how they were raised, explore similarities and differences, and determine how they want to parent as a couple. Couples have reported back that this work has helped them become partners in parenting.

Childbirth education classes generally stress preparation for childbirth and do not often include content on issues related to parenthood. Vehvilainen-Julkunen (1995) surveyed 189 mothers and 127 fathers of newborns to assess their views on information received in family training. The majority of mothers were primiparous women, married with high school or college education. Couples identified information on childbirth and labour and delivery as a priority. Yet, approximately 90% of both men and women regarded parenting issues and information on coping with parenthood as important content areas to include in childbirth education classes.

In summary, the importance of planning for the experience of motherhood may have been overlooked. Decisions made prior to the baby's birth with regard to day-to-day household and infant-care activities may facilitate a smoother transition to motherhood. Similarly, agreement about a parenting style may help partners make a better adjustment to parenting.

Indicators of Healthy Transition to Motherhood

Many sociology studies have conceptualized the process of becoming a mother as a transition; while numerous nursing studies have conceptualized the process as maternal role attainment. Walker (1992, chap.10 &13) has suggested overlap exists between the

transition to parenthood point-of-view and the maternal role attainment and identity point-of-view and that research in each of the areas may be pertinent to the other area. As noted by Walker, and supported by the literature review, many transition to parenthood studies have focused on quality of the marital relationship and ease of transition as outcomes of transition. On the other hand, maternal role attainment studies have usually focused on selective (usually affective) components of the maternal role, such as, gratification with the maternal role and maternal confidence or competence in the role. A significant problem facing researchers of transition to motherhood is determining which indicators are relevant to a successful transition.

There is general agreement that the experience of becoming a mother requires adjustment in many areas. Hence, multiple indicators need to be assessed to determine whether or not a successful transition has occurred. Koniak-Griffin (1993) has suggested studying a variety of indicators as meaningful interpretations are contingent on relationships among variables studied. The conceptual framework used in this study has defined three broad indicators of successful transition: subjective well-being, role mastery, and well-being of relationships. Studies researching transition to motherhood generally examine specific indicators within the broad categories of subjective well-being, role mastery, and well-being of relationship.

Subjective Well-Being

Schumacher and Meleis (1994) have suggested that various subjective responses may serve as indicators of subjective well-being and thus a successful transition.

Researchers have explored relationships between numerous demographic, situational, and psychosocial variables and maternal role satisfaction or general life situation. As well, investigators have searched for predictor variables for these outcomes. Other transition outcomes studied are: ease of transition, attachment, and perception of the labour and delivery experience.

Steffensmeier (1982) in a study of white, married, first-time parents examined relationships among role conflict, role clarity, anticipatory socialization, education and degree of transition difficulty. Data were collected from 54 couples during structured home interviews when infants were 13-21 weeks old. Three dimensions of transition difficulty were assessed including parental gratification using a questionnaire developed by the researcher. A statistically significant relationship was found between education and parental gratification. Fewer gratifications were reported by parents with higher education levels. Multiple regression analyses were conducted. Jointly, the explanatory variables entered into the equation for parental gratification explained 13% of the variance. Of these predictor variables, education was the most important variable predicting parental gratification. Retrospective data collection was a weakness of this study, as gratification may have been influenced by passage of time and the age of the infant.

In another retrospective study, Russell (1974) studied parenting problems and gratifications in a sample of white, married, first-time parents. Questionnaires were mailed out to potential participants who had given birth during a 1 year period. The final sample was comprised of 296 women and 272 men. The mean age of infants in the study was 29 weeks. The author modified an existing checklist to measure gratification. For women,

significant relationships were found among gratification, education, number of months married, desired family size, saliency of mother role, marital adjustment and perceived influence of baby on marriage. As reported by the author, validity of the instrument used to measure gratification was not known, therefore lack of instrument validity was a significant methodological limitation of this study.

Grace (1993), in a longitudinal study (at 1, 3, 4 1/2 and 6 months postpartum), examined changes in satisfaction with role performance and in two other dimensions of the parenting experience in a sample of white, married or partnered, primiparous and multiparous women. Also, relationships among age, parity, education, stress, sadness and the three dimensions of the parenting experience were assessed. The size of the sample varied at each data collection point, however between 66 and 73 participants were assessed at each time period. For longitudinal participants, results showed that satisfaction with role performance remained consistent over time with a slight increase in scores by 6 months postpartum. No relationship was found between maternal age and satisfaction with role performance. Level of education and parity were inversely related to satisfaction with role performance; multiparas and women with more education reported less satisfaction with maternal role performance. Strengths of this study included using a prospective design and measuring satisfaction with an instrument with reported estimates of construct validity data.

Mercer (1985a) investigated relationships between gratification in the maternal role and numerous demographic, situational, and psychosocial variables (including previous experience with infants, age, education, role performance, role strain, readiness

for pregnancy and relationship with mate) in 3 different age groups of primiparous women. A large number of mothers (250) were still in the study when gratification was measured at 8 months postpartum. Past experience with infant care was related to gratification in only one age group; women in the 30-42 years age group who reported more past experience with infant care also reported greater gratification in mothering. In addition, a significant positive relationship between education and gratification was found in this age group; women with more education tended to report more gratification in mothering. Age and gratification were not related except in the 30-42 years age group; women who were older reported more gratification in mothering. Stepwise regression analyses were conducted for the total sample to identify predictors of gratification in mothering. A set of predictor variables including role strain, physical support, mate relationship, network size, and empathy accounted for nearly 25% of the variance for gratification in mothering. Many other variables entered in the equation (including emotional support, health status, self-concept, and personality disorder) failed to predict gratification in mothering.

The relationship between age and perceptions of the parenting role including satisfaction with parenting was investigated in women with preterm and term infants (Ragozin, Basham, Crnic, Greenberg, & Robinsin, 1982). The study sample consisted of 52 preterm mother-infant pairs and 53 term mother-infant pairs. Groups did not differ with respect to any of the demographic characteristics measured. One month after discharge from hospital, mothers completed questionnaires assessing seven components of the parenting role. Authors found a moderate relationship between maternal age and

perceptions of parenting role in the term sample and a strong relationship between age and perceptions of parenting role in the preterm sample. Hierarchical regression analyses on the combined sample (preterm and term) revealed maternal age significantly predicted role satisfaction. Participants were homogeneous with respect to race and economic status, therefore, results can only be generalized to women with similar characteristics.

In a longitudinal study, the contribution of a number of variables (prior experience with children, physical feelings, mood state, and social supports) to variations in feelings about caretaking (enjoyment with child care) and in other outcome variables were investigated (Fleming et al., 1988). Data collection occurred during the 9th month of pregnancy, between 2-4 days postpartum, at the end of 1 month, 3 months, and 16 months postpartum. Although the sample size at the beginning of the study was 68, it declined over time as participants dropped out of the study. It was reported that between 62 and 68 participants completed at least one questionnaire. Study participants were primiparous, partnered, English-speaking, Canadian women with no known past or current psychiatric or gynecologic histories. Authors found that postpartum mood made a significant contribution to feelings about caretaking (enjoyment with child care) at 1 month postpartum, explaining 11% of the variance; depressed postpartum mood was associated with less positive feelings about caretaking at one month postpartum. In addition, postpartum marital relations was a significant predictor of feelings about caretaking at one month, explaining 25% of the variance. Women who reported more positive feelings about caretaking also reported better marital relations.

Pridham et al. (1991) hypothesized that older and better educated women would have less positive labour and delivery experiences. In addition, authors postulated a positive relationship between parity and evaluation of parenting (referred to relationship with infant and satisfaction with parenting) and a negative relationship between age and education and self-evaluation of parenting. The majority of participants were Caucasian and married, with higher levels of education. Approximately one-third of the 108 women were primiparas. Data collection occurred on the second postpartum day. Hierarchical regression analysis was used to identify predictor variables for evaluation of parenting. Age and education did not contribute to (and were not related to) the labour and delivery experience as hypothesized by the authors. Parity and education were related to evaluation of parenting in the direction predicted. Women who were first-time mothers or who had more education reported lower evaluations of parenting. Age was not related to evaluation of parenting. Validity data for most instruments were not reported, therefore how well instruments measured concepts in the study cannot be determined.

Meisenhelder and Meservey (1987) explored satisfaction with the parenting role in 68 primiparous women 30 years of age and older. Participants in the sample were married, economically-advantaged, highly educated, professional women. Total satisfaction scores for participants were similar regardless of age. Authors found no significant relationships among age, education, employment, fertility history, occupational prestige, and maternal role satisfaction. Lack of significant findings may have been due, in part, to data collection occurring between 3-11 months postpartum. Satisfaction with the maternal role may be

influenced by the child's age as responsibilities and rewards in parenting change as a child grows older.

Crnic et al. (1984) studied the effects of maternal stress and social support on maternal attitudes in 105 mothers and infants who were grouped into mother-premature infant pairs and mother-full-term infant pairs. Interviews and questionnaires assessing life stress, social support (available support and satisfaction with support), and maternal attitudes (general life satisfaction and satisfaction with parenting) were completed at 1, 8, and 18 months. The two groups of mothers did not differ significantly in marital status, type of delivery, or in infant's gender or birth order. Maternal age ranged from 16 to 38 years with a mean of 24.6 years. Of the 105 infants, 52 were premature and 53 were full term; fifty-two percent of the infants were first-born. Because there were no significant group differences on stress, social support or maternal attitudes at any of the measurement periods, data from both groups were pooled for hierarchical multiple regression additional analyses. Results of regression analyses indicated that intimate and community support and negative life stress (when measured at the same time) have a significant effect on maternal life satisfaction and satisfaction with parenting at 1, 8, and 18 months. Women who perceived more satisfaction with intimate and community support and less negative life stress reported greater satisfaction with parenting and life. For both life satisfaction and parenting satisfaction, intimate support was the strongest predictor variable at each time period. Available support and satisfaction with support were reflected in one total score. Consequently, it cannot be determined if it was available support or satisfaction with support that was related to satisfaction with parenting and satisfaction with life.

The relationship between perception of the childbirth experience and later mothering behaviours was investigated among 3 age groups of first-time mothers (Mercer, 1985c). Using a prospective design, perception of the birth experience and maternal behaviors were measured at 1, 4, 8, and 12 months following birth. Sample size ranged from 294 mothers at 1 month postpartum to 242 mothers at 1 year. Dimensions of maternal behaviour that were assessed included enjoyment of motherhood, competence, and willingness to assume the mother role. Contrary to the author's prediction, no positive relationship was found (regardless of age group) between perception of the birth experience and later maternal behaviours. At various time periods a positive relationship was found between these variables among women in the 15-19 age group and in the 20-29 age group but no relationship was found for the 30-42 year age group. Use of a 14-item scale to measure multiple dimensions of maternal behaviour may have been a significant methodological limitation in this study with respect to the degree of validity of the tool. Mercer, Hackley, & Bostrom, (1983) using the same data set as Mercer (1985c) examined relationships among a number of psychosocial and perinatal variables and perception of the childbirth experience. Hypotheses regarding support, type of delivery, and type of analgesia during childbirth and perception of the birth experience were supported. In addition, many low to moderate relationships (15) were found between other independent variables and perception of the birth experience.

Relationships among network structure, perceived support, and postpartum outcomes were investigated in 50 couples who were married, predominantly Caucasian and expecting a first child (Cronenwett, 1985a). Network structure and four support

variables were measured in the prenatal period and 7 dimensions of postpartum adaptation were measured between 4 and 6 weeks postpartum using the Lederman et al. (1981) Postpartum Self-Evaluation Questionnaire. Multiple regression analyses were used to determine the best predictor(s) of various dimensions of postpartum adjustment. For mothers, perceived emotional support was the best predictor of satisfaction with motherhood and infant care. As noted by the author, the study had two limitations. First, generalizability of findings is limited due the homogenous characteristics of the sample. Second, additional validity testing of the support instrument is required.

Relationships among social support factors, infant temperament, mother-infant attachment and indices of maternal well-being were examined in 43 primiparous and multiparous mothers at 13 months postpartum (Levitt, Weber, & Clark, 1986). A significant positive relationship was found between amount of emotional support received from the husband and the woman's satisfaction with the husband-wife relationship. Similarly, amount of emotional support received from the woman's mother was significantly associated with satisfaction with the daughter-mother relationship. Authors found that measures of well-being (affect balance and life satisfaction) were mostly associated with support from the partner. Results of hierarchical regression analyses revealed that spousal support and infant difficulty were the two most significant predictors of life satisfaction. Whereas, spousal support emerged as the only significant predictor for positive affect and infant difficulty emerged as the only significant predictor of negative affect. A weakness of this study was the use of a retrospective design.

Wandersman, Wandersman, & Krahn (1980) explored relationships between four kinds of social support on three dimensions of postpartum adjustment including well-being. Mothers (n= 23) and fathers (n = 18) attending a parenting support group and a comparison group (n = 24 couples) completed questionnaires between 3 and 9 months postpartum. For the total sample, authors found significant positive relationships between marital cohesion scores (measured at approximately 11 weeks postpartum) and three subscales of well-being (measured at 9 months postpartum). For women, marital cohesion was positively associated with fullness of life, energy, and relaxation while network support was associated with feelings of relaxation.

In summary, role satisfaction and life satisfaction are two indicators of successful transition to motherhood that are frequently investigated. To a lesser degree, researchers have examined satisfaction with the labour and delivery experience as an outcome of transition. The influence of various demographic and psychosocial factors on these outcomes have been explored. Several conceptual issues such as different theoretical definitions for similar concepts and limited use of theoretical or conceptual frameworks to guide research are evident in transition to motherhood studies. Methodological problems include use of designs that are retrospective rather than prospective and measurement of variables with unstandardized instruments. Despite these concerns, there is evidence to suggest social support, a mother's emotional state and perhaps other variables that have not been studied may be important factors influencing role satisfaction and life satisfaction in transition to motherhood.

Role Mastery

In the conceptual framework used for this study, role mastery was considered another indicator of healthy transition. Role mastery may be manifested by skilled role performance and ease with new behaviors of the role. Competence and self-confidence are regarded as major elements of role mastery in individual transitions. Many nursing studies have used maternal role attainment as a theoretical basis for studying factors that influence maternal role attainment. Since an end point of maternal role attainment is competence and comfort in the role, these studies are, in fact, studying elements of role mastery. The concepts of competence and self-confidence have been explored less frequently in transition to motherhood studies.

Pregnancy and postpartum factors including mood state, prior infant care experience, physical feelings, social supports and baby's state have been investigated as possible predictors of 3 maternal attitudes (Fleming et al., 1988). Maternal attitudes assessed were: feelings of adequacy as a mother, feelings about child care or caretaking (results of which are reported elsewhere in this paper) and feelings of attachment to the baby. Feelings about adequacy as a mother included responses such as a lot to learn, never feel comfortable, and certain will be a good mother. During this longitudinal study, between 62 and 68 participants completed questionnaires at each of the time periods (during the ninth month of pregnancy, at the end of 1, and 3 months postpartum). Data analyses included hierarchical regression and stepwise regression analyses. Pregnancy and postpartum mood explained 38 % of the variance for feelings of adequacy as a mother at 1 month postpartum. Only postpartum mood was retained as a significant predictor of

feelings of adequacy as a mother after backwards stepwise analysis. Other variables were found to predict feelings of adequacy as a mother. At 1 month postpartum, prior experience with children predicted feelings of adequacy as a mother, explaining 12% of the variance. However, when pregnancy mood was included as a predictor variable in the analyses, prior experience with children was removed as a predictor of feelings of adequacy as a mother at 1 month postpartum. Feeling tired, as an indicator of physical condition, was the only significant postpartum predictor of feelings of adequacy as a mother at 1 month postpartum accounting for 15% of the variance. Mothers who reported feeling less adequate also reported feeling more fatigued. Strengths of this study were use of a prospective design and reported evidence of validity and reliability of study instruments. However, a small, convenience sample was a notable limitation given the large number of study variables. Furthermore, generalization of results to the general population is restricted due to homogeneity of sample characteristics.

Bullock and Pridham (1988) investigated sources of maternal confidence and uncertainty, as well as the relationship between sources of confidence/uncertainty and perceived competence in problem-solving issues of infant care. The majority of mothers in the study were Caucasian, married, and had similar education and economic backgrounds. All mothers ($n = 49$) had given birth to a healthy newborn. Information on parity of mothers was not provided and parity was not included as a criterion for inclusion in the study. Data were collected at 30 days and 90 days postpartum. Perception of competence was measured with an investigator developed instrument (9 items) and sources of confidence and uncertainty were each assessed with one open-ended question. The

sources of confidence/uncertainty were the same at 30 and 90 days. These sources included: three properties of infants (mood, response to care and physical well-being) and one property of mothers (success in dealing with concerns or managing care). The four most frequently reported sources of confidence were the infant's mood, response to care, physical well-being and the mother's success in dealing with concerns or managing care. Sources of uncertainty were attributed to two properties of mothers (not knowing what was happening or what to do, lack of success in dealing with a concern or managing care) and three properties of infants (mood, physical well-being, and response to care). At 30 days, three significant positive relationships were found between sources of confidence or uncertainty and competence. Mothers who perceived themselves to be more competent also reported infant's response to care as a source of confidence or uncertainty; and also reported growth and development achievements as a source of confidence. Authors suggested that mothers who perceived themselves as more competent may have been more sensitive to their infant's responses or conversely, mothers who were more sensitive to their infant's responses may have developed greater competence. Limitations of this study include homogeneity of sample characteristics, small sample size, and convenience sampling. Findings can only be generalized to populations with similar characteristics.

Relationships among self-confidence (perceived role attainment), maternal sensitivity and responsiveness to their infants (demonstrated role attainment), maternal identity, and sociodemographic variables were investigated by Walker, Crain, and Thompson (1986b). The sample was comprised of predominantly white, middle-class, low-risk primiparous (n=64) and multiparous (n=60) women. Self-confidence in baby care

and maternal identity were measured with questionnaires completed during the mother's postpartum stay in hospital. Demonstrated role attainment was assessed by rating behaviors that were videotaped in mothers' homes between 4 and 6 weeks postpartum. Few relationships were found between self-confidence in baby care and sensitivity and responsiveness to infants. Among primiparas, self-confidence in every day baby care (perceived role attainment) was moderately associated with sensitivity and responsiveness to infants (demonstrated role attainment). Results indicated that for primiparas self-confidence measured during the home visit was moderately associated with sensitive mothering behaviours during feeding. Authors also found, for primiparas, significant relationships between demonstrated role attainment and age, education, and socioeconomic class.

Rutledge and Pridham (1987) explored relationships between perception of competence for infant feeding and demographic factors, maternal attributes and maternal experiences. Of the four hypotheses tested, one was supported and another was partially supported. As predicted, mothers who had more in-hospital preparation also had higher perceptions of competence in infant feeding and care. The predicted relationship between rest and competence was supported but only in mothers who were exclusively breastfeeding. Breastfeeding mothers who reported having adequate rest also reported greater perceptions of competence in infant feeding and care. Despite an adequate sample size (140), homogeneity of demographic characteristics restricts generalization of results.

Cronenwett (1985a) examined relationships among network structure, social support and psychological responses to parenthood in 50 couples who were expecting

their first child. Psychological responses to parenthood included confidence in ability to cope with parenthood as measured by the Postpartum Self-Evaluation Questionnaire (PSQ) (Lederman et al., 1981). Physician referral or recruitment from childbirth education classes was used to acquire men and women volunteers for the study. The sample was primarily white, married couples who were relatively well-educated. An investigator developed tool measured support variables during the third trimester of pregnancy and the PSQ measured dimensions of postpartum adjustment between 4 and 6 weeks postpartum. Using regression analysis, a cluster of variables was identified which predicted confidence in ability to cope with parenthood in both men and women. For women, increased access to emotional support, less perceived access to instrumental support and less overlap between their own and their husband's network were associated with greater confidence in coping with tasks of parenthood.

Reece (1995) explored relationships among maternal stress, perceptions of the parenting experience and seven dimensions of postpartum adaptation in 82 first-time mothers over 35 years old. The independent variable, perceptions of early parenthood was measured by the WPL-R questionnaire (Pridham & Chang, 1989) at 1 and 3 months postpartum. The dependent variables, stress and postpartum adaptation were assessed one year after delivery. The Postpartum Self-Evaluation Questionnaire (Lederman et al., 1981) was used to measure the seven dimensions of postpartum adaptation (including confidence in ability to cope with tasks of motherhood). Significant relationships were found between self-evaluation in parenting at 1 and 3 months postpartum and confidence in ability to cope with tasks of motherhood at 1 year postpartum. Mothers who reported higher self-

evaluations in parenting also reported more confidence in ability to cope with tasks of motherhood. One significant relationship was found between perception of the parenting experience and stress. Mothers who perceived greater life change at 1 month postpartum also had higher levels of stress at 1 year. Generalization of findings is restricted to older primiparas with similar demographic characteristics. A strength of this study was the use of instruments with reported validity and reliability.

Fromen and Owen (1989) developed the Infant Care Survey (ICS), an instrument to measure self-efficacy expectations for infant care. The concept of self-efficacy is closely related to the concept of confidence. Validity and reliability testing of the ICS was done by administering the tool to 142 subjects. Validity analyses involved principal components analysis and results revealed that the ICS measured one dominant construct, self-efficacy in infant care. In addition, the highest mean ratings were obtained for those infant care behaviours that are ordinarily performed or observed. Authors reported obtaining good reliability data. Results from step-wise regression analyses showed that gender (i.e. being female) was the best predictor of efficacy regarding infant care. Age and parity (as indicators of past experience with children), in addition to gender, were part of the best predictor set for self-efficacy in infant care. Being females, increasing age and having children contributed to increased self-efficacy regarding infant care behaviors.

Pridham et al. (1991) tested hypotheses concerning relationships between parity, age, education and infant-and self-care capability in a sample of 108 multiparous and primiparous women. Participants were mostly married, Caucasian, well-educated women. Care-capability was assessed with an instrument developed by the investigator and

included items about how well a mother felt prepared for self-care and infant-care. Mothers who volunteered for the study completed a questionnaire 2 days following vaginal birth. Authors found that parity and education contributed to the variance for capability for self-care and infant-care. Women who reported a lower appraisal of care capability were first-time mothers and those who had higher levels of education. At 2 days postpartum, factors such as rest and pain medication may have affected a mother's perception of her abilities. These possible confounding variables were not controlled statistically or by the design of the study. Therefore, results are interpreted cautiously.

In a longitudinal study, predictors of maternal role competence were investigated in a group of high-risk women and a group of low-risk women (Mercer & Ferketich, 1994). Questionnaires were completed during the postpartum hospital stay, at 1, 4 & 8 months postpartum. Predictor variables studied were: self-esteem, sense of mastery (control), depression, state anxiety, stress, feelings about the labour and delivery experience, past experience with infant care, maternal health status, education level, postpartal complications, social support, partner relationship, relationship with parents, family functioning, fetal attachment, infant health status. Demographic characteristics were similar for women in the high-risk group ($n = 121$) and the low-risk group ($n = 182$). Participants in both groups were, on the average, 28 years old, predominantly Caucasian, married and well-educated. Slightly more than one-half of mothers in each group were expecting a first child. By 8 months postpartum, sample sizes had declined to 80 for the high-risk group and 133 for the low-risk group. Results for low-risk women (LRW) are pertinent to the study planned, therefore, only these results are discussed. For LRW at one

month postpartum, mastery (i.e. sense of control) was the strongest predictor of maternal competence, accounting for 20% of the variance . In addition, depression contributed an additional 6% to the variance for maternal competence at 1 month postpartum for LRW. At 4 months postpartum, mastery, self-esteem, and state anxiety were the best predictors of maternal competence. Similarly, mastery and self-esteem were the best predictors at 8 months postpartum. Many predictor variables failed to explain maternal competence; and, those variables that were predictors explained less than half of the variance for maternal competence.

In brief, a number of studies have explored factors predictive of maternal role competence or confidence (or specific types of competencies or confidences within the role). A major problem with these studies is that the theoretical basis of concepts is not consistently provided and operational definition of competence and confidence were usually different for each study. Another point of concern was that studies seldom examined the same factors as predictor variables (with the exception of common demographic factors). Since outcome variables and predictor variables were dissimilar for most studies, results cannot be easily compared. Replication of studies may enhance support for relationships that have been reported. Despite the shortcomings of studies reviewed, there is support in the literature that various psychosocial factors such as mood, sense of control, and self-esteem influence attainment of mastery in the transition to motherhood.

Well-Being of Relationships

Schumacher and Meleis (1994) have suggested that transitions may stress family relationships but when a transition reaches a satisfactory conclusion, family relationships either return to their previous state or improve. Various dimensions of relationship well-being have been studied as outcomes of transition to motherhood. Satisfaction with support has been researched extensively in studies with a focus on transition to motherhood. Other aspects of the marital relationship frequently examined have included changes in the relationship, quality of relationship, closeness in relationship, and relationship satisfaction.

Relationships between social support factors and indices of postpartum adjustment were studied in 23 primiparous Canadian women who were married, economically advantaged, and reasonably well-educated (Tietjen & Bradley, 1985). Indicators of adjustment including depression, anxiety, stress and marital adjustment and various aspects of social support were assessed at 35 weeks of pregnancy and again at 3 months postpartum. Results indicated several significant relationships between postpartum support variables and postpartum adjustment variables. Women who reported feeling less depressed also reported having more support from their husband and feeling more satisfied with the support received. As well, satisfaction with husband's support was related to marital adjustment. Lastly, satisfaction with network support was positively associated with level of stress. Support variables measured during pregnancy including amount of support from network members, satisfaction with support, number of network members and frequency of contact with members were not related to postpartum anxiety or

depression. However, satisfaction with support from the husband during pregnancy was associated with postpartum marital adjustment and network supportiveness and satisfaction were related to level of postpartum stress. A small sample size and use of an unstandardized tool to measure social support are limitations of this study. As the sample was relatively homogeneous with respect to demographic characteristics, the results cannot be generalized to different populations.

Wallace and Gotlib (1990) investigated changes in marital adjustment and predictors of marital adjustment in 97 couples who were married, well-educated, and expecting their first child. Using questionnaires and scales with demonstrated reliability and validity, parental bonding, marital adjustment, parenting stress and infant temperament were assessed during the fourth month of pregnancy and at 1 and 6 months postpartum. Results showed significant increases in marital adjustment from pregnancy to 1 month postpartum for both partners. Furthermore, a significant decrease was noted from 1 month postpartum to 6 months postpartum. Regression analyses were conducted to determine predictors of marital adjustment. None of the demographic variables including age, education, and number of years married predicted marital adjustment for women or for men. For women, prenatal marital adjustment was the best single predictor of postpartum marital adjustment at 6 months explaining 42% of the variance. Furthermore, for women, perception of competence as a parent was the only significant predictor of marital adjustment when prenatal adjustment was controlled, accounting for an additional 11% of the variance for marital adjustment at 6 months.

Majewski (1986) conducted a retrospective correlational study to examine conflicts, satisfactions, and attitudes during transition to the maternal role in 3 groups of women. Questionnaire and interview data were obtained from 86 participants who were between 5 and 18 months postpartum. As hypothesized, a significant relationship was found between marital satisfaction and ease in making the transition to the maternal role for all mothers regardless of their employment status. Mothers who reported more positive attitudes towards their marriage had greater ease in making the transition. A notable weakness of this study was the use of a retrospective design.

Weingarten et al. (1990) investigated the relationship between mothers' perception of their infants and perception of their relationship with their husbands. Study participants were Caucasian, married, well-educated primiparous and multiparous women who had delivered premature ($n = 28$) or full-term ($n = 37$) infants. Approximately one-half of the mothers were primiparas. Questionnaire data were obtained at 2-4 days postpartum and again at 6-8 weeks. Contrary to predictions, no association was found between perception of the premature or term infant and perception of the quality of relationship with husband. Authors suggested that a lack of significant findings may have been due to testing for linear relationships and that data from both instruments perhaps did not correlate in a linear fashion. A small sample size may also have contributed to no significant findings.

Cronenwett (1985b) investigated alterations in social relationships and network structures in men and women after the birth of a first child. During the third trimester of pregnancy and at 5 and 8 months postpartum, social support (emotional, instrumental, informational, and appraisal) was assessed using an investigator developed instrument. At

5 months postpartum, most women in this sample reported that the need for support had increased, they were satisfied with the support they had received, they desired more emotional and instrumental support and partner support was more positive than before pregnancy. A small sample size ($n = 46$ at 5 months) was a limitation of this study. Generalizability of results is limited due to homogeneity of sample characteristics, however, changes in social support that were described supported others' findings.

In a short-term longitudinal study, changes in marital satisfaction and predictors of postbirth marital satisfaction were examined in 96 primiparous women and their partners (Tomlinson, 1987). Predictor variables of marital satisfaction included perceived father involvement, sex role attitudes, marital equity, infant temperament and marital satisfaction. Most couples were Caucasian, married, and reasonably well-educated. Questionnaire data were obtained from volunteers in the last trimester of pregnancy and again at 12 weeks postpartum. Results indicated a significant decline in each of the dimensions of marital satisfaction from pregnancy to 3 months postpartum for both partners. Hierarchical regression analyses were conducted to determine the contribution of some variables to marital satisfaction. For mothers, greater marital satisfaction was associated with more nontraditional sex role attitudes and more involvement of father in child care. For both men and women, the best predictor of postbirth marital satisfaction was prebirth marital satisfaction contributing 37% to the variance for men and 48% to the variance for women. Furthermore, an additional 7% of the variance for postbirth marital satisfaction for women was explained by sex role attitude, postbirth equity and infant temperament. Women who reported greater marital satisfaction also reported more nontraditional sex role attitudes,

more involvement of the father in child care, less marital inequity and a less temperamentally difficult infant.

Levy-Shiff (1994) studied changes in marital adjustment as well as explored predictors of marital adjustment in 102 Israeli couples expecting a first child. Many pregnancy and postpartum predictor variables were examined including: ethnic origin, personality traits, perception of parenthood, social support, infant and parental behaviours, and father's participation in care. The sample was relatively heterogeneous with respect to sociodemographic characteristics. Approximately 60% of the men and women were of Western origin and the remaining 40% were of Oriental origin. Questionnaire and interview data were collected from couples at about seven months of pregnancy and again when infants were 8 to 9 months old. Consistent with others' findings, results indicated that both partners experienced a decline in marital adjustment with the decline being more sizable for women. Explanatory variables were categorized into 4 sets and each of these sets were entered in a step-wise fashion into the equation (order of entry was guided by the ecological model used as the framework for the study). Results of hierarchical analyses showed (after controlling for premarital satisfaction) that all 4 sets of explanatory variables jointly explained 37.6% of the variance for postnatal marital change in women. Six of the variables emerged as significant predictors of postnatal marital change in women. These predictor variables were: father's involvement in child care, personality trait of autonomy, personality trait of impulsivity, paternal play and affiliative behaviours, work role centrality, and non-western ethnic origin. Women who reported less decrease in marital

adjustment also reported more participation in child care by the father, higher perceptions of being in control over impulses, being well organized, coping and being self-disciplined.

Ruble et al. (1988) investigated change in marital relationships and congruency of expectations and postpartum experience regarding division of household labour and of child care in first-time mothers. Furthermore, a hypotheses was tested that predicted violated expectations contributed to marital dissatisfaction. Two aspects of marital satisfaction were assessed (closeness and influence of baby). Changes in division of labour and child care and change in marital relationships were assessed in a cross sectional sample of 670 predominately white, educated, middle income women from one major Canadian city and two major American cities. The cross-sectional group was subdivided into 6 groups and participants completed one questionnaire at one data collection point. To test the hypotheses, a longitudinal sample of 48 participants from the Canadian city was assessed during pregnancy and at various times during the postpartum. Results of descriptive analyses indicated that women reported diminished feelings (i.e. closeness) for their husbands in the postpartum period compared to during pregnancy. Secondly, postpartum women reported a less egalitarian division of labour than pregnant women experienced during pregnancy or anticipated following delivery. Regression analysis confirmed that violation of expectations concerning division of labour was a significant predictor of a negative perception of the influence of the baby on the relationship but not a predictor of decreased feelings of closeness with partner.

In a long-term longitudinal study, Belsky and Rovine (1990) examined antecedents of marital change from pregnancy to 3 years postpartum in 128 couples becoming first-

time parents. Discriminant function analysis was used to find predictors of the following three aspects of marital change: love, conflict, and ambivalence. Demographic, personality and marital, infant, and life-event variables were explored as determinants of marital change. For women, significant relationships were found between quality of the marital relationship and age, education, number of years married, income, husband's interpersonal sensitivity and self-esteem. A decline in the marital relationship was related to younger age, less education, less income, fewer years married, lower self-esteem, and decreased interpersonal sensitivity of the husband. Self-selection of participants and relative homogeneity of demographic characteristics limits generalizability of findings.

Fleming et al. (1988), in a longitudinal study, examined the contribution of a number of variables including prior experience with children, physical feelings, mood state and social supports to variations in several postpartum outcomes including feelings about caretaking (enjoyment with child care). Data collection occurred during the ninth month of pregnancy, between 2-4 days postpartum, at the end of 1 month, 3 months, and 16 months postpartum. Between 62 and 68 participants completed at least one questionnaire during the study. Study participants were primiparous, partnered, English-speaking, Canadian women with no known past or current psychiatric or gynecologic histories. Results of multiple regression analysis indicated that better marital relations at 1 month postpartum were related to more positive feelings about caretaking at 1 month postpartum with quality of marital relations accounting for 25% of the variance for feelings about caretaking.

In summary, several factors such as attitudes, help from a partner in child care, and support available from a partner or others has been investigated as possible influencing factors on relationships. Quality of the marital relationship, as an indicator of well-being of relationships, is perhaps the one outcome variable most commonly studied. Generally, quality of the marital relationship prior to birth has been the most consistent factor influencing quality of the relationship following birth. However, studies have shown support for the influence of other selective psychosocial variables on the postbirth partner relationship. Quality of the marital relationship and support received for the maternal role during transition are meaningful conceptualizations of well-being of relationships in the transition to motherhood. Including these variables as outcome indicators in a comprehensive framework guiding the study of transition to motherhood may yield information that is helpful in understanding this transition.

Conclusion and Hypotheses

From this selective review of the literature it is apparent that factors thought to be important in the transition to motherhood have been studied in isolation. Furthermore, individual studies, for the most part, selected only a few outcome variables to study thereby tapping only a few components of this multidimensional transition. Transition to motherhood lacks a clear, comprehensive definition. Several conceptual and methodological issues were identified in studies reviewed. Although similar concepts have been explored in studies, operational definitions of these concepts varied greatly from one study to another; thus making it difficult to find support for relationships between the

same variables in more than one study. In the past, retrospective studies were common. Later studies have used prospective designs thereby strengthening findings. Without a clear theoretical definition for the construct of transition to motherhood, no endpoint of the transition has been defined and data collection continues to be done at various times during pregnancy and the puerperium. Different measurement periods may yield different findings even when the same variables are studied. After a review of these studies and despite their limitations, enough is known about transition to motherhood to warrant a study that concurrently investigates multiple factors thought to influence transition to motherhood and a variety of factors indicative of a successful transition. Schumacher and Meleis' (1994) nursing model of transitions was selected as a conceptual framework for this study as it views motherhood in a developmental context, promotes concurrent study of concepts frequently studied, identifies multiple outcomes for study, and describes linkages between these concepts. This study proposed and tested the following hypotheses:

1. Mothers with a more positive perception of the experience of motherhood will have greater confidence in ability to cope with tasks of motherhood and also more satisfaction with motherhood and infant care.
2. Mothers with more past experience in caring for infants will have more confidence in ability to cope with tasks of motherhood and more satisfaction with motherhood and infant care.

3. Mothers who have done more planning for life with a new baby will have a more positive relationship with their partner, more participation of the father in child care, and more confidence in ability to cope with tasks of motherhood.
4. Mothers who have more support available to them will have more satisfaction with motherhood and infant care, more satisfaction with life situation and circumstances, more confidence in ability to cope with tasks of motherhood, and receive more support for the maternal role from family and friends.
5. Mothers who feel better emotionally will have greater confidence in ability to cope with tasks of motherhood, more satisfaction with motherhood and infant care, and greater satisfaction with life situation and circumstances.
6. Mothers who feel better physically will have more satisfaction with motherhood and infant care.
7. Mothers who have postpartum perceptions for the parenting experience that are more positive (that is, less life change, less preoccupation with infant, or a more positive self-evaluation of parenting) than prenatal expectations will have more confidence in ability to cope with tasks of motherhood and more satisfaction with motherhood and infant care.

CHAPTER III

Methodology

Design

The purpose of this study was to examine the influence of model variables including: meanings, expectations, knowledge and skill, environment, planning, and emotional and physical well-being on transition to motherhood. A literature review of research studies on motherhood supported the importance of these variables on the transition to motherhood. Therefore, a descriptive correlational design was selected to describe relationships among variables. In this longitudinal study, data were collected from first-time mothers once during the third trimester of pregnancy and again during the early postpartum period. Quantitative data collection methods were used. Participants completed a set of questionnaires at each time period.

Setting and Sample Recruitment Procedure

Following ethical and access approval (see Appendixes A & B), potential subjects were contacted through the practices of local obstetricians and prenatal classes at Women's Hospital, Health Sciences Centre, St. Boniface General Hospital and Victoria General Hospital in Winnipeg, Manitoba. At physicians' offices, potential subjects were asked by office staff for permission for a researcher to speak to them about a study on motherhood. Then, women who agreed to be approached met privately with the researcher and were given an invitation to participate in the study (see Appendix C). The researcher attended hospital prenatal classes and presented an invitation to participate to

the entire group (see Appendix D). Women who expressed interest in participating approached the researcher. At all sites, inclusion criteria were reviewed with each woman and every woman was given a written explanation of the study (see Appendix E). The researcher answered any questions prior to seeking a consent to participate in the study. Written consent, containing a full explanation of the study, was obtained from those who volunteered to participate in the study(see Appendix F). A copy of the signed consent was provided to every participant.

Sample

Subjects for this study were recruited from the accessible population, that is, the population of available pregnant women in which the study variables were likely to exist. Inclusion criteria were designated to eliminate or control for possible confounding factors. In delineating inclusion criteria, a fairly homogeneous sample with respect to demographic characteristics was obtained. According to Polit & Hungler (1991), the researcher should strive to obtain the largest sample size possible. In situations where study variables are known to be relatively homogeneous in the study population, smaller sample sizes may be justified. The literature provided evidence that motherhood is generally viewed as a positive experience, that most mothers do make preparations for the new baby and physical well-being is usually present following an uncomplicated vaginal birth. It was assumed that a sample of primigravid women who met the inclusion criteria would be relatively homogeneous for these variables. For this reason, a convenience sample of at least 60 pregnant women (or as many as could be recruited during the 3 month data

collection period) who met the designated criteria constituted the sample. Eligibility for inclusion in the study required that the following criteria be met:

- 1) 18 years of age or over
- 2) primigravida
- 3) more than 34 weeks gestation
- 4) expecting a singleton birth with no known abnormalities
- 5) no other children in the home
- 6) no chronic medical problems or major complications of pregnancy
- 7) able to understand, read, and write English
- 8) live in the City of Winnipeg, within the perimeter highway

Instrumentation

The following set of questionnaires was administered prenatally: Prenatal Demographic Data Form, Questionnaire on Motherhood, Prenatal What Being the Parent of a Baby Will Be Like Questionnaire, and Social Support Questionnaire. Between 4-6 weeks postpartum, participants completed a second set of questionnaires which included: Postpartum Demographic Form, Well-being Index, What Being the Parent of a Baby Is Like Questionnaire, and Postpartum Self-Evaluation Questionnaire.

Pre-testing of questionnaires and visual analog scales was carried out prior to beginning data collection. Three expert nurses in instrument development were asked to review visual analog scales for face validity, accuracy in construction of scales and proposed scoring method. Then, both sets of questionnaires were pre-tested on 5 pregnant

and 5 postpartum women to assure readability and clarity and to validate length of time to complete questionnaire sets. Based on feedback from nurse experts, the three visual analog scales for the prenatal administration were combined into one questionnaire with one set of instructions and examples. Similarly, the two postpartum visual analog scales were combined into one questionnaire. Wording of two questions was altered after receiving feedback from the women who pre-tested the instruments. The stem of the question for meaning of motherhood was made clearer. As well, the question on past experience was changed to ask about the amount of experience d in caring for an infant less than 1 year old; the original question asked about experience in caring for an infant less than 2 years old. Pre-test data was not used as part of the study data.

Meaning of motherhood, level of knowledge and skill, level of planning, and emotional and physical well-being were measured by visual analog scales. These concepts are contained in the conceptual framework and may possibly influence transition to motherhood. However, the primary focus of this study was to determine the influence of expectations and social support on transition. Therefore global measures of these concepts rather than measures of specific factors were deemed sufficient for this study. Simple instruments for measuring these global concepts were not found in the literature. Thus, visual analog scales were constructed to measure these 5 variables.

Authors have indicated that visual analog scales (VAS) are useful for gaining information about a variety of subjective phenomena (Mottola, 1993; Cline, Herman, Shaw, & Morton, 1992; Lee & Kieckhefer, 1989). The VAS is a straight line usually 100 millimeters in length with anchor "stops" at each end. The line may be presented vertically

or horizontally; benefits and limitations of each orientation have been reported (Cline et al., 1992; Gift, 1989; Lee & Kieckhefer, 1989; Mottola, 1993). Unipolar or bipolar scales can be used in the VAS. If unipolar scales are used, one extreme of the phenomena being measured is placed beyond the end of one anchor stop and the other extreme beyond the other anchor stop. For bipolar scales, antonyms measuring the phenomena are used as the anchor phrases by placing one at each end. Bipolar scales are not recommended as two phenomena are contained in the scale and subjects may have difficulty understanding the concepts (Wewers & Lowe, 1990). Unipolar scales were used in the construction of VAS for this study. Subjects indicated their response by placing a mark through the straight line at the point between the two anchor phrases that corresponded to their perception of the phenomena. Scores were determined by measuring the distance from one end of the scale to the respondent's mark.

Originally the VAS was designed to measure one dimension of a phenomena with one visual analog scale. However, the literature contains examples of VAS that have been constructed to measure multiple constructs with multiple items. Measurement issues arise when more than one dimension of a construct is measured with multiple scales (Gift, 1989; Wewers & Lowe, 1990). In this study, one dimension (amount or intensity) of each of the phenomena was measured.

Validity of the VAS has been evaluated and evidence of validity for this measurement technique still remains to be shown. Wewers and Lowe (1990) stated that construct validity of the VAS will continue to be difficult to demonstrate because single item scales cannot undergo factor analysis and objective criteria are difficult to establish

for abstract constructs. Authors reported that validity of the VAS has been documented using the criterion-related approach and correlations between VAS and alternative measures of the construct ranged between .42 and .91. Other reviewers of the VAS have also found evidence of criterion-related validity for the VAS (Gift, 1989; Lee & Kieckhefer, 1989).

Establishing reliability of the VAS appears to be the greatest issue facing the VAS as a measurement device. The strengths (ability to measure a wide range of dynamic subjective phenomena and relatively easy to complete) associated with this method of measurement are detrimental to demonstrating reliability of the tool. Wewers and Lowe (1990) stated that using the test-retest method to assess stability of the instrument is inappropriate because the constructs usually measured are not static. With the single item format of the VAS, internal consistency cannot be determined and used as an indicator of reliability (Wewers & Lowe, 1990).

Despite the many drawbacks of the VAS as a measurement device, it is an appropriate instrument for use in this study. One dimension of the phenomena under investigation was measured. Unipolar scales with extremes of the phenomena were used as anchor phrases. Instructions for completing the VAS were clear and comprehensive with several examples showing subjects how to mark their answers. Analysis of data is described in the results section.

Meaning

The meaning of motherhood was operationally defined as perception of the positiveness or negativeness of the experience of motherhood. Women indicated their perception of the experience of motherhood on a horizontal visual analog scale at the prenatal assessment period (see Appendix G, question #1). The anchors on the scale represented extremes of the experience with the low end of the scale to the left of the horizontally oriented scale. For example, the left end of the scale was labeled "an extremely negative experience," and the right end "an extremely positive experience." Scores were tabulated by measuring the number of millimeters from the negative end of the scale to the subject's mark. Each scale was 100 mm long. A score provided an overall measure of the mother's perception of the positiveness or negativeness of the experience of motherhood. The scale range was 0 to 100 mm. Higher scores indicated a more positive perception of the experience of motherhood.

Expectations

Expectations for motherhood were defined as congruency between future-oriented ideas about the parenting experience and the postpartum perception of the experience. Expectations for 3 dimensions of the parenting experience were assessed including: how much a mother would like her new role, how intense thoughts about the infant would be, and how much life would change after the birth. Pridham and Chang's (1989) revised, "What Being the Parent of a Baby Is Like Questionnaire" (WPL-R) was used to measure how similar or dissimilar a woman's prenatal expectations for motherhood were from her

perceptions of the experience. The WPL-R assessed prenatal expectations and postpartum perception. The WPL-R tapped three aspects of the parenting experience: Evaluation (satisfaction in parenting the infant, how well the mother knows her infant, and the degree to which self-expectations are being met) (11 items); Centrality (how focused the mother is on the infant/infant care and difficulty separating from the infant) (8 items); and, Life Change (changes in personal life and relationships and stressfulness of life) (6 items). The questionnaire was administered prenatally (see Appendix H) and again in the postnatal period (see Appendix I). In order to administer the questionnaire prenatally, verbs of items were changed to the future tense with the author's permission (see Appendix J and personal communication, March 15, 1996).

Respondents rated each of the 25 items on a 9-point graphic rating scale. Completion of the WPL-R took approximately 10 minutes. Scoring was done by computing a mean for each subscale (see Appendix K). Higher means indicated a more positive self-evaluation of parenting, greater life change and greater centrality. To obtain a measure of how congruent expectations were with the perception of reality, the prenatal score was subtracted from the postpartum score (Time 2 - Time 1). The difference between scores yielded a discrepancy score and a larger discrepancy score signified more life change, more preoccupation with the infant and a more positive self-evaluation of parenting than expected. Relationships between expectations and each outcome variable were assessed by using the discrepancy score with scale scores for outcome variables. Occasionally, a participant did not score an item on a subscale and if more than 20% of

subscale items were missing the subscale score was considered missing (Pridham & Chang, 1989).

High levels of internal consistency reliability for the WPL-R have been demonstrated (Pridham & Chang, 1989). Alpha coefficients for subscales were: .87, .90 and .87 for Evaluation; .87, .80, and .88 for Centrality; .77, .81, .81 for Life Change. Test-retest reliabilities have been demonstrated. Intracorrelation scores for the three subscales between 1 week and 1 month were .72, .73, and .72 (Pridham & Chang, 1989) indicating good stability of the instrument over this time period. Construct validity for each of the three constructs of the WPL-R was assessed by factor analysis (Pridham & Chang, 1989). Eigenvalues for each of the three constructs on three administrations of the instrument were 5.10, 6.26, and 5.14 for Evaluation; 4.33, 3.61, and 4.60 for Centrality; 3.45, 3.23, and 4.20 for Life Change. Cumulative percentages of the variance accounted for ranged from 24% to 56% for all three constructs at each of the administrations. Overall, the instrument has a moderate degree of construct validity.

Level of Knowledge/Skill

Level of knowledge/skill was defined as the amount of past experience in caring for an infant less than 1 year of age. Participants marked a horizontal visual analog scale anchored with extremes of the experience (see Appendix G, question # 2). The left side of the scale was labeled "none," and the right end "a great deal." A score for the item was obtained by measuring the number of millimeters from the left end of the scale to the

subject's mark. The scale length was 100 mm. Higher scores indicated more past experience with infant care.

Environment

Environment refers to persons in a woman's social network who are available to provide tangible or intangible help during the early parenting experience. Environment (i.e. social support) was measured by the Norbeck Social Support Questionnaire (NSSQ) (1981), a self-report instrument that measures multiple dimensions of social support (see Appendix L). The 3 variables that can be measured with this tool are: total functional support, total network properties, and total loss (Norbeck et al., 1981). The variable of total loss was not assessed in this study.

Norbeck (1995) recently made several revisions to the NSSQ. The rating scale for questions 1-6 was changed from a 1-5 scale to a 0-4 scale (see Appendix M). In addition, affirmation and affect subscales were combined into one subscale termed emotional support. Six questions measured the functional support variable (emotional support scale and tangible support scale also known as aid); and 2 questions (duration of relationship, and frequency of contacts) plus number of persons listed in network measured network properties.

Norbeck, Lindsey, and Carrieri (1983) tested concurrent validity by administering the NSSQ concurrently with another scale known to measure social support; significant relationships were found between the functional components and most of the network properties on the tools providing evidence of concurrent validity. Continued testing of

construct validity has yielded significant correlations between NSSQ subscales and two similar constructs (need for inclusion and need for affection); correlation coefficients were .24 for total functional variable and inclusion variable as well as for total functional variable and affection variable (Norbeck et al., 1983). In addition, correlation coefficient for total network variable and inclusion variable was .19. The one week test-retest reliability for functional items and network property items was high (range: .85-.92). Overall, internal consistency was high for functional items (range .89-.97) and network property items (range : .88-.97). Author's permission was obtained to use the NSSQ in this study (see Appendix N).

The questionnaire was completed in the following manner. Participants listed all significant persons in their social network; then, participants rated each question for every person listed. Scores for questions 1-8 were obtained by adding ratings for each question. Total functional support variable was determined by summing subscales scores for emotional support (questions 1-4) and for aid (question 5 & 6). A total network variable score was derived by adding the number of members listed (range 0- 24, however, participants can list more than this number if they wish to) and scores for duration and frequency subscales. As suggested by Norbeck (1995) missing data was handled in the following way. When a participant failed to rate an entire question, the variable was not calculated. This method of handling missing data resulted in some cases being eliminated in specific analysis. Higher scores indicated more functional support available to the participant. Time required to complete this questionnaire was approximately 10 minutes.

Level of Planning

Level of planning was defined as the amount of planning done during pregnancy to get ready for life with a baby. Women indicated the amount of planning done by herself and her partner during pregnancy by marking a 100 mm horizontal visual analog scale (see Appendix G, question # 3). The left end of the line was labeled "none," and the right end of the line was labeled "a great deal." Scores provided an overall measure of the amount of planning done to meet anticipated needs in the early parenting period. A higher score indicated more planning done.

Emotional and Physical Well-Being

Emotional well-being referred to perception regarding goodness of emotional state. To provide a measure of emotional state, mothers were asked to slash a 100 mm horizontal visual analog scale (see Appendix O, question # 1) at a point that best matched how they felt emotionally. The left anchor read, "extremely poor," and the right anchor read "extremely good." Scoring was done by measuring from the left end of the scale to the subject's mark. Scores on the scale ranged from 0-100 with a higher score indicating greater emotional well-being.

Physical well-being was defined as perception regarding goodness of physical condition. Mothers indicated their physical condition by marking a 100 mm visual analog scale (see Appendix O, question # 2). Extremes of physical condition anchored the scale. The left side of the horizontally oriented line was labeled "extremely poor," and the right

end "extremely good." The scale provided scores ranging from 0-100. Higher scores indicated greater physical well-being.

Indicators of Healthy Transition

Indicators of healthy transition included a sense of subjective well-being, role mastery, and well-being of relationships. Indicators of healthy transition to motherhood were measured by Lederman et al. (1981) Postpartum Self-Evaluation Questionnaire (PSQ), a tool designed to measure dimensions of maternal adaptation to motherhood (see Appendix P). This 82 item questionnaire is comprised of seven subscales that assess seven dimensions of maternal adaptation. The subscales measure a mother's perception of (a) the quality of relationship with partner (12 items); (b) father's participation in child care (11 items); (c) gratification with labor and delivery experience (10 items); (d) satisfaction with life situation and circumstances (10 items); (e) confidence in ability to cope with tasks of motherhood (14 items); (f) satisfaction with motherhood and infant care (13 items); (g) social support from family and friends (12 items).

One or more subscales were used to measure each of the indicators of healthy transition (subjective well-being, role mastery, and well-being of relationships). As per the author's instructions, subscales cannot be added to give an overall measure of healthy transition. Subjective well-being was measured by 3 subscales: (1) satisfaction with life situation and circumstances; (2) satisfaction with motherhood and infant care; and (3) gratification with labor and delivery experience. Lederman et al. (1981) reported reliabilities for the PSQ. Internal consistency for each of these scales as measured by

Cronbach's alpha is .77 at 3 days and .73 at 6 weeks; .62 at 3 days and .78 at 6 weeks; and .80 at 3 days and .87 at 6 weeks respectively. Role mastery was assessed using the ability to cope with tasks of motherhood subscale. Cronbach's alpha for this scale is .80 at 3 days and .74 at 6 weeks. Three subscales provided measures of well-being of relationships: (1) quality of relationship with partner (with reliability of .82 at 3 days and .90 at 6 weeks); (2) father's participation in child care (with reliability of .76 at 3 days and .87 at 6 weeks); (3) social support from friends and family (with reliability of .76 at 3 days and .84 at 6 weeks). Correlations of the repeated measures at 3 days and 6 weeks show good stability of the instrument with moderate to high relationships (.44-.77) for all scales (Lederman et al., 1981).

Construct and concurrent validity estimates are not reported. However, the items were derived from interviews with postpartum women; then, reviewed and revised by nurse experts (Weingarten et al., 1990). The PSQ has been utilized in several other studies of maternal adaptation (Reece, 1995; Halman, Oakley, & Lederman, 1995; Tulman et al., 1990; Weingarten et al., 1990). Reece (1992) used the confidence scale of the PSQ to establish predictive validity of the Parent Expectations Survey, an instrument developed to measure perceived self-efficacy.

Each question is rated on a 4-point Likert-type scale (1= not at all; 4= very much so). Scores were summed for each subscale. Some items scores were reversed (see Appendix Q). Information on handling missing data was not obtained. When a question was not answered (an infrequent occurrence) a subscale score for that individual was not created. The lower the score the more positive a mother's evaluation of that dimension.

Average time required to complete the questionnaire was 20 minutes. Permission was granted to use this instrument (see Appendix R).

Procedure for Data Collection

The first set of questionnaires was completed during the prenatal period at the recruitment site, or alternate arrangements were made with participants to complete it at a time and place convenient to them. This set of questionnaires contained the following: Prenatal Demographic Data Form, Questionnaire on Motherhood, Prenatal What Being the Parent of a Baby Will Be Like Questionnaire, and Social Support Questionnaire.

Data were collected at two points in time, when subjects were more than 34 weeks pregnant and then between 4-6 weeks following delivery. The literature provided some direction as to the best time to study transition to motherhood. Motherhood has been studied from 2-3 days to 12-18 months postpartum. According to Pridham and Chang (1992), the best time period to study transition to motherhood is at a time that is consistent with the developmental phase. Furthermore, these authors suggested that postpartum adjustment peaks at one month postpartum. Grace (1993) administered Pridham's What Being the Parent of a New Baby is Like, revised questionnaire at several points in time including: 4-6 weeks, 3 , 4 1/2, and 6 months postpartum. Results indicated that time accounted for very little of the explained variance. Also, Lederman and colleagues (1981) used the Lederman Postpartum Self-Evaluation Questionnaire and obtained scores on repeated measures that indicated moderate to high correlations between scale scores at 3 days and at 6 weeks postpartum. For these reasons, 4-6 weeks

postpartum was selected as the time period in this study to measure indicators of healthy transition.

Subjects were contacted by telephone by the researcher 2 weeks after their due date (see Appendix S). Arrangements were made with each participant to complete the second set of questionnaires at a time and place convenient to the mother. Between 4-6 weeks postpartum, participants completed the second set of questionnaires including: Postpartum Demographic Data Form, Well-being Index , What Being the Parent of a Baby Is Like Questionnaire, and Postpartum Self-Evaluation Questionnaire.

Determination of Rigor in the Study

Internal validity of the study can be strengthened by taking steps to control for extraneous variables which confound relationships between variables under investigation. (Polit & Hungler, 1991). Consistent information throughout the study was provided to all subjects. Efforts were made to ensure that all participants received the same information about the study. A written explanation of the study was provided to all potential subjects during the invitation to participate.

Non-experimental designs cannot rely on randomization to control for individual extraneous variables. It is recognized that samples relying on self-selection are prone to sampling bias. Furthermore, transition to motherhood may possibly be influenced by variables not included in this study. A prenatal demographic data form (see Appendix T) collected information on potentially confounding variables including family income, age, education level, and number of years in relationship. Sample inclusion criteria, such as no

other children in the home and expecting a singleton birth with no known anomalies, facilitated homogeneity of the sample with respect to extraneous variables that could confound results.

Additional demographic data (see Appendix U) was collected at the postpartum data collection period to identify any potentially confounding variables after delivery. Information on type of delivery, neonatal or obstetrical complications, or problems with infant feedings was asked after delivery.

One item instruments were developed to give a global measure for four of the six independent variables as no scales were found. Use of one-item visual analog scales that have not been tested may be a limitation of this study. However, more serious problems with regard to construct and content validity may arise if multiple items scales were developed that have not been subjected to tool development and testing techniques.

Protection of the Rights of Subjects

The study proposal was submitted to the Ethical Review Committee, Faculty of Nursing, University of Manitoba. Letters requesting access to potential subjects were sent to St. Boniface General Hospital, Women's Hospital at the Health Sciences Centre, Victoria General Hospital and to the offices of various practicing obstetricians. The study commenced once ethical approval and access had been granted.

Potential subjects received a full written explanation of the study including their rights and the responsibilities of the researcher. Written informed consent was obtained

from each participant prior to data collection. The researcher respected each woman's right to refuse to participate or to withdraw from the study at any time.

It was anticipated that subjects would not experience any harmful effects by participating in this study. Participants did not receive any direct benefits as a result of their involvement in the study, but benefits to future mothers-to-be may be gained from results of this study. Caregivers with a better understanding of transition to motherhood may develop strategies to help mothers with transition to motherhood.

To protect subjects' right to privacy several measures were undertaken to keep shared information confidential. The identity of participants was known only to the researcher. Demographic data forms, questionnaires, and any other forms containing information about subjects was coded so that the investigator could match prenatal and postpartum data. Participants were asked to create their own code by using the first 3 letters of their mother's maiden name and their own day and month of birth. Completed consent forms were accessible only to the investigator. Coded questionnaire forms and demographic forms were available, as necessary, to the thesis advisor. Raw data has been (and will be) kept in a secured cabinet for 7-10 years as per the recommendation of the Medical Research Council of Canada, then destroyed. Only group information has been (or will be) used in written reports.

CHAPTER IV

Results

Introduction

The purpose of this study was to assess what relationships existed between transition conditions and degree of healthy transition to motherhood and secondly, to determine which, if any, transition condition was the strongest predictor of healthier transition to motherhood. First, a description of the sample is presented. Next, relationships between transition conditions and indicators of healthy transition are reported. Then, models predicting healthier transition to motherhood are offered. Finally, results of a secondary analysis are presented. Tables are included within the appropriate text or as appendices to illustrate results. A schema summarizing predictors of healthier transition to motherhood is offered in Figure 3 (see page 123).

Data were scored, coded, and entered into the SPSS PC for Windows '95 version statistical software program for analysis. The researcher consulted with a statistician from the Manitoba Nursing Research Institute regarding data analysis which continued throughout the study. Correlation analyses were conducted using Pearson's r correlation coefficients to measure and describe linear relationships between transition conditions (independent variables) and indicators of healthy transition (dependent variables). Predictive analysis used multiple linear regression analysis and step-wise regression analysis to identify predictors of healthier transition.

Studies on transition to motherhood often examine relationships between demographic characteristics and outcome variables. As a secondary analysis approach,

relationships between select demographic characteristics and indicators of healthy transition were explored. Age, years in the relationship, years of education after high school, family income and postpartum length of stay were included in the secondary analysis. The secondary analysis identified relationships among transition conditions (independent variables) and relationships among the seven indicators of healthy transition (scales of the Postpartum Self-Evaluation Questionnaire).

Description of the Sample

Sixty-four participants completed the first set of questionnaires at 36 weeks gestation. Three participants were lost to follow-up by the second collection period at 4-6 weeks postpartum. Sixty-one participants completed the questionnaire sets at each of the time periods. Analysis was based on a sample size of 61 participants. The mean age of participants was 28.9 years (range 20-39 years). On the average, participants had been in the relationship with their partner for 5.9 years (range 1-14 years). Seventy-five per cent of participants had completed some education after high school. The sample mean for years of education after high school was 2.8 years. The majority of participants were married (83.6%) and Caucasian (91.8%). Family income was reported by 59 of the participants with 2 women citing confidentiality as the reason for no response. The level of income for the study sample was high with 37% of those responding reporting a family income of over \$60,000 before taxes. Complete demographic data collected at the prenatal assessment period is reported in Table 1.

At the 4-6 week postpartum collection period, additional demographic data pertinent to the labour and delivery and postpartum experience was collected. A summary of this demographic data is detailed in Table 2. Women had delivered at either 1 of 2 large urban teaching hospitals or at a moderate sized suburban community hospital. The majority of women in the sample (70.5%) had a normal vaginal delivery. Mean length of postpartum stay was 70.5 hours after removing 1 outlier who had a length of stay of 312 hours. The majority of mothers chose to breast feed their infants with 75% of mothers reporting this method of feeding exclusively between 4 and 6 weeks postpartum.

Approximately 25-35% of women reported problems for themselves or their infants at delivery or before discharge. A summary of problems reported by mothers is provided. Problems at delivery for mothers which were cited included: cephalo-pelvic disproportion (n = 6), induction of labour (n = 5), use of forceps/vacuum (n = 4), perineal tear (n= 3), and emergency cesarean section (n= 2). In addition, a number of problems were reported once including: fetal distress, ineffective epidural, high blood pressure, and long labour. Problems at delivery for the baby included: meconium (n = 6), bradycardia (n = 5), malpresentation (n = 3), cord around neck (n = 3), tachycardia (n = 2), poor apgar (n = 1), and elevated temperature (n = 1).

Problems for mothers before discharge included: infections (n = 8), breast feeding problems (n = 5), hemorrhage (n = 2), poor pain control (n = 1), constipation (n = 1), high blood pressure (n = 1), fatigue (n = 1), and low hemoglobin (n = 1). Lastly, mothers reported the following problems for their infants before discharge: breast feeding difficulties (n = 6), respiratory problems (n = 5), jaundice (n = 4), and fever (n = 2). In

addition, several problems were reported once including: low blood sugar, excessive weight loss, and elevated blood cell count.

Table 1

Demographic Characteristics of Study Sample Collected Prenatally

Characteristic	Statistic				Number of Responses (%)
	Mean	Median	Range	<u>SD</u>	
Age (years)	28.9	29.0	20 to 39	4.6	61 (100%)
Years in relationship	5.9	5.0	1 to 14	3.4	61 (100%)
Years of education (after high school)	2.8	2.0	0 to 10.5	2.6	61 (100%)
Marital Status					61 (100%)
married					51 (83.6%)
common-in-law					7 (11.5%)
single					3 (4.9%)
Ethnicity					61 (100%)
Caucasian					56 (91.8%)
Oriental					1 (1.6%)
Aboriginal/First Nation					1 (1.6%)
Other					3 (4.9%)
Family Income					59 (96.7%)
less than \$20,000					2 (3.3%)
\$20,000 to \$39,999					22 (36.1%)
\$40,000 to \$59,999					12 (19.7%)
over \$60,000					23 (37.3%)

Table 2

Demographic Characteristics of Study Sample Collected Postnatally

Demographic Characteristic	Mean	Median	Range	Statistic	
				SD	Number of Responses (%)
Length of Postpartum Stay (hours)	74.7	60.0	24 to 312	41.6	59 (96.7%)
Type of Delivery					61 (100%)
vaginal					43 (70.5%)
cesarean					18 (29.5%)
Problems at Delivery (mother)					61 (100%)
yes					21 (34.4%)
no					40 (65.6%)
Problems at Delivery (baby)					61 (100%)
yes					15 (24.6%)
no					46 (75.4%)
Problems before Discharge (mother)					61 (100%)
yes					15 (24.6%)
no					46 (75.4%)
Problems before Discharge (baby)					61 (100%)
yes					16 (26.2%)
no					45 (73.8%)
Type of Infant Feeding					61 (100%)
breast					46 (75.4%)
bottle					6 (9.8%)
breast and bottle					9 (14.8%)

Correlation Analyses

To answer the first research question "What is the relationship between transition conditions and degree of healthy transition to motherhood?" a correlation matrix was constructed. Scales and subscales measuring the independent variables (meanings, level of knowledge/skill, level of planning, environment, and emotional and physical well-being), as well as discrepancy scores measuring congruency between expectations and perceptions of the parenting experience, and scores from the scales measuring the seven dependent variables (i.e. indicators of healthy transition) were placed in the matrix and correlation coefficients between all variables were examined. When multiple correlations are performed the risk of obtaining statistically significant findings simply by accident (i.e. committing a Type I error) is increased (Hassard, 1991). The significance level can be lowered to reduce the risk of this occurring. Although significance levels were not lowered in this study prior to testing for relationships, hypotheses were established and evidence to support these specific hypotheses was sought through testing. Results of hypothesis testing are presented. As well, results of regression analyses revealed that individual predictor variables explained part of the variance for dependent variables at notably low significance levels.

The first research question asked what is the relationship between transition conditions and indicators of healthy transition to motherhood? Research hypotheses predicted relationships between independent variables (transition conditions) and dependent variables (indicators of healthy transition). Product moment correlation coefficients described relationships between each independent variable and each of the 7

dependent variables derived from the Postpartum Self-Evaluation Questionnaire (PSQ). The scoring method used for the PSQ resulted in lower scores reflecting a more positive evaluation of that dimension. For all the independent variables higher scores indicated a more positive assessment of the variable. Therefore, a negative correlation coefficient indicated that a positive evaluation of the independent variable correlated with a positive evaluation of the PSQ variable.

Relationships Between Transition Conditions and Indicators of Healthy Transition

Relationships between meaning and PSQ scales.

As indicated in Table 3, hypothesis 1 was supported. A significant negative correlation, $r(60) = -.40, p \leq .001$, was found between meaning of motherhood and confidence in ability to cope with tasks of motherhood. A more positive perception of the experience of motherhood was associated with greater confidence in ability to cope with tasks of motherhood (lower scores on the PSQ indicated more confidence in ability to cope). Likewise, meaning was negatively related to satisfaction with motherhood and infant care, $r(60) = -.49, p \leq .001$. Mothers who perceived the experience of motherhood more positively also reported more satisfaction with motherhood and infant care (lower scores on PSQ indicated more satisfaction).

Although not predicted, analysis revealed two other relationships of significance between meaning of motherhood and other PSQ scales. Meaning of motherhood was negatively related to quality of relationship with partner, $r(58) = -.26, p \leq .05$; mothers who reported a more positive perception of the experience of motherhood also reported a

more positive relationship with her partner (lower scores on the PSQ indicated a more positive relationship with partner). In addition, meaning of motherhood was negatively related to adequacy of support for the maternal role from family and friends, $r(58) = -.35$, $p \leq .01$; a more positive perception of motherhood was associated with a greater adequacy of support for the role from family and friends (lower scores on the PSQ indicated adequate support for the maternal role).

Table 3

Correlations Between Meaning and PSQ

Transition Condition	<u>PSQ Scales</u>						
	Positive relationship with partner	Partner's help in care	Gratification with labour and delivery	Satisfaction with life situation	Confidence in ability to cope	Satisfaction with motherhood	Support for role
Meaning	-.26*	-.17	-.20	-.20	-.40***	-.49***	-.35**

Note. Due to missing values, the number of cases for correlation coefficients vary between 58-60 cases.

The exact number of cases for each significant correlation coefficient is contained in the text.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Relationships between past experience and PSQ scales.

Hypothesis 2 predicted that mothers with more past experience in caring for infants will have greater confidence in ability to cope with tasks of motherhood and greater satisfaction with motherhood and infant care. Hypothesis 2 was not supported as the amount of past experience a mother had in caring for an infant less than 1 year of age

was not significantly related to either of these PSQ scales (see Table 4). Reasons for non significant findings are offered in the discussion section.

Table 4

Correlations Between Past Experience and PSQ

Transition Condition	<u>PSQ Scales</u>						
	Positive relationship with partner	Partner's help in care	Gratification with labour and delivery	Satisfaction with life situation	Confidence in ability to cope	Satisfaction with motherhood	Support for role
Past experience	-.08	-.09	.18	.07	-.01	-.12	-.07

Note. Due to missing values, the number of cases for correlation coefficients vary between 58-60 cases.

The exact number of cases for each significant correlation coefficient is contained in the text.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Relationships between planning and PSQ scales.

In hypothesis 3, relationships between planning and relationship with partner, participation of father in child care, and confidence in ability to cope with tasks of motherhood were predicted. Hypothesis 3 was partially supported (see Table 5). Planning for life with a new baby was negatively related to perception of the quality of the marital relationship, $r(58) = -.30$, $p \leq .05$. More planning for parenthood was associated with a better relationship with the partner (lower scores on PSQ indicated a more positive relationship with partner). Contrary to prediction, planning was not related to partner's participation in child care or to confidence in ability to cope with tasks of motherhood.

A significant relationship that had not been predicted was found between planning and maternal role satisfaction, $r(60) = -.28, p \leq .05$. More planning for parenthood was related to greater satisfaction with motherhood and infant care (lower scores indicated more satisfaction).

Table 5

Correlations Between Planning and PSQ

Transition Condition	<u>PSQ Scales</u>						
	Positive relationship with partner	Partner's help in care	Gratification with labour and delivery	Satisfaction with life situation	Confidence in ability to cope	Satisfaction with motherhood	Support for role
Planning	-.30*	-.19	.06	-.16	-.13	-.28*	-.21

Note. Due to missing values, the number of cases for correlation coefficients vary between 58-60 cases.

The exact number of cases for each significant correlation coefficient is contained in the text.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Relationships between social support and PSQ scales.

Hypothesis 4 predicted that more support available from all network members combined would be related to increased satisfaction with motherhood, to increased satisfaction with life situation, to greater confidence in ability to cope and to greater support received for the maternal role. Only one significant relationship was found between functional support from all network members and adequacy of support for the maternal role (see Table 6). More functional (emotional and tangible) support from all network members was associated with more adequate support received for the role (lower

scores indicated more adequate support for the maternal role, $r(58) = -.31, p \leq .05$. When a measure of total support was used in the correlation matrix, no other predicted relationships were found. However, when support by specific network groups (partner, family, and friends) was identified and further analyses were conducted using these specific network groups, predicted relationships were found between support from specific groups and scales of the PSQ (see Table 6).

A significant relationship was found between support available from the partner and support received for the maternal role, $r(57) = -.27, p \leq .01$. Mothers who perceived more support available from their partner also reported receiving more support for the maternal role.

Functional support available from family and relatives was significantly related to confidence in ability to cope, $r(60) = -.29, p \leq .05$, to satisfaction with motherhood, $r(60) = -.34, p \leq .01$, and to support received for the maternal role from family and friends, $r(58) = -.46, p \leq .001$. More support available from family and relatives was associated with greater confidence in ability to cope, more satisfaction with motherhood and to more support received for the maternal role (lower scores on the PSQ indicated greater confidence, more satisfaction and more support received for the maternal role).

And lastly, a relationship was found between support available from friends and adequacy of support received for the role, $r(56) = -.27, p \leq .05$; greater support available from friends was associated with more support received for the maternal role.

Two relationships were found that had not been predicted. Support available from the partner had a strong significant negative correlation with the quality of relationship

with the partner, $r(58) = -.54, p \leq .001$. More support available to the mother from her partner was associated with a more positive partner relationship (lower scores indicated a better relationship). Support available from friends was correlated to perception of the quality of relationship with partner, $r(55) = -.28, p \leq .05$; more support available from friends was related to a more positive relationship with partner (lower scores on PSQ indicated a better relationship with partner). Surprisingly, no relationships were found between any transition condition and satisfaction with life situation and circumstances.

Table 6

Correlations Between Social Support and PSQ

Transition Conditions	<u>PSQ Scales</u>						
	Positive relationship with partner	Partner's help in care	Gratification with labour and delivery	Satisfaction with life situation	Confidence in ability to cope	Satisfaction with motherhood	Support for role
Functional support							
1. all members	-.15	-.08	.01	-.14	-.23	-.17	.31*
2. partner	-.54***	-.20	-.01	-.01	-.22	-.18	-.27*
3. family	-.25	-.11	-.00	-.17	-.29*	-.34**	-.46***
4. friends	-.28*	-.17	-.09	-.06	-.06	-.10	-.27*

Note. Due to missing values, the number of cases for correlation coefficients vary between 55-60 cases.

The exact number of cases for each significant correlation coefficient is contained in the text.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Relationships between emotional state and PSQ scales.

Significant relationships were found between emotional state and two of the three indicators of healthy transition as predicted in Hypothesis 5 (see Table 7). Postpartum emotional state was related to satisfaction with motherhood and to confidence in ability to cope with tasks of motherhood, $r(60) = -.46, p < .001$; $r(60) = -.45, p < .001$, respectively. Mothers who felt better emotionally also reported more satisfaction with motherhood and greater confidence in ability to cope with task of motherhood (lower scores on PSQ indicated more satisfaction and greater confidence). No relationship was found between emotional state and satisfaction with life situation and circumstances.

However, results revealed two unexpected relationships. Significant relationships were found between emotional state and gratification with labour and delivery experience, $r(60) = -.37, p \leq .001$; and, between emotional state and adequacy of support received for the maternal role, $r(58) = -.27, p \leq .05$. A better emotional state was associated with greater gratification from the labour and delivery experience and with more support received for the maternal role (lower scores on the PSQ indicated greater gratification and more support received).

Table 7

Correlations Between Emotional State and PSQ

Transition Condition	<u>PSQ Scales</u>						
	Positive relationship with partner	Partner's help in care	Gratification with labour and delivery	Satisfaction with life situation	Confidence in ability to cope	Satisfaction with motherhood	Support for role
Emotional state	-.09	-.24	-.37***	-.12	-.45***	-.46***	-.27*

Note. Due to missing values, the number of cases for correlation coefficients vary between 58-60 cases.

The exact number of cases for each significant correlation coefficient is contained in the text.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Relationships between physical condition and PSQ scales.

Hypothesis 6 was supported (see Table 8). Physical condition correlated significantly to satisfaction with motherhood and infant tasks, $r(60) = -.41, \leq p .001$. Mothers who felt better physically reported more satisfaction with motherhood (lower scores indicated more satisfaction).

While not predicted, physical condition had a significant inverse relationship to gratification with labour and delivery, $r(60) = -.54, p \leq .001$; mothers who felt better physically had a more positive perception of their labour and delivery experience.

Table 8

Correlations Between Physical Condition and PSQ

Transition Condition	<u>PSQ Scales</u>						
	Positive relationship with partner	Partner's help in care	Gratification with labour and delivery	Satisfaction with life situation	Confidence in ability to cope	Satisfaction with motherhood	Support for role
Physical condition	.03	.01	-.54***	-.10	-.25	-.41***	-.10

Note. n= 60 for both significant correlation coefficients.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Relationships between expectations and PSQ scales.

Data support hypothesis 7. Table 9 illustrates the significant relationships found between expectations for different dimensions of the parenting experience and several indicators of healthy transition. Expectations and perceptions for three areas of the parenting experience were assessed by administering Pridham and Chang's What's It Like To Be The Parent Of New Baby questionnaire prenatally and postnatally. The difference between the two scores (i.e. discrepancy score) was used in the correlation matrix for identifying relationships between expectations and scales of the PSQ.

A significant correlation was found between centrality expectations and confidence in ability to cope, $r(61) = .28$, $p \leq .05$; more preoccupation with the infant than anticipated was related to less confidence in ability to cope with tasks of motherhood (higher scores on the PSQ indicated less confidence).

Expectations for life change and confidence in ability to cope with tasks of motherhood had a significant relationship, $r(61) = .25, p \leq .05$. More life change than expected was associated with less confidence in ability to cope (higher scores on the PSQ indicated less confidence).

Finally, relationships were found between self-evaluation expectations and confidence in ability to cope and satisfaction with motherhood. Mothers who had a more positive self-evaluation of parenting than expected also had more confidence in ability to cope with tasks of motherhood, $r(61) = -.43, p \leq .001$ and more satisfaction with motherhood, $r(61) = -.36, p \leq .01$. Although not hypothesized, a significant relationship was found between self-evaluation of parenting and adequacy of support for the maternal role, $r(59) = -.30, p \leq .05$.

Table 9

Correlations Between Expectations and PSO

Transition Condition	<u>PSO Scales</u>						
	Positive relationship with partner	Partner's help in care	Gratification with labour and delivery	Satisfaction with life situation	Confidence in ability to cope	Satisfaction with motherhood	Support for role
Expectations							
1. Centrality	.04	.04	.01	-.08	.28*	-.01	.14
2. Life change	.16	.07	.16	.18	.25*	.20	.08
Self-evaluation of parenting	-.25	-.32**	-.18	-.07	-.43***	-.36**	-.30*

Note. Due to missing values, the number of cases for correlation coefficients vary between 59-61 cases.

The exact number of cases for each significant correlation coefficient is contained in the text.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

In brief, hypotheses 1, 6, and 7 were supported by the data. Meaning of motherhood was associated with confidence in ability to cope with tasks of motherhood and satisfaction with motherhood and infant care as predicted. As well, physical condition was correlated to satisfaction with motherhood and infant care as hypothesized. Lastly, expectations were found to be related to confidence in ability to cope with tasks of motherhood and to satisfaction with motherhood and infant care as postulated. Three of the hypotheses were partially supported. Relationships were found between the transition conditions regarding planning, support, and emotional state and several outcomes measures as posited in hypothesis 3, 4, and 5. Data did not support hypothesis 2 which

had predicted an association between past experience and confidence in ability to cope with tasks of motherhood and satisfaction with motherhood and infant care.

Predictive Analyses

To address the second research question, which, if any, of the transition conditions predicted healthier transition to motherhood, multiple linear regression analyses were conducted. Because seven variables of the Postpartum Self-Evaluation Questionnaire served as indicators of healthy transition to motherhood, seven outcome (dependent) variables were identified. As no hypotheses were made regarding the importance of one variable over another, multiple regression analysis followed by stepwise regression analysis was carried out for each of the seven outcome variables.

The following approach was used in the analysis for each outcome variable. First, a regression analysis was conducted to determine if a combination of all 12 explanatory variables (full model) significantly predicted the outcome variable. Next, a stepwise analysis was carried out to determine which explanatory variable (or set of variables) best predicted that outcome variable. An alpha level of .05 was used for all multiple regression tests. Lastly, each full regression model and stepwise model was checked to determine if data violated the required assumptions of normality of data or of equal variances.

To determine whether or not the assumptions necessary for regression analysis were met, residuals (or what is left after the model is fit) were examined (Norusis, 1993). The equality-of-variance assumption was checked by examining residual scatterplots in which predicted values and residual values were plotted. When residual values dispersed

well and showed no increasing or decreasing patterns then the assumption of equality of variance had not been violated. Violation of the assumption of normality was checked by inspecting normal probability plots. Probability plots with straight lines provided evidence that the normality assumption had not been violated. Data used in models to predict participation of partner in child care and quality of relationship with partner did not satisfy the required assumptions and possible explanations are offered in the discussion section.

Predictors of Gratification with Labour and Delivery Experience

Results from the regression analysis on the full model (with all 12 explanatory variables) confirmed that the full model significantly predicted gratification with the labour and delivery experience [$F(12, 40) = 2.09, p = .04$]. This combination of explanatory variables explained 38% of the variance for this outcome variable. In the stepwise regression analysis, one explanatory variable entered the equation. Physical condition was the only predictor of gratification with labour and delivery and explained 34% of the variance [$F(1, 51) = 26.07, p < .0001$]. A more positive evaluation of postpartum physical condition was associated with greater gratification with labour and delivery experience. Table 10 provides a summary of important statistics.

Table 10

Final Stepwise Regression Predicting Gratification with Labour and Delivery Experience^a

Variable	Multiple <u>R</u>	<u>R</u> square	Standardized Beta	p
Physical condition ^b	.581	.338	-.58	.0000

^aLower scores indicated more gratification with labour and delivery. ^bHigher scores indicated a more positive evaluation of physical condition.

Predictors of Satisfaction with Life Situation and Circumstances

Statistics from the regression analysis verified that the full model (with all 12 explanatory variables) did not predict satisfaction with life situation and circumstances [$F(12, 40) = .79, p = .65$]. However, one explanatory variable emerged from the stepwise analysis as a significant predictor of satisfaction with life situation and circumstances analysis [$F(1, 51) = 4.23, p = .04$]. Planning for life with a new baby explained 8% of the variance for satisfaction with life situation and circumstances. Statistics for this predictor variable are summarized in Table 11.

Table 11

Final Stepwise Regression Predicting Satisfaction with Life Situation and Circumstances^a

Variable	Multiple <u>R</u>	<u>R</u> Square	Standardized Beta	p
Planning ^b	.28	.08	-.28	.04

^aLower scores indicated more satisfaction with life situation and circumstances. ^bHigher scores indicated more planning for life with baby.

Predictors of Confidence in Ability to Cope with Tasks of Motherhood

Together, the 12 explanatory variables accounted for a significant proportion of the variance for confidence in ability to cope with tasks of motherhood [$F(12, 40) = 3.87$, $p = .0006$, $R^2 = 54\%$]. From the stepwise analysis, a set of explanatory variables (meaning of motherhood, expectations for centrality and expectations for self-evaluation of parenting) emerged as significant predictors. At step one, emotional state entered the equation contributing 20% to the variance. Meaning entered the equation at step two and together meaning and emotional state predicted 31% of the variance. Expectations for self-evaluation entered the equation at step three and together with meaning and emotional state accounted for 44% of the variance. At step four, emotional state did not retain a significance level of 0.1 to be retained in the equation and was removed. Then, at step five expectations for centrality entered the equation and together with meaning and expectations for self-evaluation explained 47% of the variance [$F(3, 49) = 14.21$, $p < .0001$]. A more positive perception of the experience of motherhood and a more positive postpartum self-evaluation of parenting than had been anticipated in pregnancy was associated with greater confidence in ability to cope with tasks of motherhood. In contrast, greater preoccupation with the infant than expected related to less confidence in ability to cope with tasks. Statistics obtained from the stepwise regression analyses are presented in Table 12.

Table 12

Final Stepwise Regression Predicting Confidence to Cope with Tasks of Motherhood^a

Variable	Multiple R	R Square	Standardized Beta	p
Meaning ^b			-.43	.0003
Expectation for centrality ^c			.23	.0362
Expectation for self-evaluation ^d		-	-.52	.0000
Final Step-all predictors	.68	.47		

^aLower scores indicated more confidence in ability to cope with tasks. ^bHigher scores indicated a more positive perception of the experience of motherhood. ^cHigher scores indicated more preoccupation with infant than expected. ^dHigher scores indicated a more positive self-evaluation of parenting than expected.

Predictors of Satisfaction with Motherhood and Infant Care

The original data used in the full and stepwise models to predict satisfaction with motherhood and infant care did not meet both assumptions of normality and equality of variance. Results reported are based on logarithmic transformation of data for satisfaction with motherhood and infant care.

The full model (with all 12 predictor variables) significantly predicted satisfaction with motherhood and infant care [($F(12, 40) = 5.75, p < .0001$), accounting for 63% of the variance in satisfaction with motherhood. From the stepwise regression, a set of predictors (meaning of motherhood, emotional state, expectations for centrality and for self-evaluation of parenting) emerged as the best set of predictors for satisfaction with motherhood. At step one, emotional state entered the equation first, explaining 22% of the variance ($R^2 = .22$). Meaning reached the significance level of .05 and entered the equation

at step two; meaning and emotional state jointly predicted 39% of the variance ($R^2 = .39$). At step three, expectations for self-evaluation entered the equation and with meaning and emotional state contributed 49% to the variance. Finally, at step four, expectations for centrality entered the equation and together all four predictors accounted for 54% of the variance [$F(4, 48) = 13.82, p = .0000$]. Greater satisfaction with motherhood (lower scores indicated greater satisfaction) was associated with a more positive perception of the experience of motherhood, a better emotional state, greater preoccupation with the infant than expected and a more positive self-evaluation of parenting than expected. Results of these analyses are summarized in Table 13.

Table 13

Final Stepwise Regression Predicting Satisfaction with Motherhood and Infant Care^a

Variable	Multiple R	R Square	Standardized Beta	p
Meaning ^b			-.54	.0000
Emotional state ^c			-.27	.0241
Expectation for centrality ^d			-.21	.0451
Expectation for self-evaluation of parenting ^e			-.36	.0031
Final step- all predictors	.73	.54		

^aLower scores indicated more satisfaction with motherhood and infant care. ^bHigher scores indicated a more positive perception of the experience of motherhood. ^cHigher scores indicated a better emotional state. ^dHigher scores indicated more preoccupation with infant than expected. ^eHigher scores indicated a more positive self-evaluation of parenting than expected.

Predictors for Adequacy of Support for the Maternal Role from Family and Friends

Again, the assumptions required for multiple linear regression analysis were violated by the data in both the full and stepwise models for predicting adequacy of support for the maternal role. Transformation of the original data for adequacy of support for the maternal role to other scales (such as, logarithm, reciprocal, or square root) still did not satisfy the assumptions. In the correlation analysis, relationships were noted between adequacy of support for the maternal role and quality of relationship with partner ($r = .43, p \leq .001$), and between adequacy of support for the role and partner's participation in child care ($r = .36, p \leq .01$). For that reason, both these dependent variables were included as explanatory variables in regression equations for predicting adequacy of support for the role. Then, transformation of the data for adequacy of support for the role to the logarithm scale satisfied the assumptions of normality and of equality of variance. Regression analyses reported are on 14 predictor variables and transformation of data.

All 14 explanatory variables significantly predicted adequacy of support for the maternal role from family and friends [$F(14, 38) = 3.11, p = .0027$]. This combination of variables explained 53% of the variance for adequacy of support for the maternal role from family and friends. Stepwise regression analysis revealed a set of explanatory variables that significantly predicted adequacy of support for the maternal role from family and friends [$F(3, 49) = 13.42, p \leq .0001$]. Support available from family and relatives (a pregnancy predictor) entered the equation first and predicted 26% of the variance. Next, expectations for self-evaluation of parenting entered the equation and together with

support available from family and relatives explained 37% of the variance. Finally, meaning of motherhood, another pregnancy predictor, entered the model and jointly these three variables explained 45% of the variance for adequacy of support for the maternal role from family and friends. Statistics for the final stepwise model are presented (see Table 14). In the final model, a more positive perception of the experience of motherhood, more support available from family and friends, and a more positive self-evaluation of parenting than expected were all associated with a more positive perception of the adequacy of support for the maternal role from family and friends (lower scores indicated more adequate support for the maternal role).

Table 14

Final Stepwise Regression Predicting Adequacy of Support for the Maternal Role ^a

Variable	Multiple R	R Square	Standardized Beta	p
Support from family ^b			-.44	.0002
Expectation for self-evaluation ^c			-.38	.0009
Meaning of motherhood ^d			-.30	.0099
Final step-all predictors	.67	.45		

^aLower scores indicated more adequate support for maternal role. ^bHigher scores indicated more support from family. ^cHigher scores indicated a more positive self-evaluation of parenting than expected. ^dHigher scores indicated a more positive perception of the experience of motherhood.

Predictors of Positive Relationship with Partner and Positive Perception of Partner's Help in Care

Data used in the full regression and stepwise models, to describe and test for relationships between transition conditions and quality of relationship with partner, violated the assumptions for multiple regression analysis. Other measures were attempted to correct this situation. Several different transformations of the original data for the dependent variable (quality of relationship with partner) were done to obtain a model with a better fit to the assumptions. Transformations carried out included taking the log of y , the square root of y , and using the reciprocal of y . In a secondary correlation analysis conducted (see Table 15), a significant strong relationship was found between quality of relationship with husband and partner's participation with child care, another outcome variable, $r(59) = .55$, $p \leq .001$. Quality of relationship with partner may have been influenced by partner's participation in child care. Therefore, participation in child care was added as a 13th explanatory variable in the various models in an effort to develop a model with data that would satisfy the assumptions. However, neither transformation of the data to another scale, nor inclusion of a 13th variable in the model satisfied both the assumption of normality and of equality of variance.

Similarly, the assumptions were violated by the data used in the full and stepwise regression models for predicting partner's participation in child care. Additional analyses were conducted using transformations of the original data for partner's participation in child care. As previously noted, partner's participation in child care was significantly related to quality of relationship with husband. Consequently, quality of relationship with partner was used as a 13th explanatory variable in the full and stepwise regression models

for predicting partner's participation in child care. However, a model with data that satisfied the assumptions could not be developed.

In conclusion, five of the seven indicators of healthy transition were predicted by one predictor variable or a set of predictor variables. All prenatal predictor variables, except previous experience with infant care, predicted various dimensions of healthier transition either alone or in a set with other predictor variables. Two of the postpartum predictor variables were predictive of two indicators of healthier transition. Emotional well-being, as a postpartum predictor, was part of the set which predicted satisfaction with motherhood and infant care. The second postpartum predictor, physical well-being, predicted gratification with the labour and delivery experience. Predictors of healthier transition are summarized in Figure 3 (see page 123).

Table 15

Intercorrelations Among Scales of PSQ

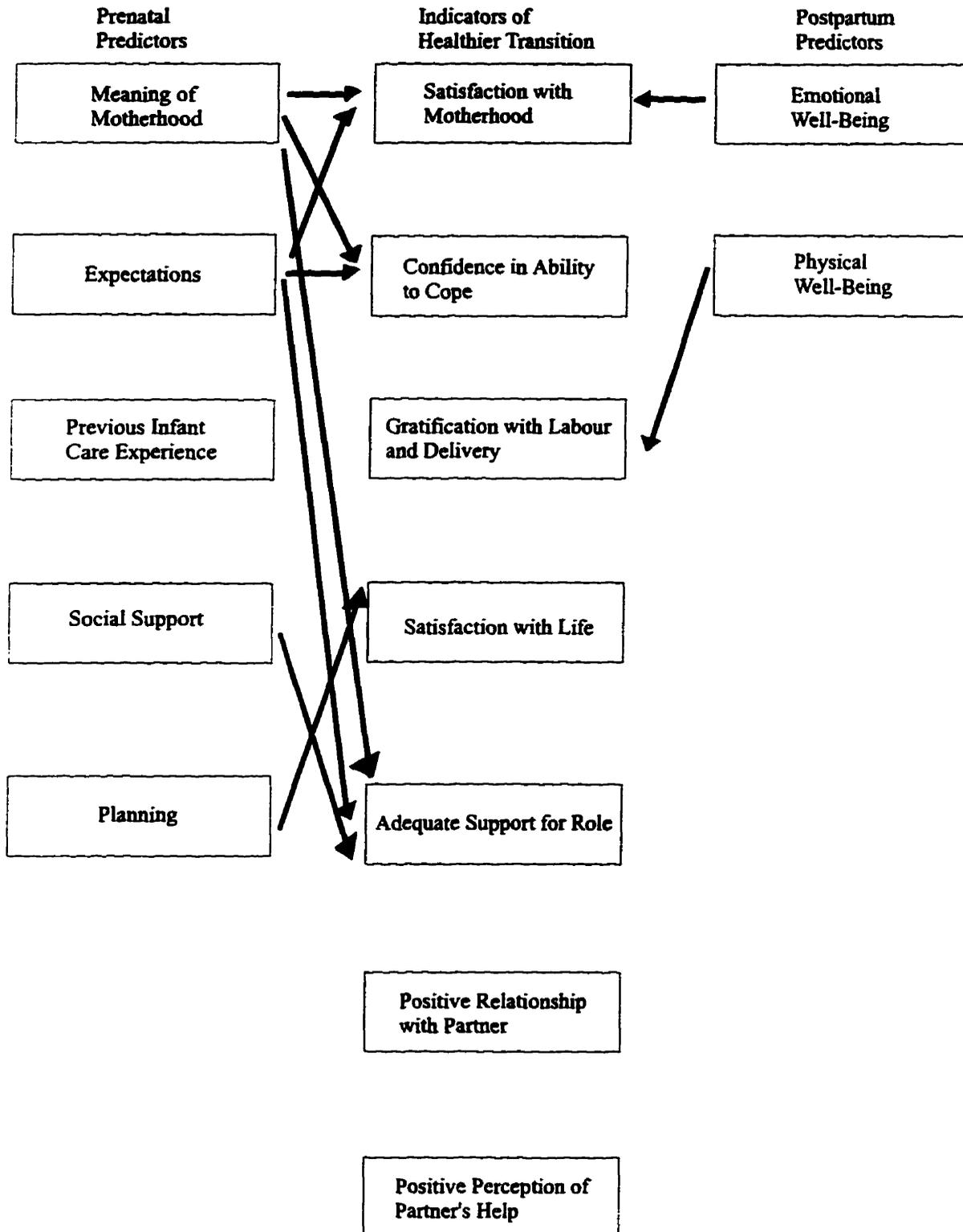
Dimensions of PSQ	1	2	3	4	5	6	7
1. Quality of relationship with partner							
2. Partner's participation in child care	.55***						
3. Gratification with labour and delivery	.08	.04					
4. Satisfaction with life situation and circumstances	.23	.20	.14				
5. Confidence in ability to cope with tasks of motherhood	.25	.30*	.33**	.52***			
6. Satisfaction with motherhood and infant care	.44***	.43***	.31*	.29**	.54***		
7. Support for the maternal role	.43***	.36**	.16	.33**	.53***	.58***	

Note. Correlation coefficients are based on a sample size of 58-61.

*Lower scores on the PSQ indicate relative positive evaluation of that dimension.

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Figure 3. Prenatal and Postpartum Predictors of Healthier Transition to Motherhood.



Secondary Analyses

Studies on transition to motherhood often examine relationships between demographic characteristics and outcome variables. As a secondary analysis approach, relationships between selected demographic characteristics and indicators of healthy transition were explored. Age, years in the relationship, years of education after high school, family income and postpartum length of stay were included in this secondary analysis. The secondary analysis also included identifying relationships among transition conditions (independent variables) and relationships among the seven indicators of healthy transition (scales of the Postpartum Self-Evaluation Questionnaire).

Relationships Between Selected Demographic Variables and Indicators of Healthy Transition

No significant relationships were found between age, years in the relationship and years of education and any of the dependent variables. Length of postpartum stay was significantly related to gratification with labour and delivery ($r = .31, p \leq .05$). A longer length of stay was associated with less gratification from the labour and delivery experience (higher scores indicated less gratification). Sixty eight per cent of mothers with incomes of \$40,000 or greater reported more satisfaction with life situation and circumstances. Therefore, women with higher family incomes were more likely to be satisfied with their life situation and circumstances, $\chi^2 (1, N = 59) = 7.353, p = .006$.

Descriptive Data for Transition Conditions

The transition conditions in the conceptual framework included meaning of motherhood, expectations, level of knowledge/skill, social support, level of planning, and emotional and physical well-being. These six transition conditions were operationally defined by 12 variables. A summary of the normative data was available for two of the instruments used in the study. Since raw data from administration of these instruments was not available including sampling distribution and standard deviations, an independent t-test could not be done to determine if there were statistically significant differences in means between the study sample and either of the normative samples.

Means and standard deviations for social support variables as measured by the Norbeck Social Support Questionnaire (NSSQ) for a normative (female) sample and for this study sample are reported in Table 16. As shown in the table, mean age for the study sample was 28.9 years which was considerably lower than the mean age of 45.5 years for the normative sample. Normative sample means for the NSSQ variables were consistently lower than study sample means while standard deviations for the study sample were lower than those for the normative sample.

Table 16

Descriptive Statistics for NSSQ Normative Sample and Study Sample

Variables	Normative Sample (n=1067)		Study Sample (n=61) ^a	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Demographic				
Age	45.5	21.0	28.9	4.6
Education Level	14.0	3.2	14.8	2.6
Percent Caucasian	78.6%		91.8%	
Percent Married/Partnered	40.5%		95.1%	
NSSQ	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Number Listed	10.9	5.9	12.6	5.0
Emotional Support	127.2	72.7	159.2	65.1
Tangible Support	53.1	33.4	65.9	30.3
Total Functional Support	179.4	102.1	225.1	90.0
Total Network Support	98.5	53.8	118.3	44.0

Note. Normative sample data from the 1995 Scoring Instructions for the Norbeck Social Support Questionnaire (NSSQ). Norbeck, J. 1995.

^an= 60 for emotional support and total functional support due to missing data.

Pridham and Chang's What Being the Parent of a New Baby Is Like-Revised (WPL-R) measured congruency between prenatal expectations and perceptions of the postpartum experience in 3 different dimensions of the parenting experience. The questionnaire was administered at 36 weeks and again between 4-6 weeks postpartum. Descriptive statistics for Pridham and Chang's (1989) normative data of the WPL-R for a primiparous sample with a mean age of 27 years and for the study sample are summarized in Table 17. Mean scores for the study sample were higher in each of the dimensions at 36 weeks gestation and at 4-6 weeks postpartum than the mean scores in Pridham and Chang's primiparous sample at 4 weeks postpartum. Overall, prenatal and postpartum scores for the study sample reflected a more positive self-evaluation of parenting, a greater amount of preoccupation with and difficulty separating from the baby and a perception of greater life change than did scores for the normative sample.

Table 17

Descriptive Statistics for WPL-R Normative Sample and Study Sample

WPL-R subscales	Normative Sample			Study Sample		
	Responses	<u>M</u>	<u>SD</u>	Responses	<u>M</u>	<u>SD</u>
Evaluation						
36 weeks antepartum				61	7.34	.78
4 weeks postpartum	44	6.45	.77			
4-6 months postpartum				61	7.45	.80
Centrality						
36 weeks antepartum				61	6.94	.85
4 weeks postpartum	43	4.78	.90			
4-6 weeks postpartum				61	6.95	.91
Life Change						
36 weeks antepartum				61	6.47	1.12
4 weeks postpartum	44	5.18	1.41			
4-6 weeks postpartum				61	6.55	1.24

Note. Normative sample values from Pridham & Chang, 1989

Paired t-tests were performed to assess whether prenatal expectations for the parenting experience were significantly different than perceptions of the experience between 4-6 weeks postpartum. Results of the t-test are reported in Table 18. Means and standard deviations were slightly higher in each of the three dimensions of the parenting experience in the postnatal period than in the antenatal period. However, there were no significant differences between means for any dimension. It can be concluded that for this sample of new mothers, postpartum reality regarding the parenting experience was congruent to their expectations in each of the 3 areas.

Table 18

Paired T-Tests of Mean Scores of WPL-R Variables Antenatal and Postpartum

WPL-R Variables	Antenatal		Postpartum		df	t-test p value
	Mean	SD	Mean	SD		
Evaluation	7.34	.78	7.45	.80	60	.37 n.s.
Centrality	6.94	.85	6.95	.92	60	.92 n.s.
Life Change	6.47	1.1	6.55	1.2	60	.60 n.s.

Note: Sample n= 61 for analysis.

Statistical data obtained for the 5 independent variables that were measured by single item visual analog scales are presented in Table 19. Scores for past experience with infant care and postpartum physical condition showed the most variation with standard deviations of 31.1 and 21.1 respectively. On average, this sample of new mothers reported having little past experience with infants and feeling reasonably good physically ($M = 67.3$). Overall, mothers perceived the experience of motherhood as positive.

Table 19

Descriptive Data for Selected Independent Variables

Independent Variables	Range	<u>M</u>	<u>Mdn</u>	<u>SD</u>
Meaning of motherhood	35 - 100	82.0	87.5	16.0
Past experience with infant care	0 - 100	44.5	48.0	31.1
Planning for life with new baby	45 - 100	77.8	77.5	14.9
Emotional state postpartum	42 - 100	73.2	75.5	16.2
Physical condition postpartum	21 - 99	67.3	69.0	21.1

Descriptive Data for Indicators of Healthy Transition

The seven variables which served as indicators of healthy transition were measured by scales of the Lederman Postpartum Self-Evaluation Questionnaire (PSQ). A summary of descriptive statistics for scales of the PSQ are provided in Table 20. Data from the PSQ suggested that individuals in this study had essentially made a healthy transition to the maternal role (lower scores on the PSQ indicated more positive responses). Confidence in ability to cope with tasks of motherhood scale had the largest standard deviation compared to other dimensions indicating greater variability in that dimension.

Table 20

Descriptive Data for Indicators of Healthy Transition as Measured by the PSQ

PSQ Scales	Responses	Range	<u>M</u>	<u>SD</u>
1. Quality relationship with partner	59	12-31	15.7	4.4
2. Partner's participation in child care	60	11-22	13.2	3.1
3. Gratification with labour and delivery	61	10-28	15.7	5.4
4. Satisfaction with life situation and circumstances	61	10-34	18.9	5.9
5. Confidence in ability to cope with tasks of motherhood	61	14-42	23.7	6.0
6. Satisfaction with motherhood and infant care	61	13-32	13.4	4.6
7. Social support received from family and friends	59	12-21	14.1	2.4

Note. PSQ scales from Lederman, Weingarten, & Lederman (1981)

Intercorrelations Among Transition Conditions

Pearson r correlation coefficients assessed linear relationships among transition conditions (independent variables). Results showed several significant weak to moderate intercorrelations among independent variables (see Table 21). All transition conditions were interrelated with a least one other independent variable.

Meaning of motherhood had a significant positive correlation to past experience with infants, $r(60) = .27, p \leq .05$, and to planning for life with new baby, $r(60) = .45, p \leq .001$. Mothers who perceived the experience of motherhood more positively also had more past experience in caring for an infant less than 1 year of age and had done more planning for parenthood.

Past experience in caring for an infant was positively related to planning for parenthood, $r(60) = .30, p \leq .05$ and to expectations regarding life change, $r(60) = .30, p \leq .05$ and inversely related to postpartum emotional state, $r(59) = -.28, p \leq .05$.

A significant positive relationship was found between functional support available from partner and functional support available from family and relatives, $r(58) = .41, p \leq .001$. More support available from the partner was associated with more functional support available from family and relatives. Similarly, greater functional support available from family and relatives was related to greater functional support available from friends, $r(57) = .43, p \leq .001$.

Significant positive relationships were found between postpartum emotional state and physical condition, $r(60) = .51, p \leq .001$, and postpartum emotional state and expectations for self-evaluation of parenting, $r(60) = .43, p \leq .001$. A better emotional

state was related to better physical condition and to a more positive self-evaluation of parenting than expected.

Furthermore, emotional state was negatively related to expectations regarding life changes, $r(60) = -.30, p \leq .05$. A more positive emotional state was associated with less life change in the postpartum than had been expected in pregnancy.

Physical condition related positively to expectations for self-evaluation of parenting, $r(60) = .27, p \leq .05$; mothers who felt better physically tended to have a more positive self-evaluation of parenting than expected.

A significant positive relationship was found between expectations for life change and expectations regarding centrality, $r(61) = .25, p \leq .05$. Greater life change than expected was associated with greater preoccupation with the infant than expected.

Intercorrelations Among Indicators of Healthy Transition

Pearson's r correlation coefficients indicated weak to moderately strong positive relationships among dependent variables. Fourteen out of a possible twenty-one relationships were significant. Four of these significant relationships were fairly strong in intensity (greater than .50) A summary of intercorrelations among indicators of healthy transition are presented (see Table 15 on page 122).

Table 21

Intercorrelations Among Transition Conditions

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Meaning											
2. Past experience	.27*										
3. Planning	.45***	.30*									
4. Support of partner	.19	-.05	.13								
5. Support from relatives	.21	.17	.02	.41***							
6. Support from friends	-.14	-.18	-.13	.20	.43***						
7. Emotional state	.17	-.28*	-.02	.07	-.05	.01					
8. Physical condition	.20	-.09	-.11	-.16	.03	.08	.51***				
9. Expectations for self evaluation	-.19	-.24	-.04	.23	.07	.22	.43***	.27*			
10. Expectations for life change	.03	.30*	.13	-.02	.07	-.08	-.30*	-.13	-.15		
11. Expectations for centrality	-.20	-.03	.02	.09	.03	-.04	-.23	-.09	.01	.25*	

* $p \leq .05$ ** $p \leq .01$. *** $p \leq .001$

Conclusion

In summary, the majority of women in this study were married, Caucasian, well-educated and economically advantaged. Most significant relationships were found between five of the transition conditions (meaning, support, expectations, and emotional or physical state) and three or four indicators of healthy transition (satisfaction with motherhood, confidence coping with tasks, adequacy of support, and positive perception of relationship with partner). Six hypothesis were either supported or partially supported. Data failed to support one hypothesis. All prenatal predictors (meaning, expectations, support, and planning) except previous experience with infants and both postpartum predictors (emotional state and physical state) were included in models that predicted five of the seven dimensions of healthy transition. In the next chapter, the results are discussed in relation to the conceptual framework and study questions.

CHAPTER V

Discussion

Introduction

In this chapter, results of the study are discussed in relation to the conceptual framework, the literature review, and the identified research questions. First, relevance of Schumacher and Meleis' (1994) nursing model of transitions, as a conceptual framework for the study of transition to motherhood, is discussed. Next, the study's research questions guide a discussion of the major findings of the study. Finally, limitations of the study are identified.

Relevance of the Model as a Conceptual Framework

The nursing model of transitions described by Schumaker and Meleis (1994) provided the framework for the study. In the model, conditions identified as important influencing factors in a transition are: meaning, expectations, level of knowledge/skill, environment, level of planning, and emotional and physical well-being. As well, three outcomes specified as indicators of healthy transition are: subjective well-being, role mastery, and well-being of relationships. Overall, the literature review and study results (discussed in detail later in this chapter) provide support for applying the model to study the transition to motherhood. However, strengths and weaknesses of model components were revealed when the model was applied to transition to motherhood.

Meaning

There is a paucity of information on the meaning of motherhood as an influencing factor in the transition to motherhood. However, meaning has been described as an important factor in motivation for motherhood (Woollett, 1991). Motivation for motherhood is regarded as a complex process shaped by factors external and internal to the woman. Meaning may be one important internal factor which motivates a woman to become a mother. The concept of meaning is defined broadly in the Schumacher and Meleis (1994) nursing model of transitions. A non-specific definition may be necessary for a model that encompasses a wide-range of transitions, but lack of a clear definition gives the researcher considerable liberty in operationally defining the concept.

In this study, statistically significant relationships were found between meaning of motherhood and satisfaction with motherhood and infant care, confidence in ability to cope with tasks of motherhood, and adequacy of support for the maternal role from family and friends. In as much as these relationships may be real, it is acknowledged that a different operational definition of meaning or use of a different scale to measure meaning of motherhood may yield conflicting results. Research concerning relationships between meaning of motherhood and various outcomes of transition to motherhood is in its infancy and perhaps future research will provide additional support for relationships between meaning and outcomes of transition to motherhood.

Expectations

The notion that expectations are consequential in the transition to motherhood was supported by the literature review. Various dimensions of expectations have been researched including: violation of expectations (Ruble et al., 1988), confirmation of expectations (Coffman et al., 1994), and accuracy of expectations (Kach & McGee, 1982). In view of the literature, it is appropriate that expectations be contained in the model as a transition condition. The model's vague theoretical definition of the term expectation is a deficiency of the model as it provides little direction for operationally defining expectations.

Expectations, as defined in this study, were found to be influential in transition to motherhood. Congruency between expectations and perceptions of the experience regarding three aspects of the parenting experience were found to be significantly related to satisfaction with motherhood and infant care, confidence in ability to cope with tasks of motherhood, and adequacy of support for the maternal role from family and friends. Study results further confirm that expectations play a role in the transition to motherhood.

Knowledge/Skill

Knowledge and skill regarding infants and their care have been investigated, mostly by nurses, as possibly facilitating a successful transition. Generally, knowledge and skill levels have been measured indirectly by assessing the amount of past experience with infants. Results from studies have indicated that past infant care experience is related to specific transition outcomes (Mercer & Ferketich, 1990; Williams et al., 1987). However,

using past experience with infants as the operational definition of knowledge and skill level in this study resulted in finding no significant relationships between knowledge and skill levels and any indicators of healthy transition. A one item visual analog scale was used to measure knowledge and skill level. The concept may not have been adequately measured with a one item visual analog scale. Perhaps participants were thinking of the amount of past experience with infants rather than how much knowledge or skill they had acquired through this experience.

Environment

Social support, referred to as environment in the model, has been studied extensively by nurses and sociologists. Studies have consistently shown that positive transition outcomes are linked to various kinds of support (Cronenwett, 1985a; Dormire et al., 1989; Gottlieb & Medelson, 1995; Reece, 1993). Social support above all other factors appears to be central in transition to motherhood. This study found seven significant relationships between support from a partner, family and relatives, and friends and four indicators of healthy transition.

Planning

Following a review of the literature, Schumacher and Meleis' (1994) view that planning is a significant factor in transitions was not supported for the transition to motherhood, although, this study found one statistically significant relationship between level of planning and satisfaction with life situation and circumstances. Planning activities

often carried out to get ready for life with a new baby include: obtaining material items for baby care, reviewing financial resources and making necessary changes, and organizing additional family support for the early postpartum period. Planning may be a unique factor in other types of transitions, but, for transition to motherhood it appears to be subsumed, at least to some extent, under the concept of social support as many planning activities are related to the instrumental and emotional support dimensions of social support. These dimensions of support are included in many conceptualizations of social support.

Emotional and Physical Well-Being

The two remaining transition conditions in the model are emotional and physical well-being. Postpartum depression is one emotional factor that has been investigated extensively as an outcome (albeit, a negative one) of transition to motherhood. According to numerous studies, the incidence of postpartum depression ranges between 4% and 20% depending on the time period studied. It is possible that incidence rates may be even higher than this estimate. Women may not acknowledge they are having difficulties in the postpartum period or they may not seek assistance. Notwithstanding the seriousness and undesirability of postpartum depression, it is not experienced by all postpartum women thus, it is this author's view that postpartum depression not be conceptualized as an outcome of transition to motherhood. One strength of the Schumacher and Meleis (1994) model is that the effects of various dimensions of emotional well-being may be explored. On the other hand, since the parameters of emotional well-being are not specified clearly

for the concept of emotional well-being , researchers have a fair degree of independence in operationally defining emotional well-being.

In view of the large number of variables included in this study, a global measure of emotional well-being was used to lessen the number of questionnaires participants were required to complete. A significant relationship was found between emotional well-being and satisfaction with motherhood and infant care. Mothers who reported a better emotional state tended to be more satisfied with their role and infant care. Other operational definitions of emotional well-being or another instrument used to measure emotional status may have yielded different results.

Despite the fact that many bodily changes accompany pregnancy and childbirth, physical well-being, as a factor influencing transition to motherhood, has not been studied to any extent. Relationships have been explored between health related variables, such as, parity, maternal health and type of delivery and postpartum functional status (Cronenwett, 1985a). Although not predicted, this study found an association between greater physical well-being and increased gratification with the labour and delivery experience. Further research needs to be conducted before the relevance of physical condition as an important influencing factor in the transition to motherhood can be determined. In this study, physical well-being only predicted gratification with the labour and delivery experience.

Indicators of Healthy Transition

Finally, the three broad indicators of successful transition contained in the Schumacher and Meleis (1994) model are: subjective well-being, role mastery, and well-

being of relationships. Although indicators are broadly defined in the model, this enabled the researcher to select indicators that are specific to transition to motherhood. In the literature examined, a number of different indicators of healthy transition to motherhood were identified which were easily classified into one of the three broad indicators of the model. Results of this study provide evidence that transition conditions and indicators of healthy transition delineated in the model are appropriate to the study of transition to motherhood.

In brief, results of this study, for the most part, support the use of Schumacher and Meleis' (1994) nursing model of transitions as a conceptual framework for the study of transition to motherhood. Certain transition conditions seem to be more relevant than others to the transition to motherhood. Indicators of successful transition to motherhood that are studied most often are compatible with the broad indicators cited in the model. Lack of clarity in conceptual definitions is a major weakness of this model. The model specified concepts that are meaningful to the study of transition to motherhood and facilitated a systematic approach to the study. Overall, results of this study support the use of Schumacher and Meleis' (1994) nursing model of transitions to study the transition to motherhood.

Relations Between Transition Conditions and Indicators of Healthy Transition

One goal of this study was to identify relationships between factors influencing transition to motherhood and indicators of healthy transition. Seven predictions were made with regard to relationships between transition conditions and indicators of healthy

transition. The results of this study provide support or partial support for six of the seven hypotheses proposed.

Relations Between Meaning and Satisfaction with Motherhood, Confidence in Ability

The findings support the hypothesis that mothers who have a more positive perception of the experience of motherhood also have more satisfaction with motherhood and infant care and greater confidence in ability to cope with tasks of motherhood. A moderately strong relationship ($r = -.49$) was found between meaning and satisfaction with motherhood and infant care. That is, during the last 4 weeks of pregnancy, mothers who evaluated the upcoming experience of motherhood more positively, were more satisfied with the experience of motherhood between 4 and 6 weeks postpartum. Scores for perception of the positive or negative quality of the experience ranged from 35 to 100. However, on average, women assessed the anticipated experience extremely positively ($M = 82.0$). This result is consistent with Oakley's (1980) observation that women generally view motherhood as a positive experience. However, the gestational age of women in this study may have influenced a more positive evaluation of the anticipated experience of motherhood. With increasing gestational age, the ambivalence associated with early pregnancy may give way to more positive feelings about motherhood. If data for meaning of motherhood had been collected earlier in pregnancy, it may not have shown a correlation between meaning and satisfaction with motherhood. Furthermore, it is possible a third variable not studied, such as planned pregnancy, influenced both meaning of motherhood and satisfaction with motherhood. Considering the mean age of women in this

study was almost 30 years, pregnancies may have been planned, contributing to a more positive perception of motherhood and greater satisfaction with motherhood.

A modest relationship was found between meaning of motherhood and confidence in ability to cope with tasks of motherhood ($r = -.40$). Women who viewed approaching motherhood to be a less positive experience also reported decreased confidence in their mothering abilities in the early postpartum period. It is possible that these women had higher levels of anxiety that biased their perspective concerning the meaning of motherhood and that lessened their confidence in ability to cope with tasks of motherhood.

Relations Between Past Experience and Satisfaction with Motherhood, Confidence in Ability

The finding that confidence in ability to cope with tasks of motherhood and satisfaction with motherhood was not influenced by the amount of past experience is unexpected. Others have found that mothers who reported more past experience with infants tended to have more confidence (Fleming et al., 1988; Fromen & Owen, 1989; Williams et al., 1987) or greater satisfaction (Mercer, 1985a). One possible explanation for the non significant findings in this study is that the amount of past experience may not have provided an accurate estimate of knowledge and skill level with regard to infant care. A potential weakness of the visual analog scale method is that respondents may be required to define the phenomenon or attribute being measured. Participants may have provided an estimate of the quantity of past infant care experience without considering specific infant care knowledge and skills gained through their experiences.

Relationships Between Planning and Marital Relationship, Partner's Help, Confidence in Ability

Data supports only one of the predictions in hypothesis 3. Women who reported better relationships with their partner also reported that more planning had been done to prepare for the new baby. Lack of significant findings connecting planning to participation of the partner in child care may be due to several reasons. As discussed earlier in this chapter, planning for transition to motherhood may be conceptually related to social support as many planning activities pertain to decisions about who will do what child care and household tasks following the baby's birth. Furthermore, partner's participation in child care may be a form of instrumental support in transition to motherhood in which case, participation in child care is not an outcome of transition but a condition influencing transition. In other words, planning for life with a baby and participation of the partner in child care may be components of social support. Substantial support has been found in the literature for a relationship between quality of the marital relationship and support from a partner. Tomlinson (1987) found that postbirth marital equity was associated with postbirth marital satisfaction. As well, more involvement of the father in child care has been linked to less of a decrease in marital adjustment (Levy-Shiff, 1994); and, violations of expectations regarding division of labour have been related to diminished marital satisfaction (Ruble et al., 1988).

Relations Between Social Support and Satisfactions, Confidence in Ability, Support for Role

All predictions stated in hypothesis 4 were not supported when a measure of total functional support from all network members was used in the analysis. Relationships had been hypothesized between support from all network members combined and satisfaction with motherhood, satisfaction with life, confidence in ability to cope, and adequacy of support for the maternal role. However, a correlation matrix revealed only one significant relationship. Mothers who reported more support available from all network members combined also reported more adequate support for the maternal role. However, when a measure of support was computed for each group within the network (partner, family and relatives, or friends) further analysis revealed significant relationships between support from certain network groups and indicators of healthier transition. Partner's support, family's support, and friends' support were each linked to adequacy of support for the maternal role.

Other sources of support were correlated to other outcome indicators. Mothers who reported more family support also reported more satisfaction with motherhood. Cronenwett (1985a) found that mothers who had more emotional support available to them reported being more satisfied with motherhood. Similarly, Crnic and colleagues (1984) found intimate support correlated positively to life satisfaction and parenting satisfaction. In a study by Levitt et al. (1986) life satisfaction was associated with spousal support. However, results of this study did not find a significant relationship between support and satisfaction with life situation and circumstances (refers to housing and

financial resources). One possible explanation for this non significant finding may be that 59% of women in this study reported family incomes before taxes in excess of \$40,000. For women in this study, higher family income was associated with greater life satisfaction. Lastly, participants in this study who had greater access to emotional support from their family also had more confidence in ability to cope with tasks of motherhood. This result is similar to Cronenwett's (1985a) finding which linked emotional support to confidence. The likelihood of other extraneous factors confounding the relationships identified is acknowledged. General life stress or stress from caring for a temperamentally difficult infant may have affected the results obtained. In this study, mothers with more stress may have felt less confident in their ability to cope with tasks of motherhood and therefore, received less satisfaction from the maternal role.

Relations Between Emotional State and Confidence in Ability, Satisfaction with Life/Motherhood

Hypothesis 5 is partially accepted. Mothers who felt better emotionally stated that they had more confidence in their ability to cope with tasks of motherhood and more satisfaction with motherhood and infant care. However, no connection was found between emotional state and satisfaction with life situation and circumstances. Results of this study are consistent with those of Ruble et al. (1988) who found that women with depressed moods reported less enjoyment with child care and that women with better moods also felt more adequate as a mother. Also, Mercer and Ferketich (1994) reported an association between depression and maternal competence in low-risk women at 1 month postpartum.

It is possible that a third unstudied variable influenced emotional state, life or role satisfaction and confidence levels or the visual analog scale did not fully capture emotional state. Other psychological attributes and situational factors have been found to influence a mother's postpartum mood and her confidence in mothering. Mercer (1986b) found that self-concept and maternal attitudes were related to gratification with the maternal role and role performance. Also a linkage has been found between difficult infant temperament and postpartum depression (Cutrona & Troutman, 1986). A relationship between sense of control and maternal competence has also been reported (Mercer & Ferketich, 1994).

Relations Between Physical Condition and Satisfaction with Motherhood

Results support the prediction that mothers who feel better physically also have more satisfaction with motherhood and infant care. Women who reported feeling better physically at 4 to 6 weeks postpartum also reported more satisfaction with motherhood and infant care. It is possible that instruments used to measure emotional and physical state may not have been sensitive enough to identify differences between these two states. A woman's emotional state may have biased how she perceived her physical condition. Secondary analysis found a moderate to strong association ($r = .51$) between emotional state and physical condition (see Table 21). A correlation between emotional state and physical condition has been found by another researcher (Fleming et al., 1988). Maternal physical health has not been consistently included as a possible influencing variable in transition to motherhood studies, although it appears to be a property of transition to motherhood. Others have not found a relationship between physical health and satisfaction

with the maternal role (Mercer, 1986a; Russell, 1974). Interestingly, a previous study identified postpartum fatigue as a predictor of adequacy as a mother which is conceptually close to confidence in ability to cope with tasks of motherhood (Fleming et al., 1988). There is a possibility that a mother's physical condition influences her confidence level which in turn affects level of satisfaction with her new role.

Relations Between Expectations and Satisfaction with Motherhood, Confidence in Ability

Expectations appear to be important correlates of satisfaction with motherhood and confidence in ability to cope with tasks of motherhood. Mothers who reported greater confidence also experienced less life change, less preoccupation with their infant, and a more positive evaluation of the role in the postpartum period than had been anticipated during pregnancy. As well, mothers who were more satisfied with motherhood also had perceptions about how much they liked the role that met or exceeded their expectations. Previous studies have assessed different types of expectations and measured other outcomes of transition to motherhood. Ruble et al. (1988) found that violation of expectations was associated with decreased marital satisfaction. In this vein, satisfaction with the marital relationship has been associated with confirmation of support expectations (Coffman et al., 1994). Results of this study and the literature examined, support the view that positive outcomes of transition to motherhood may be influenced more by greater congruency between expectations and perception of reality regardless of the type of expectation investigated.

Predicting Healthier Transition to Motherhood

A second goal of this study was to determine which, if any, transition conditions predicted a healthier transition to motherhood. Three distinct indicators of subjective well-being and well-being of relationships and a single indicator of role mastery were examined as measures of healthy transition to motherhood. The influence of individual factors or a cluster of factors on transition to motherhood is discussed.

Predictors of Subjective Well-Being

Explanatory variables were identified for each of the three indicators of subjective well-being (satisfaction with motherhood, gratification with labour and delivery, and satisfaction with life). There were four predictors of satisfaction with motherhood and infant care. One postnatal predictor predicted gratification with labour and delivery. As well, one prenatal predictor predicted satisfaction with life situation and circumstances.

Satisfaction with motherhood.

Although a large portion of the variance (63%) for satisfaction with motherhood was explained jointly by all predictor variables, a small cluster of variables emerged as the best set of explanatory variables. Meaning of motherhood, emotional state, and expectations for the parenting experience were found to be the best predictors of satisfaction with motherhood explaining 53% of the variance.

In this study, meaning of motherhood had the strongest effect on satisfaction with motherhood suggesting that mothers who had more positive feelings about motherhood during pregnancy went on to be more satisfied with the experience of motherhood. A more positive perception of the meaning of motherhood may be influenced by a number of

factors. It has been suggested that motivation for motherhood may be shaped by values (Woollett, 1991), and by cultural expectations and opportunities (Robinson & Stewart, 1989). Women may feel more positive about motherhood because their female identity is affirmed, their sense of love and belonging is reinforced or a new situation is desired. It is possible that a more positive perception of the meaning rather than the actual reason for wanting to become a mother is at the root of satisfaction with motherhood.

A better postpartum emotional state was the second variable in the cluster that predicted greater satisfaction with motherhood. A previous study also found that mood predicted mother's enjoyment with caretaking (Ruble et al., 1988). Two expectation variables in the cluster predicting satisfaction with motherhood were expectations regarding centrality of the infant and expectations regarding self-evaluation in parenting. Women who experienced greater preoccupation with their infant and had a more positive self-evaluation of parenting than expected felt more satisfied with motherhood. Other investigators have found linkages between other kinds of expectations and outcomes of transition to motherhood. For women, confirmation of support expectations has been found to be associated with a better marital relationship (Coffman et al., 1994). Likewise, expectations regarding the division of household labour which were violated have been found to be predictive of less closeness between partners (Ruble, et al., 1988). Perhaps it is not the nature of the expectations that influences positive transition outcomes, but congruency between expectations for the experience and perceptions of the actual experience that facilitate healthier transition.

Gratification with labour and delivery.

Gratification with the labour and delivery experience was used as an indicator of healthier transition. Physical well-being emerged as the only predictor of gratification with labour and delivery. In this sample, 70% of the women had a vaginal delivery. It is possible that type of delivery influenced both a woman's perception of her labour and delivery experience and the evaluation of her physical condition. Mercer et al. (1983) found that women who experienced a cesarean birth or who had less control during a vaginal birth also reported a less positive perception of the birth experience. In this study, gratification with the birth experience was moderately correlated to other indicators of healthy transition (confidence in ability to cope with tasks of motherhood and to satisfaction with motherhood) thus gratification with labour and delivery may be a redundant factor in this study.

Satisfaction with life situation and circumstances.

Finally, level of planning predicted a small amount of the variance (8%) for satisfaction with life situation and circumstances. Findings suggest that women who do less planning with their partner may likely experience less satisfaction with life following the infant's birth. However, it cannot be ruled out that other factors such as the relationship with partner or financial status may be affecting both the level of planning and degree of satisfaction with life situation.

Predictors of Role Mastery

Expectations regarding centrality of the infant and self-evaluation of parenting, as well as meaning of motherhood explained the variance for confidence in ability to cope with tasks of motherhood. At the postpartum assessment period, mothers who had their babies on their minds more than they had anticipated prenatally, also reported less confidence in ability to cope with tasks of motherhood. Bullock and Pridham (1988) found that most sources of confidence and uncertainty for primiparous women were related to properties of the infant including infant mood, response to care, and physical well-being. This finding suggests that preoccupation with the infant and infant care may not only influence confidence, but also uncertainty in the maternal role. It is possible that another factor such as sensitivity towards the infant interacts with preoccupation to influence confidence levels. Perhaps mothers who are more preoccupied with their infants and are more sensitive towards them are also more confident in their ability to cope. On the other hand, perhaps mothers who are more preoccupied with their infant but are less responsive to them feel less confident in their ability to cope with tasks of motherhood.

In this study, mothers who had self-evaluations of the parenting experience at 4 to 6 weeks postpartum that matched or exceeded their prenatal expectations were more confident in their ability to cope with tasks of motherhood. Reece (1995) found that for mothers 35 years of age or older, higher self-evaluations at 1 and 3 months postpartum predicted more confidence in ability to cope with tasks of motherhood at 1 year postpartum.

Predictors of Well-Being of Relationships

Only one of the three indicators of well-being of relationships was predicted by the transition conditions specified in the conceptual framework. Availability of family support, expectations for self-evaluation in parenting, and meaning of motherhood were found to predict a significant proportion of the variance for adequacy of support for the maternal role. Mothers who had more family support available to them perceived more support for how she performed the maternal role. This finding suggests that mothers may not necessarily need to receive emotional or tangible support to feel supported in their role. It may be that knowing support is available should it be needed reassures mothers in their new role. In this vein, mothers who viewed the meaning of motherhood more positively and whose expectations for self-evaluation in parenting were met or exceeded in the postpartum experience felt more support for the maternal role. The connection between meaning or expectations and support for the maternal role are not clearly understood or self-evident.

None of the transition conditions included in this conceptual framework predicted either quality of the partner relationship or participation of father in child care. Conceptualizing partner's participation in care and quality of relationship with partner as indicators of well-being of relationships, and hence a successful transition, may not be appropriate for the transition to motherhood. Studies have consistently reported that the quality of a couple's relationship following birth declines for a period of time (Levy-Shiff, 1994; Wallace & Gottlib, 1990). This study found a strong correlation between quality of relationship and participation of partner in care (see Table 15). Perhaps quality of

relationship and participation of partner in child care are dimensions of social support and in future studies should be conceptualized as factors influencing transition to motherhood.

Limitations

The research topic and study problem, as well as time constraints and availability of resources, influenced the decision to select a prospective correlational design for this study. This research design contributed to the development of limitations of measurement and control. These two limitations need to be considered when interpreting results of this study.

A representative sample of the population may not have been obtained from the accessible population with the non-probability convenience sampling technique used in the study. Since women self-selected themselves for participation in the study, sampling bias may have been increased. In order to control for possible confounding factors and reduce the risk of bias, inclusion criteria were designated to make the sample more homogeneous with respect to individual characteristics that possibly influence healthy transition to motherhood. Volunteers were recruited into the study if they met specific criteria including: primigravida, no other children in the home, no chronic medical problems or major complications of pregnancy, and greater than 36 weeks gestation (to exclude prematurity as a possible confounding factor). All potential confounding factors may not have been identified and consequently controlled.

Subject recruitment took place over a four month period and as many participants as possible were recruited into the study during that time period. The final sample size

consisted of 61 participants. Estimates of population values are considered to be more accurate with larger samples. Therefore, sampling error may be increased with a sample size of 61. As well, considering the number of independent study variables, a larger sample size may be more advantageous in identifying significant relationships.

Many correlational studies on motherhood reported significant relationships with correlation coefficients ranging from .20 to .50 with the majority in the .30 range. According to Polit and Hungler (1991) significant relationships with r values in the .30 range are considered moderate in strength. Thus, the majority of significant relationships concerning the transition to motherhood are moderate in strength. Although a power analysis was not conducted, a slightly larger sample is needed to achieve an effect size of .30 at .05 significance level and power of .80. Consequently, the risk of Type II errors may be increased in this study with a sample of 61 participants. Lack of support for some hypotheses in this study may be attributed to insufficient power.

The strength of correlations found in the study were small to moderate leaving a large amount of the variance unexplained. Since transition to motherhood is a complex construct it is possible that some variables are unknown. Once additional influencing variables are identified in future studies, more of the variance for outcome variables may be explained.

Participants completed new and existing self-report scales. The accuracy and validity of their responses cannot be evaluated. It is possible that responses represented flawed or biased reporting. However, assurances of anonymity and confidentiality of data provided to participants increases the likelihood of obtaining honest responses.

The last methodological limitation is measurement error. Response sets, in particular, social desirability, may have biased results. As well, problems with reliability and validity of particular instruments may be potential sources of measurement error in this study. Motherhood is generally regarded as a worthy, fulfilling experience. Thus, participants more persuaded by social values may have felt obligated to rate the meaning of motherhood more positively than they actually perceived it to be. In addition, data may have been biased for the 5 visual analog scales if participants consistently gave extreme or middle-range responses.

The major variables in this study (social support, expectations, and indicators of healthy transition) were assessed by instruments with varying degrees of reliability and validity. Since appropriate instruments were not found for 5 of the independent variables, a visual analog scale was developed by the researcher to measure each variable. Reliability and validity of these scales has not been assessed. As well, the visual analogs constructed may have required participants to define, to some extent, the dimensions of the concept being assessed. For example, when asked how much planning had been done, some participants may have considered different dimensions of planning than others. Therefore, it is acknowledged that measurement error may have occurred especially with the use of visual analog scales.

Finally, study findings cannot be generalized without restriction. Homogeneity of sample characteristics may have helped in controlling extraneous variables attributed to participants, however, a homogenous sample creates a significant limitation with respect to generalizability of findings. The women in this study were mostly Caucasian, married or

partnered, well educated, and economically advantaged. Consequently, results of this study are applicable only to similar samples and cannot be generalized to different samples of first-time mothers or to the general population of first-time mothers.

Correlational findings do not demonstrate causality. At best, the results of this study show that transition conditions included in this study were related to and predicted the indicators of healthy transition to motherhood selected. However, additional factors not studied may be associated with these outcomes or may predict other transition outcomes not considered in this study . Areas for future research are discussed in the recommendations section.

CHAPTER VI

Recommendations and Conclusions

Introduction

In this final chapter, implications of the results of this study for nursing practice, research, and education are discussed. Recommendations based on the results are proposed to enhance nursing practice, research, and education regarding the transition to motherhood. A synopsis of the study including problem investigated, study design, major findings, and application of these findings is provided.

Nursing Practice

Nurses who provide prenatal, perinatal, postpartum, and community care play a pivotal role in facilitating a healthier transition to motherhood for women and their families. Interactions between a nurse and new mother, whether brief or extended, provide the nurse with opportunities to assess how well a mother may do during transition or how well she is doing during the experience and to provide assistance, if necessary.

Assessment and teaching are two essential nursing care activities in the care of childbearing women and their families. Individualized, comprehensive assessments (before and/or during transition) provide nurses and other care givers with information that is helpful in identifying women who may have difficulties with the transition to motherhood. Then, interventions can be planned and implemented to promote a smoother transition experience.

This study found that parenting expectations which were met or exceeded in the postpartum experience predicted better transition outcomes, especially increased confidence and satisfaction. Oakley (1980) reported that women are not well-prepared with respect to expectations for the mothering role and suggested confidence levels may be affected by incongruous expectations and experiences. Therefore, it may be beneficial to assess a woman's expectations for motherhood.

Prenatal instructors and postpartum nurses are likely to be in situations with expectant parents where expectations can be explored and anticipatory teaching done concurrently in preparation for the transition. In childbirth education classes, group discussions may be an effective way to encourage expectant parents to verbalize their expectations for the parenting experience. This strategy may help couples recognize potential problems they may experience with upcoming parenthood. Many childbirth education classes have one or two couples from a previous session return to do a "show and tell" of their birthing experience on the last day of classes. Instructors may find that scheduling this type of class earlier and inviting parents who are 4 to 6 weeks into the parenting experience may help expectant parents to learn about day-to-day life as new parents. This may help them to formulate expectations that are more consistent with what may actually occur during this period of time. As well, it may be helpful to couples if instructors include discussion about parenting styles, division of household chores, and infant care in the class content.

During the postpartum hospital stay nurses can assess a new mother's expectations for the first weeks or months after delivery. Many women feel elated and full of energy

soon after birth and may feel they are able to resume their usual activities upon returning home. Postpartum nurses may need to encourage mothers to set realistic goals for themselves during this period of adjustment. As well, postpartum nurses can review with a mother how well her expectations for labour and delivery were met.

Although this study did not find that previous experience (as an indicator of knowledge and skill level) influenced confidence levels in new mothers, several quantitative studies (Fleming et al., 1988; Williams et al., 1987) have reported such a linkage. Postpartum nurses spend a considerable amount of their time teaching primiparous women how to care for their infants. It is unlikely that care of the infant as a focus of postpartum teaching will change until strong evidence to the contrary is demonstrated.

Generally, minimal instruction on infant care is provided in childbirth education classes as it is assumed this is not the most appropriate time to cover this content. A knowledge and skill questionnaire administered prenatally may assist couples in identifying gaps in their knowledge and/or skills concerning infants and infant care. Individualized teaching could then be instituted prenatally or during postpartum hospitalization. Parents benefit from information about not only the physical care of infants, but usual infant behaviours, feeding cues and comforting techniques. With decreasing postpartum length of stays, community nurses may need to incorporate teaching activities into their postnatal visits which have traditionally been in the domain of postpartum hospital nurses. During a home visit a community nurse would be in an excellent position to evaluate confidence

levels of new mothers. However, shrinking health care dollars may not permit allocation of resources to enable more teaching of infant care in the community.

Results of this study and of other studies confirm the importance of social support from a partner, family, and friends in facilitating positive transition outcomes. All nurses caring for childbearing women are encouraged to emphasize the value of receiving help from a partner and other network members whom the family considers to be helpful.

Childbirth educators may find that couples benefit from engaging in activities that help them to identify supportive members in their social network, to plan how household chores and infant care will be completed, and to discuss parenting styles and issues that may arise after birth. Couples could be asked to complete exercises at home. Small group discussions may also be an effective strategy to deal with this type of information.

During the postpartum hospital stay, nurses can assess the effectiveness of emotional and instrumental support provided to the mother. This assessment may be particularly important if the couple experiences problems during labour and delivery or if there are health concerns with their newborn. Unforeseen circumstances may create additional stress in a relationship and nurses may need to encourage couples to mobilize additional sources of support. Mothers may benefit from contact with those persons she has identified as supportive while in hospital. Extra visitors should be encouraged as policies and space permit. If discussions between the nurse and mother reveal that the mother perceives she has inadequate support, referral to an in-hospital social worker may be necessary. In addition, community health nurses need to be advised of families who are experiencing lower levels of support so that appropriate follow-up care can be provided.

Community health nurses also have a role in evaluating the effectiveness of social support as well as assessing a mother's level of adjustment to her new role. Ongoing monitoring may be necessary if problems persist. Referrals to other community resources may be required.

In this study, a positive perception of upcoming motherhood was found to be a significant influencing factor in healthier transition to motherhood. It may be difficult in every day practice to assess directly what motherhood means to a woman. However, listening to how she describes (including the words she uses in the description) the anticipated event or the actual experience of motherhood may give the nurse insight into the meaning of motherhood for a woman. Since the meaning of motherhood is a subjective phenomenon, possibly shaped by internal and external factors, nurses are unlikely to influence positive changes in a mother's perception of the experience. When a mother shows signs of difficulty with transition to the maternal role, such as verbalizing her perceptions about parenting in a negative way, nurses may only be able to help by listening to a mother's concerns and responding in a non-judgmental manner.

This study showed that a more positive emotional state or physical condition predicted a healthier transition to motherhood. Others have found an association between indicators of emotional well-being (Ruble et al., 1988) or physical well-being (Tulman & Fawcett, 1988) and positive transition outcomes. Assessment in both these domains is essential when caring for new mothers before interventions can be planned and implemented.

Early hospital discharge of new mothers and their infants has resulted in postpartum nurses no longer observing postpartum blues. Postpartum blues are more likely to occur shortly after a new mother returns home. Although this is a transitory self-limiting state new mothers need information to know that the “blues” are experienced by most new mothers. Furthermore, anticipatory teaching can include information on how to conserve physical energy and hints on how to maintain emotional wellness. New mothers may be faced with a number of new issues in the first one or two months following delivery. Newborns, particularly breast fed infants, rarely have predictable schedules. Mothers should be encouraged to rest when their infants rest and to use the first weeks following delivery as an opportunity for physical recovery. This is also a time when a new mother can learn about her own infant’s behavioural cues. Getting to know your infant and being able to meet his or her needs can help a mother feel more confident and comfortable in her new role. Nurses may also want to remind new parents to make time for themselves as a couple. Follow-up home visits by community health nurses may also be of benefit to new families. During home visits community nurses can assess a mother’s emotional and physical status as the transition experience progresses, providing anticipatory guidance and referrals to other resources, as necessary.

Results of this study also have implications for hospital and community health administrators. Adequate resources are required in both settings as nurses require time to complete individualized assessments and develop a plan of care which meets the identified needs of the family. Greater involvement of the woman’s nuclear family and supportive network members may be facilitated by more liberal policies that allow the family more

control during this significant developmental event. As well, physical facilities are required that provide for privacy and space for individualized teaching and counseling.

Transition to motherhood is a period of instability. During pregnancy and following birth nurses have episodic encounters with childbearing women and their families. Women should receive as much information as they desire on a variety of topics. Since women are adult learners, a number of teaching-learning strategies need to be used. Videos, individualized and group demonstrations, and closed-circuit television are a few examples of the different methods available for teaching adult learners. Considering that becoming a mother is a significant life event, preparation for motherhood merits equal or greater attention as preparation for the birthing experience. Perhaps, in feeling more prepared a mother will experience a more successful transition to motherhood.

Nursing Education

Suggestions for nursing education are proposed based on the results of this study. Transition to motherhood is a complex process which occurs within the context of a family (as defined by the woman). Multiple factors have been identified that are believed to be central to the transition to motherhood and multiple outcomes of a healthy transition (as defined by the caregiver) have been delineated. However, there may be other influencing factors and outcomes not yet identified.

Nursing curricula need to reflect the current state of knowledge regarding transition to motherhood. As well, nursing educators have a responsibility to help students learn to be sensitive and responsive to the individuality of every childbearing woman.

Students need to develop an awareness that individual, cultural, and social conditions may interfere with positive transition outcomes.

The ability to perform comprehensive individual and family assessments is essential for nurses who plan to work with childbearing families. Educators may find that proficiency in this area can be developed by using a structured framework (including assessment of social support, expectations and emotional well-being) to teach students assessment skills.

A considerable amount of psychosocial information is required for completion of assessments. Therefore, students need to learn good communication skills and interviewing techniques. As well, development of good observational skills will assist students in gathering data required to identify not only problems but strengths of a mother and her family.

Students should have an awareness of cultural differences regarding birthing and parenting. Information about specific cultural practices would be appropriate content to include in maternal child curricula. With knowledge about specific cultural beliefs and practices, students could then be expected to use this information in developing individualized teaching plans.

Since transition to motherhood is viewed as a process that occurs over a period of time, it is important that students be exposed to childbearing women and their families at various times during the process. It is important that clinical practice continues to be offered in a variety of hospital, clinic, and community settings during pregnancy, childbirth, and the puerperium.

It is important that childbirth educators, maternal-child and community nurses incorporate new knowledge and skills into their practice. It is recommended that continuing education be offered to nurses in all health care settings who provide care to new mothers and their families. The focus of continuing education sessions for these nurses should be on cultural childbirth and childrearing practices, individualized assessments and teaching plans, as well as, consultative and referral skills.

Nursing Research

Results of this study reinforce the necessity of further research on transition to motherhood. Collectively, quantitative studies have shown good support for relationships among concepts that are identified as central to the transition to motherhood. However, there may be missing concepts in this complex developmental transition. Qualitative studies may reveal additional concepts. Using a grounded theory approach, researchers have identified additional concepts such as realizing, aloneness, and working it out that may help in explaining the experience of becoming a mother (Rogan, Shmied, Barclay, Everitt, & Wyllie, 1997). There is a need for both qualitative and quantitative studies in the future.

Although progress has been made in conceptually defining transition to motherhood as a process with multiple influencing factors and various outcomes, the time frame over which the transition occurs has not yet been clearly delineated. As a result, studies measure variables at varying points in time (from a few days postpartum until two

or more years following birth) which contributes to difficulty in comparing results. The span of time transition to motherhood occurs over needs to be delineated.

Conceptual definitions for concepts in transition-to-motherhood studies frequently lack clarity (Sabatelli & Waldron, 1995). As well, theoretical underpinnings of conceptual definitions are not consistently provided. Greater conceptual clarity may result in operational definitions that have a good match with the concept under study.

Improvements in conceptual definitions and operational definitions are necessary.

Instruments used to measure defined variables require more evidence of construct validity. Without evidence of construct validity, it is difficult to determine if the instrument adequately measures the concept, especially if the construct is an abstract one (Polit & Hungler, 1991). Reasonable reliability coefficients of instruments are usually provided.

Instrument development and testing of instruments are important areas for nurse researchers to pursue.

Statistically significant relationships were found between meaning of motherhood and two indicators of healthy transition. However, in practice during the usual interactions between a nurse and pregnant woman, assessing how positively a woman perceives the upcoming experience of motherhood may be difficult. Thus, it may be helpful in future studies to use other instruments to assess the meaning of motherhood (e.g. determining if the pregnancy was planned or unplanned). As well, significance of motherhood may be understood more fully by exploring various sources of motivation for motherhood. Levy-Shiff & Israelashvile's (1988) Perception of Parenthood Questionnaire may be a useful instrument to explore motivational sources of motherhood.

The importance of knowledge and skill regarding infants and their care in the transition to motherhood requires further exploration. A significant amount of in-hospital resources are used to teach mothers about infants and their care. In terms of resource allocation, it would be helpful to know if more knowledge and skill regarding infant care promotes better transition outcomes.

Women in this study reported, on average, little past experience in caring for infants less than one year old. Rossi (1968) in his discussion on preparation for parenthood suggested that most American mothers approach motherhood with no preparation in child-care from either school, home or community experiences and little realistic training for the role during pregnancy. Women of today are likely no better prepared for motherhood than they were 20 years ago when Rossi made his observation. In fact, there may even be fewer opportunities for adolescent girls to acquire experience in caring for infants and small children. The shrinking family size provides fewer opportunities to learn child care by caring for a sibling. In addition, increased awareness and concern about child abuse may make parents more reluctant to leave their children in the care of inexperienced adolescent baby-sitters. Although prenatal programs have flourished in the last twenty years, classes still emphasize preparation for the labor and delivery experience rather than preparation for parenting. Familiarity with infants and infant care may improve an expectant mother's knowledge and skill level and facilitate transition to motherhood. However, before changing the content of childbirth education classes or reducing hospital resources for individualized teaching of infant care, it would be beneficial to know if greater knowledge and skill enhances positive outcomes in the transition to motherhood.

Instruments to measure social support, on the whole, are well developed, although further evidence of validity and reliability of instruments is needed. Generally, instruments measure the same dimensions of social support. However, satisfaction with support is not consistently measured. Mothers may have support available to them but may not receive support or be satisfied with the support they receive. Literature supports the view that support is a critical influencing factor in transition to motherhood. Researchers are encouraged to also measure satisfaction with support received. Many social support instruments are long and require a considerable amount of time to complete. In addition, these instruments are not usually designed to measure social support in childbearing women. It is suggested that future researchers use an instrument easier to administer and specific to childbearing women. An example of such an instrument is The Social Support Apgar (Norwood, 1996).

Lastly, future studies on transition to motherhood need to include multiple indicators of emotional well-being. Self-esteem, sense of control, mood state, and perhaps temperamental disposition of the infant are all possibly components of emotional well-being. Studies that measure a variety of indicators of emotional well-being concurrently may provide valuable insight into what aspects of emotional well-being influence positive transition outcomes.

Conclusion

This descriptive correlational study was undertaken for two purposes. The first was to identify relationships between transition conditions and indicators of a healthy

transition to motherhood. The second purpose was to determine which, if any, of the transition conditions predicted healthier transition to motherhood. Seven research hypotheses were proposed and tested: 1) mothers with a more positive perception of the experience of motherhood will have greater confidence in ability to cope with tasks of motherhood and also more satisfaction with motherhood and infant care, 2) mothers with more past experience in caring for infants will have more confidence in ability to cope with tasks of motherhood and more satisfaction with motherhood and infant care, 3) mothers who have done more planning for life with a new baby will have a more positive relationship with their partner, more participation of the father in child care, and more confidence in ability to cope with tasks of motherhood, 4) mothers who have more support available to them will have more satisfaction with motherhood and infant care, more satisfaction with life situation and circumstances, more confidence in ability to cope with tasks of motherhood, and receive more support for the maternal role from family and friends, 5) mothers who feel better emotionally will have greater confidence in ability to cope with tasks of motherhood, more satisfaction with motherhood and infant care, and greater satisfaction with life situation and circumstances, 6) mothers who feel better physically will have more satisfaction with motherhood and infant care, and 7) mothers who have expectations for the parenting experience that match or are more positive (that is, less life change, less preoccupation with infant, or a more positive self-evaluation of parenting) than perceptions of the experience will have more confidence in ability to cope with tasks of motherhood and more satisfaction with motherhood and infant care.

The conceptual framework used for this study was a nursing model of transitions proposed by Schumaker and Meleis (1994). The model specified concepts that are relevant to the study of transition to motherhood and provided a systematic approach to the study. The model conceptualized influencing factors as transition conditions and factors characterizing a healthy transition as indicators of healthy transition. A strength of the model as a framework is that it permitted a concurrent study of multiple factors believed to be important in the transition to motherhood. Several conceptual definitions provided by the authors, however, lacked clarity pointing to a weakness in the model. Overall, results of the study supported the use of Schumacher and Meleis' (1994) nursing model of transitions as a conceptual framework to study the transition to motherhood.

From a selective review of the literature, it was apparent that factors thought to be important in the transition to motherhood have been studied in isolation. Furthermore, individual studies, for the most part, selected only a few outcome variables to study thereby tapping only a few components of this multidimensional developmental transition. A critical analysis of previous studies revealed common methodological limitations including, retrospective data collection, small sample size, homogeneity of demographic characteristics, and use of instruments with undetermined validity and reliability. However, despite these limitations when the results of these studies were considered collectively, enough was known about transition to motherhood to warrant a study that concurrently investigated multiple factors thought to influence this transition and a variety of factors indicative of a healthy transition.

A longitudinal descriptive correlational design was selected to study relationships among transition variables and predictors of healthier transition. Participants were recruited from local obstetrician's offices and prenatal classes. Sixty-one primigravid women who volunteered to participate and who met specified inclusion criteria completed questionnaires at both data collection times. Data collection occurred at two points in time, when women were 35 or more weeks gestation (Time 1) and again when they were 4 to 6 weeks postpartum (Time 2). Three women were lost to follow-up between the first and second data collection times. Questionnaires completed at Time 1 included Prenatal Demographic Data Form, Questionnaire on Motherhood, Prenatal What Being the Parent of a Baby Will Be Like Questionnaire, and Social Support Questionnaire. Participants completed the following questionnaires at Time 2, Postpartum Demographic Data Form, Well-Being Index, What Being the Parent of a Baby Is Like Questionnaire, and Postpartum Self-Evaluation Questionnaire.

One goal of this study was to identify relationships between factors influencing transition to motherhood and indicators of healthy transition. Seven predictions were made with regard to relationships between transition conditions and indicators of healthy transition. The results of this study provided support or partial support for six of the seven hypotheses proposed and tested. A second goal of this study was to determine which, if any, transition conditions predicted healthier transition to motherhood. Individual variables or sets of variables were identified that predicted five of the seven indicators of healthy transition.

Results of this study have implications for nursing practice, education, and research. Recommendations in each of these areas are offered. The results of this study add to the knowledge base of transition to motherhood. As well, the results contribute to understanding the complexity of the experience of becoming a mother.

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APPENDIX A

Ethical Approval Form

The University of Manitoba

FACULTY OF NURSING
ETHICAL REVIEW COMMITTEE

APPROVAL FORM

Proposal Number N/96/22

Proposal Title: "A DESCRIPTIVE CORRELATIONAL STUDY TO INVESTIGATE FACTORS
THAT INFLUENCE TRANSITION TO MOTHERHOOD IN FIRST-TIME
MOTHERS."

Name and Title of
Researcher(s):

BARBARA PETROWSKI, RN,MN
MASTER OF NURSING GRADUATE STUDENT
FACULTY OF NURSING UNIVERSITY OF MANITOBA

Date of Review: MAY 06, 1996.

APPROVED BY THE COMMITTEE: MAY 24, 1996.

Comments: APPROVED with changes submitted on May 22, 1996.

Date: May 24, 1996.

Karen I. Chalmers, PhD, RN
Associate Professor
University of Manitoba Faculty of Nursing

Chairperson

Position

NOTE:

Any significant changes in the proposal should be reported to the Chairperson for the Ethical Review Committee's consideration, in advance of implementation of such changes.

Revised: 92/05/08/se

APPENDIX B**Letter of Access to Physicians**

(Date)

**Dr. F. Lee
903 Boyd Building
Winnipeg, Manitoba**

Dear Dr. Lee:

Re: Request for Nurse Researcher Access

I am writing to ask your permission to access obstetrical patients in your practice for a nursing research study. The study is in partial fulfillment of the requirements for the degree of Master of Nursing in the Faculty of Nursing at the University of Manitoba. The purpose of this research is to examine factors which influence transition to motherhood in first-time mothers.

I am requesting permission to access primigravid patients in your practice. I would leave a list of sample inclusion criteria (enclosed) at your office. I would be calling your office staff to inquire whether any primigravid women between 35 and 40 weeks gestation have a routine prenatal appointment on that day. If so, I would visit the office to speak to potential subjects. Women who consent to participate will complete one set of questionnaires at the office, if convenient. This set requires about 15-30 minutes to complete. A second set of questionnaires will be completed 4-6 weeks following delivery at a time and place convenient to the woman.

My thesis committee has approved this research and ethical approval has been granted from the Ethical Review Committee of the Faculty of Nursing, University of Manitoba. I anticipate commencing this study in June, 1996.

For further information about the study, please refer to the enclosed letter of explanation of the study that will be provided to each participant.

Upon completion of this study, I would be pleased to provide you with a summary of the findings. If you would like to speak with me concerning my request, please call me at 489-8934 or you may call Dr. Annette Gupton, my thesis advisor, at the University of Manitoba at 474-6220.

Thank you for your time and consideration of my request. I will contact you by telephone for your reply.

Sincerely,

Barbara Petrowski, R.N., B.N.

*** A letter for permission to access patients was also sent to the following physicians:**

Dr. Carl Collister

Dr. Susan Taylor

Dr. Mary-Jane Seager

Dr. Michael Helewa

APPENDIX B**Letter of Access to Hospital Sites****(Date)**

**Ms. K. Stansfield
Nursing Program Development
and Evaluation Specialist
St. Boniface Hospital
409 Tache Ave.
Winnipeg, Manitoba**

Dear Ms. Stansfield**Re: Request for Nurse Researcher Access**

I am writing to ask your permission to access prenatal women taking childbirth education classes at St. Boniface Hospital for a nursing research study. The study is in partial fulfillment of the requirements for the degree of Master of Nursing in the Faculty of Nursing at the University of Manitoba.

The purpose of this research project is to examine factors which influence transition to motherhood in first-time mothers. I am requesting permission to access primigravid women in the classes. I would visit prenatal classes to recruit primigravid women between 35 and 40 weeks gestation for the study.

My thesis proposal has been by approved by members of my thesis committee. The committee includes: Dr. Annette Gupton (Chair); Maureen Heaman (Internal Member); and Dr. Caroline Piotrowski (External Member).

Ethical approval to conduct this study is being sought from the Ethical Review Committee of the Faculty of Nursing, University of Manitoba. Review of my proposal will take place on May 6, 1996. Subject recruitment and data collection can begin once ethical approval and permission to access patients has been received. I anticipate commencing this study in May, 1996.

For further details about the study, please refer to the enclosed letter of explanation of the study to potential participants.

If you would like to speak with me concerning my request, please call me at 489-8934. Dr. Annette Gupton call be reached at the University of Manitoba at 474-6220.

Thank you for your time and consideration of my request. Enclosed are completed hospital request for access forms.

Sincerely,

**Barbara Petrowski, R.N., B.N.
Graduate Student
Faculty of Nursing
University of Manitoba**

cc. Dr. Annette Gupton

*** A letter requesting access to potential subjects was sent to the appropriate contact at Women's Hospital and the Victoria Hospital.**

APPENDIX C

Invitation to Participate for Office Patients

Hello, my name is Barbara Petrowski. I am a registered nurse and a graduate student in the Master of Nursing Program at the University of Manitoba. As part of my program, I am conducting a study to examine how certain factors affect the experience of motherhood in first-time mothers.

I am here to invite first-time moms-to-be who are between 35 and 40 weeks pregnant to participate in the study. Participation involves completing 2 sets of questionnaires and requires about 1 hour of your time. Participation in the study is completely voluntary and your decision whether to participate or not will not affect the care you receive. Would you be interested in hearing more about participation in this study?

(If patient does not want more information) Thank you for your time.

(If patient is interested in gaining more information) Here is a written explanation of the study for you to read. It provides more information that you may wish to know. After you have read it, we can discuss it or I will answer any questions you might have about the study.

(If patient does not wish to participate after reading the explanation) Thank you very much for the time you have taken to hear about this study.

(If patient does wish to participate) Thank you for volunteering to participate in this study. I have a form here for you to sign indicating that you agree to participate. If you have time now, I would like to have you complete the first set of questionnaires. Otherwise, we can make an appointment to do this at a time and place convenient for you.

APPENDIX D**Invitation to Participate for Attendees at Childbirth Education Classes**

Hello, my name is Barbara Petrowski. I am a registered nurse and a graduate student in the Master of Nursing Program at the University of Manitoba. As part of my program I am conducting a study to examine how certain factors affect the experience of motherhood in first-time mothers.

I am here to invite first-time moms-to-be who are between 35 and 40 weeks pregnant to participate in the study. Participation involves completing 2 sets of questionnaires and requires about 1 hour of your time. This study is completely voluntary and your decision whether to participate or not will not affect the teaching you receive.

I will be staying for the remainder of today's class. If you are interested in participating or in hearing more about the study please approach me at the break or at the end of the session.

Thank you for your time.

APPENDIX E

Written Explanation of the Study for Potential Participants

My name is Barbara Petrowski. I am a registered nurse and a student in the Master of Nursing Program at the University of Manitoba. As part of my program, I am conducting a study to learn how specific factors may affect adjustment to motherhood in first-time mothers. The goal of the study is to determine if adjustment to motherhood is influenced by family support, past experience with infants, planning for the new baby, a mother's physical and emotional health, importance of being a mother, and ideas about what it will be like to be a mother. This study has received scientific and ethical approval.

I have received permission to contact possible participants at this site. I am approaching you because I understand that you are expecting your first baby in approximately 5 weeks. If the study criteria applies to you, I would like to invite you to participate in this study.

If you agree to participate, you will be asked to complete two sets of questionnaires. The first set can be completed now, if you have time. I may not be able to offer you a private space to complete these questionnaires. If you do not wish to complete them at this time or location, we can make arrangements for you to complete them at a time and place convenient to you. The first set of questionnaires will take about 15-30 minutes of your time. The second set of questionnaires is to be completed four to six weeks after you have your baby and will take about 15-30 minutes to complete. I will telephone you approximately 2 weeks after your due date to make an appointment to visit you at home. Four to six weeks after your delivery I will meet you at a time and place convenient to you and bring the second set of questionnaires for you to complete.

Participation in this study is completely voluntary. Your decision whether to participate or not will not affect your care in anyway. You do not have to answer any of the questions that you do not wish to answer. You may withdraw from the study at any time without consequences to you or your care.

If you do agree to participate, your identity and any information you provide will remain strictly confidential. Your identity will be known only to myself. Your information will be identified by a code number. Data from studies will be retained for 7 to 10 years following completion of the study, then destroyed. All information will be locked in a cabinet and destroyed at the end of this time period. Any written reports of this study will describe group information only. If you wish, you will be provided with a summary of the results of this study.

Participation in this study will not directly benefit you but information gained from this study may provide caregivers with a better understanding of first-time motherhood. This study has been designed to be risk free and participation should not cause you any distress.

If you choose to participate, I will ask you to sign a consent form. At this time I would like to give you an opportunity to ask any questions you might have about this study.

APPENDIX F
Consent Form for Participants

I understand that Barbara Petrowski, who is a Registered Nurse and a student in the Master of Nursing Program at the University of Manitoba, is conducting this study as part of her nursing program. I understand that the purpose of this research is to examine factors that influence a first-time mother's adjustment to motherhood. Also, I understand that the study has been approved by the Ethical Review Committee of the Faculty of Nursing.

I understand that I am being approached to participate because I am expecting my first baby in approximately 4-5 weeks.

I agree to complete two sets of questionnaires that ask me questions about becoming a mother. Also, I understand I will be asked questions about myself such as, my age, family income, and education level. I understand that the first set of questionnaires can be completed today if I agree and will take 15-30 minutes. I agree that the researcher may contact me by telephone to arrange a time and place to complete the second set of questionnaires which will require 15-30 minutes of my time.

I understand that participation in this study is completely voluntary, that I can refuse to answer any specific question(s), and that I can withdraw from the study at any time. My decision whether or not to participate will not affect the care I receive.

I have been assured that my involvement in this study will remain strictly confidential I understand that only the investigator will know my identity and all information that I provide will be identified with a code number so that prenatal and postpartum information can be matched. I understand that any written reports or publications pertaining to this study will describe only group information and that I can not be identified in these reports. I understand that during and after the research, all information will be kept in a locked area and destroyed after seven to ten years.

I understand that there are no known benefits for me from participating in this research study. I am aware that this study is designed to be risk free and I should not experience any distress from participating in it. I have been given an opportunity to ask question about the study and fully understand what the study is about and my role in the study. I understand I will receive a copy of this consent form.

If necessary, I am aware that I may contact Barbara Petrowski at 489-8934 or her study advisor, Dr. Annette Gupton, at 474-6220 at the Faculty of Nursing, University of Manitoba. My signature below indicates my willingness to participate in the study.

(Participant) _____ Phone number: _____

(Investigator) _____ Date: _____

If you would like to receive results of this study please provide the following information:

Name: _____

Mailing address:

Postal Code: _____

APPENDIX G

Questionnaire on Motherhood

This questionnaire contains questions about motherhood or becoming a mother. The information you provide along with information from other pregnant women will be used to learn more about women and first-time motherhood. There are no right or wrong answers. Women may differ in their opinions about motherhood.

INSTRUCTIONS

Answer each question by placing a mark through the horizontal line at the point that corresponds to your answer. Below is an example to help you in completing the questionnaire.

EXAMPLES

1. *Do you have pain?*

None of the time |-----| *All of the time*

If you have pain almost all of the time, you would mark the line as follows:

None of the time |-----| *All of the time*

If you seldom have pain, you would mark the line as follows:

None of the time |-----| *All of the time*

Questionnaire begins on next page, please turn to next page.....

QUESTIONNAIRE

1. When you think about motherhood, overall what kind of an experience is it?

An extremely negative experience |-----| An extremely positive experience

2. How much past experience have you had in caring for an infant less than 1 year of age?

None |-----| A great deal

3. How much planning have you and your partner done to get ready for life with a baby?

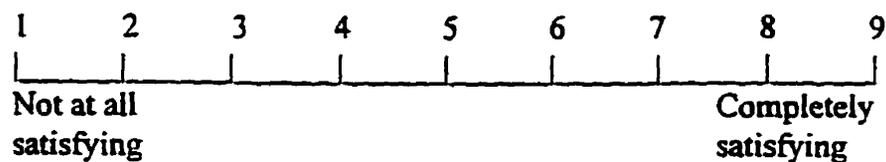
None |-----| A great deal

APPENDIX H
Prenatal What Being the Parent of a Baby
Will Be Like Questionnaire

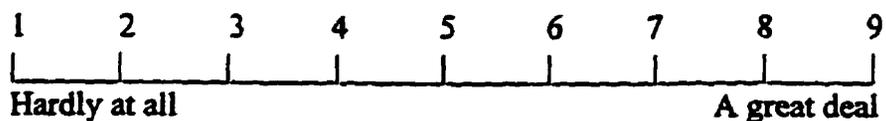
FOR EACH QUESTION, PLEASE **CIRCLE** THE NUMBER THAT BEST SHOWS YOUR ANSWER. FOR EXAMPLE:



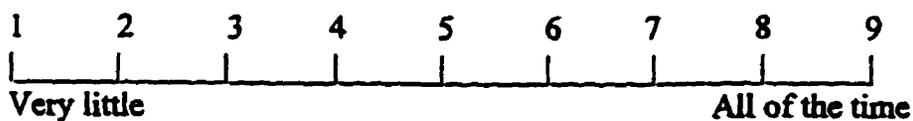
1. How satisfying will being the parent of a new baby be for you?



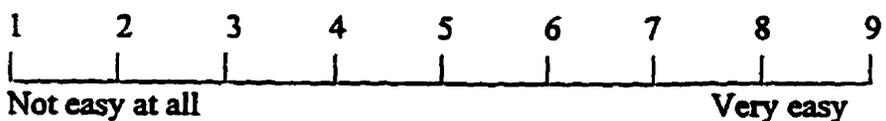
2. How much will your life change when you have the baby?



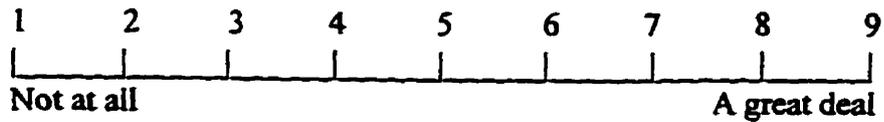
3. How much will the baby be on your mind when you are at home with him/her?



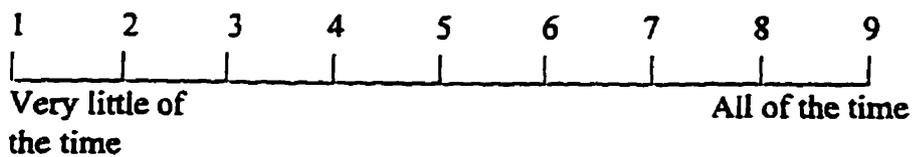
4. Overall, how easy will it be for you to be distracted from thinking about the baby?



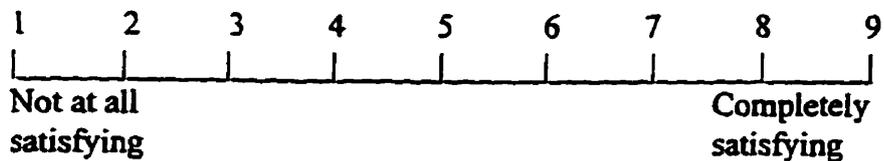
5. How much do you think that you will positively affect your baby's development? ¹⁹⁸



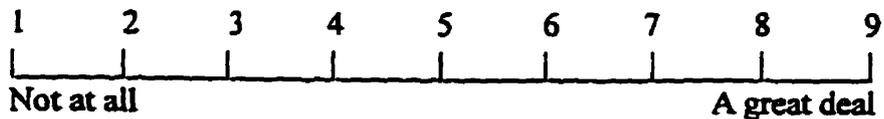
6. How much will the baby or the baby's care be on your mind?



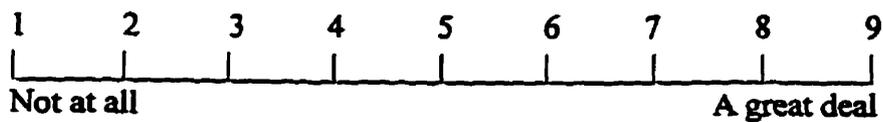
7. How much will the tasks of taking care of a new baby be satisfying to you?



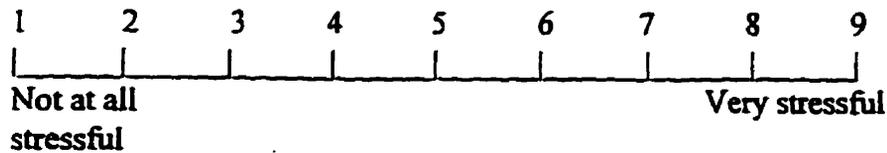
8. How much do you think your baby will enjoy his/her interactions with you?



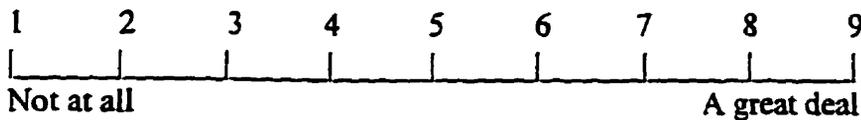
9. How much will you relate to family members in a different way when you have had the baby?



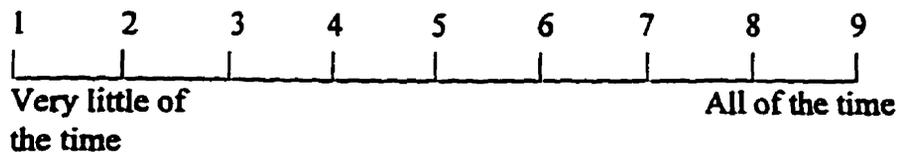
10. On the whole, how stressful will your life be, being the parent of a young baby and perhaps having other things to deal with?



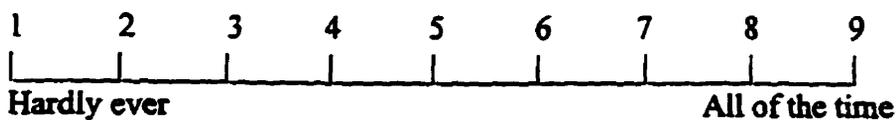
11. How much will you look at yourself differently when you have the baby?



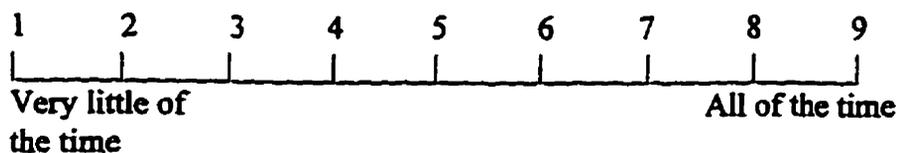
12. When you go out and leave the baby with someone else, how much will you have the baby on your mind during the time that you are away?



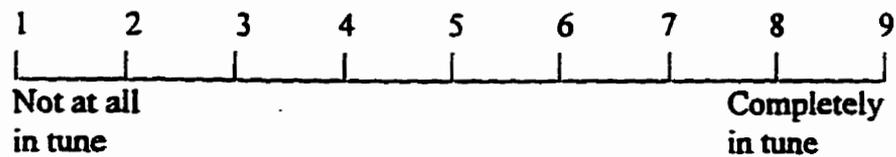
13. How much of the time will you be able to tell what your baby needs?



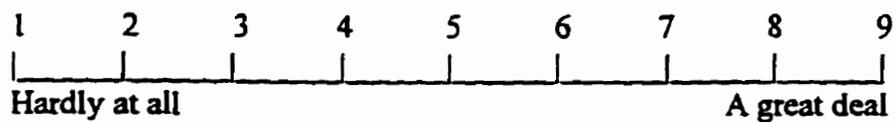
14. How much will the baby seem like a person, with his/her own personality, to you?



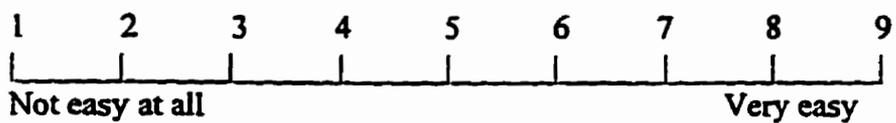
20. How in tune with your baby will you feel? (How much will you feel like you and your baby are in harmony with each other?)



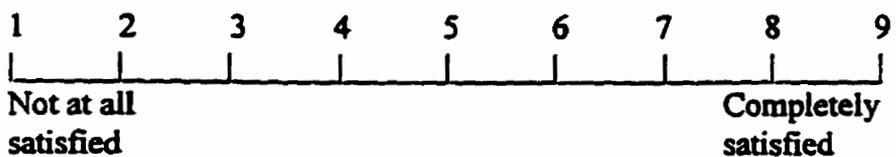
21. How much will your life with members of your family change?



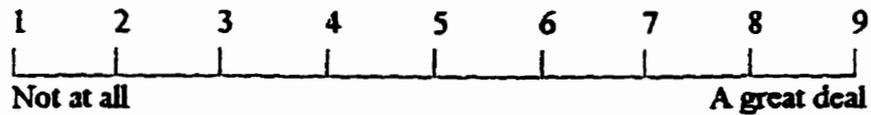
22. How easy will it be for you to leave the baby with someone other than your spouse/partner when you go out?



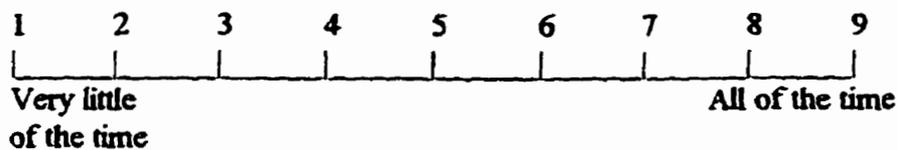
23. How satisfied will you be with the way that you relate to your baby and your baby's needs?



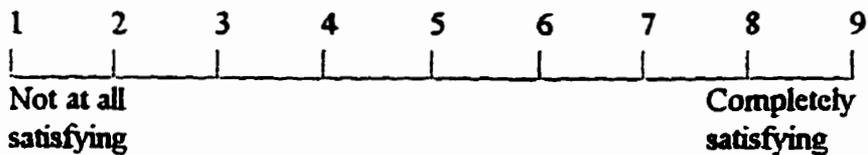
5. How much do you think that you positively affect your baby's development?



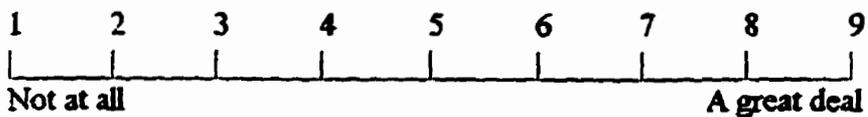
6. How much is the baby or the baby's care on your mind?



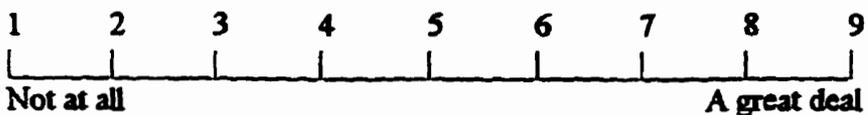
7. How much have the tasks of taking care of a new baby been satisfying to you?



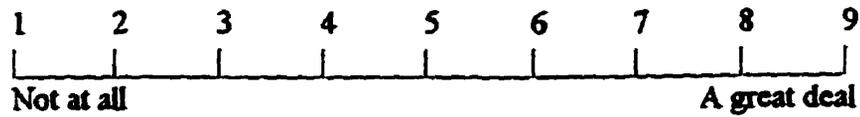
8. How much do you think your baby enjoys his/her interactions with you?



9. How much do you relate to family members in a different way since you have had the baby?



25. How much does the baby or the baby's care come first in your thoughts, taking precedence over things you would otherwise spend time thinking about?



26. Please use this space to write anything that you think is important to help us understand what being the parent of a baby is like for you.

Date completed: _____

APPENDIX J

Letter of Permission to Use WPL-R



School of Nursing
University of Wisconsin-Madison

Center for Health Sciences
Clinical Science Center
600 Highland Avenue
Madison, Wisconsin 53792-2455
FAX: 608-263-5352

November 3, 1994

Barbara Petrowski
E6039
409 Tache Ave.
Winnipeg, Manitoba
CANADA R2H 2A6

Dear Ms. Petrowski:

I have enclosed for you a copy of the revised WPL and the articles that describe it. Please let me know if you have any questions about these papers or the instrument. I can be reached at (608) 263-5282. I will also be very happy to receive any suggestions you have. I will be very interested in what you decide to do about revising Evaluation items for administering prenatally.

Best wishes to you regarding your research.

Sincerely yours,

Karen F. Pridham dh
Karen F. Pridham, RN, PhD, FAAN
Helen Denne Schulte Professor of Nursing
School of Nursing
Professor
Department of Family Medicine and Practice
Medical School

KFP:dh

March 15, 1996. Telephone communication with Dr. Pridham. My intent was to administer all 3 subscales at the prenatal collection period, not only the Evaluation subscale. Dr. Pridham agreed this would be OK with her.

- C 6. — 6. How much is the baby or the baby's care on your mind?
- 1 2 3 4 5 6 7 8 9
 Very little of All of the time
- E 7. — 7. How much have the tasks of taking care of a new baby been satisfying to you?
- 1 2 3 4 5 6 7 8 9
 Not at all satisfying Completely satisfying
- E 8. — 8. How much do you think your baby enjoys his/her interactions with you?
- 1 2 3 4 5 6 7 8 9
 Not at all A great deal
- LC 9. — 9. How much do you relate to family members in a different way since you have had the baby?
- 1 2 3 4 5 6 7 8 9
 Not at all A great deal
- LC 10. — 10. On the whole, how stressful is your life, being the parent of a young baby and perhaps having other things to deal with?
- 1 2 3 4 5 6 7 8 9
 Not at all stressful Very stressful
- LC 11. — 11. How much do you look at yourself differently since you have had the baby?
- 1 2 3 4 5 6 7 8 9
 Not at all A great deal
- C 12. — 12. When you go out and leave the baby with someone else, how much do you have the baby on your mind during the time that you are away?
- 1 2 3 4 5 6 7 8 9
 Very little of the time All of the time
- E 13. — 13. How much of the time can you tell what your baby needs?
- 1 2 3 4 5 6 7 8 9
 Hardly every Almost all of the time

- E* 14. — 14. How much does the baby seem like a person, with his/her own personality, to you?
- 1 2 3 4 5 6 7 8 9
 Very little of the time All of the time
- C* 15. — 15. How much is the baby's physical health on your mind?
- 1 2 3 4 5 6 7 8 9
 Very little of the time All of the time
- C* 16. — 16. How easy would it be for you to leave the baby with your spouse/partner when you go out?
 (R)
- 1 2 3 4 5 6 7 8 9
 Not easy at all Very easy
 ___ Not applicable. (99)
- E* 17. — 17. How well do you think that you know your baby?
- 1 2 3 4 5 6 7 8 9
 Hardly at all Very well
- E* 18. — 18. How well are you meeting your expectations for yourself as a parent of a new baby?
- 1 2 3 4 5 6 7 8 9
 Not at all Completely
- F* 19. — 19. How much has the baby's growth and development been a source of satisfaction to you?
- 1 2 3 4 5 6 7 8 9
 Not at all A great deal
- E* 20. — 20. How in tune with your baby do you feel? (How much do you feel like you and your baby are in harmony with each other?)
- 1 2 3 4 5 6 7 8 9
 Not at all in tune Completely in tune
- LL* 21. — 21. How much has your life with members of your family changed?
- 1 2 3 4 5 6 7 8 9
 Hardly at all A great deal

SOCIAL SUPPORT QUESTIONNAIRE

PLEASE READ ALL DIRECTIONS
ON THIS PAGE BEFORE STARTING

Please list each significant person in your life on the right. Consider all the persons who provide personal support for you or who are important to you.

Use only first names or initials, and then indicate the relationship, as in the following example:

Example:

	First Name or Initials	Relationship
1.	MARY T.	FRIEND
2.	BOB	BROTHER
3.	M.T.	MOTHER
4.	SAM	FRIEND
5.	MRS. R.	NEIGHBOR

etc.

Use the following list to help you think of the people important to you, and list as many people as apply in your case.

- spouse or partner
- family members or relatives
- friends
- work or school associates
- neighbors
- health care providers
- counselor or therapist
- minister/priest/rabbi
- other

You do not have to use all 24 spaces. Use as many spaces as you have important persons in your life.

WHEN YOU HAVE FINISHED YOUR LIST, PLEASE TURN TO PAGE 2.

Note: Before use, pages 1-4 should be cut along the dashed center line to allow the response lines for Questions 1-6 to align with the Personal Network list on page 5.

For each person you listed, please answer the following questions by writing in the number that applies.

- 0 = not at all
- 1 = a little
- 2 = moderately
- 3 = quite a bit
- 4 = a great deal

Question 1:

How much does this person make you feel liked or loved?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

[EMO1]

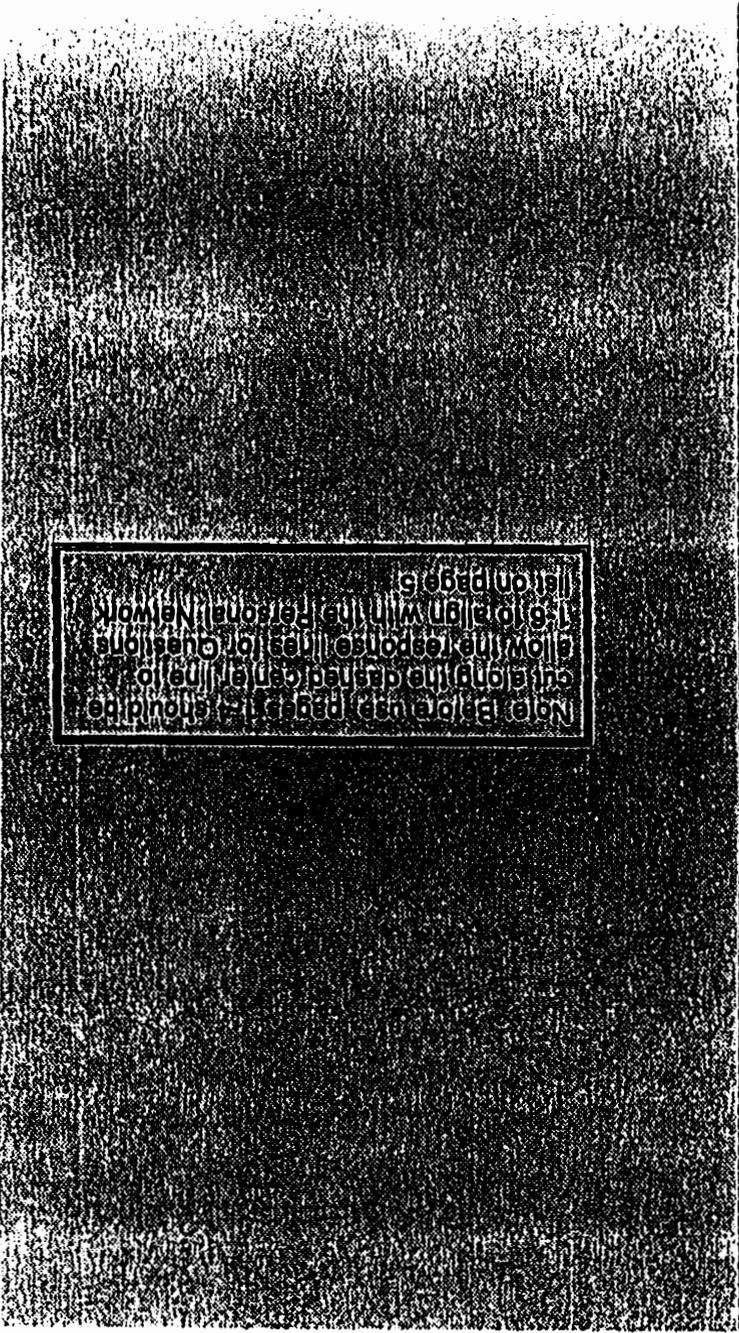
Question 2:

How much does this person make you feel respected or admired?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

[EMO2]

Note: Be sure to use pages 1-4 and circle the
 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



Note: Be prepared for a 15-minute
written response to the questions
in the response section of the
test. You will be given 15 minutes
to respond to the questions.

0 = not at all
1 = a little
2 = moderately
3 = quite a bit
4 = a great deal

Question 3:
How much can you confide
in this person?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(EMO3)

Question 4:
How much does this person
agree with or support your
actions or thoughts?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(EMO4)

GO ON TO NEXT PAGE

- 0 = not at all
- 1 = a little
- 2 = moderately
- 3 = quite a bit
- 4 = a great deal

Question 5:

If you needed to borrow \$10, a ride to the doctor, or some other immediate help, how much could this person usually help?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(AID5)

Question 6:

If you were confined to bed for several weeks, how much could this person help you?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(AID6)

Note: Before use, pages 1-4 should be cut along the dashed center line to allow the response lines for Questions 1-6 to align with the Personal Network list on page 5.

Question 7:

How long have you known this person?

- 1 = less than 6 months
- 2 = 6 to 12 months
- 3 = 1 to 2 years
- 4 = 2 to 5 years
- 5 = more than 5 years

1.	_____	
2.	_____	
3.	_____	
4.	_____	
5.	_____	
6.	_____	
7.	_____	
8.	_____	
9.	_____	
10.	_____	
11.	_____	
12.	_____	
13.	_____	
14.	_____	
15.	_____	
16.	_____	
17.	_____	
18.	_____	
19.	_____	
20.	_____	
21.	_____	
22.	_____	
23.	_____	
24.	_____	

[DURATION]

Question 8:

How frequently do you usually have contact with this person? (Phone calls, visits, or letters)

- 5 = daily
- 4 = weekly
- 3 = monthly
- 2 = a few times a year
- 1 = once a year or less

1.	_____	
2.	_____	
3.	_____	
4.	_____	
5.	_____	
6.	_____	
7.	_____	
8.	_____	
9.	_____	
10.	_____	
11.	_____	
12.	_____	
13.	_____	
14.	_____	
15.	_____	
16.	_____	
17.	_____	
18.	_____	
19.	_____	
20.	_____	
21.	_____	
22.	_____	
23.	_____	
24.	_____	

[FREQUENCY]

Number _____
Date _____

PERSONAL NETWORK

	First Name or Initials	Relationship
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____
11.	_____	_____
12.	_____	_____
13.	_____	_____
14.	_____	_____
15.	_____	_____
16.	_____	_____
17.	_____	_____
18.	_____	_____
19.	_____	_____
20.	_____	_____
21.	_____	_____
22.	_____	_____
23.	_____	_____
24.	_____	_____

PLEASE BE SURE YOU HAVE RATED EACH PERSON ON EVERY QUESTION. GO ON TO THE LAST PAGE.

9. During the past year, have you lost any important relationships due to moving, a job change, divorce or separation, death, or some other reason?

0. No
 1. Yes

(LOSS)

IF YES:

9a. Please indicate the number of persons from each category who are *no longer available* to you.

- _____ spouse or partner
- _____ family members or relatives
- _____ friends
- _____ work or school associates
- _____ neighbors
- _____ health care providers
- _____ counselor or therapist
- _____ minister/priest/rabbi
- _____ other (specify) _____

(LOSS1)
 (LOSS2)
 (LOSS3)
 (LOSS4)
 (LOSS5)
 (LOSS6)
 (LOSS7)
 (LOSS8)
 (LOSS9)
 (LOSS10)

9b. Overall, how much of your support was provided by these people who are no longer available to you?

- _____ 0. none at all
- _____ 1. a little
- _____ 2. a moderate amount
- _____ 3. quite a bit
- _____ 4. a great deal

(LOSSAM1)

APPENDIX M

NSSQ Scoring Information

1995

SCORING INSTRUCTIONS FOR THE
NORBECK SOCIAL SUPPORT QUESTIONNAIRE (NSSQ)Instrument: developed 1980; revised 1982, 1995
Scoring Instructions: developed 1982; revised 1984, 1994, 1995Jane Norbeck, RN, DNSc
University of California, San FranciscoBACKGROUND INFORMATION ON
THE DEVELOPMENT OF THE NSSQ

The NSSQ was developed in 1980 to measure multiple components of social support in a format that allows respondents to list and rate their own social support network members on functional properties of social support (e.g., emotional and tangible support) and according to some network properties (e.g., stability of relationships, frequency of contact). In addition, questions about recent losses of supportive relationships provide descriptive data.

The conceptual basis for the NSSQ, a description of the instrument, and the results of the first phase of testing the reliability and validity of the instrument were presented in *Nursing Research* (Norbeck, Lindsey, & Carrieri, 1981). Minor modifications were made in the instrument in 1982, and a second phase of testing further examined validity and provided normative data from employed adults (Norbeck, Lindsey, & Carrieri, 1983).

The 1995 Revision

In 1995 the NSSQ was revised to make the format of the instrument, scoring sheet, and scoring instructions compatible with the Window's version of SPSS for data entry and analysis. The substantive content of the instrument was not changed.

There are three differences between the 1980/82 and 1995 versions of the NSSQ. First, the 5-point rating scale for Questions 1-6 was changed from a 1-5 scale to a 0-4 scale in the 1995 version of the instrument itself to eliminate the need for the scoring adjustment that had been introduced in 1984. Second, the printed format of the instrument and scoring sheet was changed to use variable names rather than column numbers for data entry. Third, two of the original subscales, Affect and Affirmation, were combined into a single subscale, Emotional Support, in the Scoring Instructions. Empirical work with the instrument had shown that Affect and Affirmation were too highly intercorrelated to warrant keeping them as separate variables, and the results of factor analysis (see Appendix A) confirmed a two factor solution of Emotional Support and Tangible Support.

These 1995 scoring instructions should be used with the 1995 version of the NSSQ. For data collected with the 1980/82 version of the NSSQ, the additional instructions in Appendix B must be carried out prior to applying the scoring instructions presented here.

Permission to use the NSSQ may be obtained by submitting two copies of the request form for permission to copy and use the NSSQ (Appendix C).

SCORING THE NSSQ

The NSSQ can be scored directly from the questionnaire or the responses may be transferred to a one-page scoring sheet (see Figure 1). The advantages of using the scoring sheet are that the data are fully represented on a single page and additional variables related to source of support can be calculated.

SPSS program statements were developed for the NSSQ to calculate variables, subscales, and source-specific scores. In addition, these statements check for the types of errors in the data that result in scores outside the possible range for calculated scores. The SPSS program statements for the NSSQ, are provided in Appendix D.

Direct Scoring Method

Table 1 presents a Computer Code Book for the data obtained from the NSSQ. The items are listed in the order that they appear on the questionnaire.

"Number Listed in Network" [NOLISTED] is the number of entries made on the network list. Scores for this item range from 1-24, however, a few subjects list more than 24 persons. In this case, the actual number listed is entered, and the ratings for these additional persons are calculated into the scores for Questions 1-8.

For Questions 1-8, the scores are obtained, first, by adding the ratings for each question on pages 2-5 and entering the sums in the columns indicated [EMO1, EMO2, etc. to FREQCON].

"Source Category" [SOU1 to SOU24] is obtained by entering the appropriate category code for each of the first 24 network members listed. In the Relationship column of the personal network list on the NSSQ, subjects have indicated the type of relationship. These entries are coded as follows:

- 0 = none (or a study-specific category)
- 1 = spouse or partner
- 2 = family or relatives
- 3 = friends
- 4 = work or school associates
- 5 = neighbors
- 6 = health care providers
- 7 = counselor or therapist
- 8 = minister, priest or rabbi
- 9 = other (e.g., God, pets)

The first of the recent loss items on page 6 is coded 0 = no, 1 = yes [LOSS]. The total number of persons indicated in Question 9a is entered for "Number Lost" [LOSSNO]. The number indicated for each category is also entered [LOSS1 to LOSS9]. The number checked by the subject for Question 9b is entered for "Amount of Support Lost" [LOSSAMT].

For subjects who answer Question 9 with a "no" response, special scoring for Questions 9a and 9b must be done to avoid subsequent problems with missing data on the Total Loss variable. Since these subjects do not answer Questions 9a and 9b, answers indicating no losses are supplied. For each category of 9a, a "0" response is entered [LOSS1 to LOSS9], and for "Number Lost" [LOSSNO], a "0" is entered. For Question 9b, a "0" is entered for "amount of Support Lost" [LOSSAMT].

Scoring Sheet Method

Prior to transferring the subject's responses to the scoring sheet, the Source Categories are coded (0-9) as indicated above. These code numbers are entered in the first column of the scoring sheet entitled "Relationship."

"Subject Number" [IDNO] and "Number in Network" [NOLISTED] are obtained from the Personal Network page of the NSSQ. The subject's ratings for Questions 1-8 are transferred to the scoring sheet. For those subjects who listed more than 24 network members, an additional scoring sheet is used, and the totals of both sheets are calculated. The columns for Questions 1-8 are added on the scoring sheet and the sums entered in the "Question Totals" row.

The coding and entering of data from the recent loss items follows the same procedure described in the direct scoring section. These scores are entered along the bottom of the scoring sheet [LOSS to LOSSAMT].

The right side of the scoring sheet comprises the additional scoring that is not easily calculated in the direct scoring method. Table 2 presents a Computer Code Book for

these data. "Person Totals" are the sums across the rows for Questions 1-6 for each person listed in the network (PER1 to PER24). Frequency of contact with individual network members, "Individual Contact," is taken directly from the ratings for Question 8 [CON1 to CON24]. By using the information about source of support [SOU1 to SOU24], the computer can be directed to calculate Person Totals and Individual Contact for each Source Category (e.g., the amount of functional support from friends vs. relatives, the frequency of contact from various Source Categories). For repeated measures designs, these data would be useful to compare sources of support over time in terms of type and amount of support available.

SUBSCALES AND VARIABLES

The scores entered for the variables listed in Table 1 are combined to form subscales and variables. Using the Variable Names from Table 1, the combinations, calculated by the computer, are described below.

Calculating Subscales

The original constructs of affect, affirmation, and aid are each measured through the ratings made in response to two questions. As noted in the section on the 1995 revision, only two constructs emerged from factor analysis. Therefore, the items are combined into scores for the subscales (Emotional and Tangible Support) as follows:

$$\text{EMO1} + \text{EMO2} + \text{EMO3} + \text{EMO4} = \text{EMOSUP}$$

$$\text{AID5} + \text{AID6} = \text{AID}$$

Calculating Variables

Each of the three main variables is composed of 2-3 subscales. The code name for Total Functional is TLFUNCT; for Total Network Properties, TLNETWRK; and for Total Loss, TLLOSS.

Variable Subscales

$$\text{TLFUNCT} = \text{EMOSUP} + \text{AID}$$

$$\text{TLNETWRK} = \text{NOLISTED} + \text{DURATION} + \text{FREQCON}$$

$$\text{TLLOSS} = \text{LOSS} + \text{LOSSNO} + \text{LOSSAMT}$$

Missing Data

Occasionally a subject will not rate an individual network member on a question. This omission does not seriously affect the subscale or variable in which the item is imbedded. However, if the subject does not give ratings for an entire question, the subscale and/or variable calculated from that question is not valid. In this case, only complete subscales or variables for that subject can be used, and the unanswered question and its corresponding subscale and/or variable cannot be used. For example, if a subject did not answer Question 5, the Aid subscale would be incomplete, and the variable, Total Functional, cannot be calculated. The other subscale (Emotional Support) and

the other two variables (Total Network Properties and Total Loss) can still be used for this subject.

SOURCE-SPECIFIC DATA

Additional information available from the NSSQ can be analyzed to determine (a) the composition of the network according to Source Category [SOU1 to SOU24], (b) the categories of persons recently lost by the subject [LOSS1 to LOSS9], (c) the amount of functional support provided by each network member [PER1 to PER24], and (d) the frequency of contact with each network member [CON1 to CON24]. The latter two types of information can be calculated for the 9 Source Categories to determine the amount of functional support provided by each category and the frequency of contact with each category.

In some cases, the amount of variance explained by source-specific categories is much greater than global scores. In a study of critical care nurses, for unmarried nurses a specific source of support (from relatives) explained 10% of the variance in perceived job stress and 16% of the variance in psychological symptoms—double or triple the effect of the total functional support score from the full network for the full sample (Norbeck, 1985). Findings from a study of low-income pregnant women showed that specific sources of support (the women's mother or male partner) were predictive of pregnancy outcomes for African-American women; whereas, the total scores were not (Norbeck & Anderson, 1989).

SITUATION-SPECIFIC SUPPORT QUESTIONS

A final area of exploration in the use of the NSSQ has been the incorporation of situation-specific questions for particular populations. In a study of work stress in critical care nursing (Norbeck, 1985), two questions were included on a half-page inserted after the Aid questions: How much can you talk about your work with this person? and How much does this person help you relax or re-energize after work? Findings from this study showed that situation-specific support (work support) explained 24% of the variance of perceived job stress for the married nurses—nearly double that of the total functional support score for this group.

Both the situation-specific and source-specific findings are exploratory and need replication with other populations. The specific types or sources of support that are most effective undoubtedly will vary by sociodemographic characteristics of the population and type of situation the population group is confronting. If similar results are obtained with different populations, they will provide a basis for greater specificity in assessing social support and in designing interventions to augment low social support.

COMMENT ON THE USE OF AVERAGE SCORES

Some investigators have raised questions about the impact of the format of the NSSQ which does not allow separation of quantity of support from quality of support. In this format,

the more network members a person has, the higher their support scores will be, regardless of the ratings of the amount of support given for the individual network members.

This concern, while valid from a theoretical perspective, has not been born out by empirical experience; furthermore, a demonstration of calculating average scores shows that such scores create a bias against individuals who report larger networks. First, empirical experience has shown that participants seldom name individuals in their social support network who provide low levels of support across the various types of support. Thus, the more network members, the greater amount of support—both in terms of numbers of supporters and quality of support.

Second, the fallacy of averaging (in an attempt to separate quantity from quality) is that such scores result in an artifact which biases against respondents who report large numbers of supporters. To illustrate, take two respondents, A and B. Respondent A lists 4 network members and gives each of these network members high scores for quality of support. Respondent B lists 14 network members and gives high scores for the first 8 network members, and lower scores for the other network members as shown:

A's scores: 5 5 5 5

B's scores: 5 5 5 5 5 5 5 4 4 3 3 2 2

The average score for Respondent A is 5, and the average score for Respondent B is 4.14—yet Respondent B had twice the number of network members rated as providing the highest quality of support (5) and other members who provided at least some support.

Although the SPSS program statements compute average scores for use in methodological analyses, it is theoretically and methodologically unwise to use them as substantive variables.

REFERENCES

- Norbeck, J. S. (1985). Types and sources of social support for managing job stress in critical care nursing. *Nursing Research*, *34*, 225-230.
- Norbeck, J. S., & Anderson, N. J. (1989). Psychosocial predictors of pregnancy complications in low income black, hispanic, and white women. *Nursing Research*, *38*, 204-209.
- Norbeck, J. S., Lindsey, A. M., & Carrieri, V. L. (1981). The development of an instrument to measure social support. *Nursing Research*, *30*, 264-269.
- Norbeck, J. S., Lindsey, A. M., & Carrieri, V. L. (1983). Further development of the Norbeck Social Support Questionnaire: Normative data and validity testing. *Nursing Research*, *32*, 4-9.

APPENDIX N

Letter of Permission to Use NSSQ

I request permission to copy the 1995 revised version of the Norbeck Social Support Questionnaire (NSSQ) for use in research in a study entitled:

A Descriptive Correlational Study To Investigate Factors
That Influence Transition To Motherhood In First-
Time Mothers

I am aware that the revised 1995 Scoring Instructions should be used with this version of the NSSQ.

Barbara Petrowski April 19/96
 Signature of Investigator Date

BARBARA PETROWSKI
 Typed or Printed Name of Investigator

GRADUATE STUDENT FACULTY of Nursing
 Position

University of MANITOBA
 Institution

WINDYBEE, MANITOBA CANADA
 Address

 City, State, (Country), ZIP Code

Permission is hereby granted to copy the NSSQ for use in the research described above.

Jane S. Norbeck
 Jane S. Norbeck

April 19, 1996
 Date

Please send or fax two signed copies of this form to:

Jane S. Norbeck, RN, DNSc
 Professor and Dean
 School of Nursing, Box 0804
 University of California, San Francisco
 501 Parnassus Avenue
 San Francisco, CA 94143-1804
 FAX: (415) 476-9707

APPENDIX O

Well-being Index

INSTRUCTIONS

Below are questions about your physical condition and emotional state at this point in time.

Answer each question by placing a mark through the horizontal line at the point that corresponds to your answer. Below is an example to help you in completing the questionnaire.

EXAMPLES

1. *Are you cold?*

None of the time |-----| *All of the time*

If you are cold some of the time, you would mark the line as follows:

None of the time |-----| *All of the time*

If you are cold very little of the time, you would mark the line as follows:

None of the time |-----| *All of the time*

QUESTIONNAIRE

1. Overall, how good is your emotional state at this point in time?

Extremely poor |-----| Extremely good

2. Overall, how good is your physical condition at this point in time?

Extremely poor |-----| Extremely good

APPENDIX P

The Postpartum Self-Evaluation Questionnaire

Directions

The statements below have been made by mothers of young infants. Read each statement and decide which response best describes your feelings. Then circle the appropriate letter next to each statement.

	(4) Very Much So	(3) Moder- ately So	(2) Some- what So	(1) Not at All
1. I know what my baby likes and dislikes.	A	B	C	D
2. My husband participates in the care of the baby.	A	B	C	D
3. It bothers me to get up for the baby at night.	A	B	C	D
4. My husband is understanding (calms me) when I get upset.	A	B	C	D
5. This baby is a financial burden for us now.	A	B	C	D
6. Childbirth gave me a feeling of accomplishment.	A	B	C	D
7. My husband feels that caring for the baby is not his responsibility.	A	B	C	D
8. We need more things than we can afford to buy.	A	B	C	D
9. My recent delivery made me proud of myself.	A	B	C	D
10. I feel close to my husband.	A	B	C	D
11. It is boring for me to care for the baby and do the same things over and over.	A	B	C	D
12. I am uncertain about whether I can make the right decisions for my baby.	A	B	C	D
13. My husband helps as little as possible with child care.	A	B	C	D
14. When the baby cries, I can tell what s/he wants.	A	B	C	D
15. I have friends or relatives who reassure me as a mother.	A	B	C	D
16. My husband spends time with the baby.	A	B	C	D
17. My patience with the baby is limited.	A	B	C	D
18. I am concerned about raising children in the neighborhood we live in.	A	B	C	D
19. My parents criticize me as a mother.	A	B	C	D

	<u>Very Much So</u>	<u>Moder- ately So</u>	<u>Some- what So</u>	<u>Not at All</u>
20. I am unhappy with the amount of time I have for activities other than child care.	A	B	C	D
21. My husband gets annoyed when I ask him to help with the care of the baby.	A	B	C	D
22. I enjoy taking care of the baby.	A	B	C	D
23. I am upset about having too many responsibilities as a mother.	A	B	C	D
24. It is hard to talk to my husband about problems I have.	A	B	C	D
25. When bathing a diapering the baby, I would like to be doing something else.	A	B	C	D
26. I have doubts about whether I am a good mother.	A	B	C	D
27. I would like to be a better mother than I am.	A	B	C	D
28. I remember labor as unpleasant and frightening.	A	B	C	D
29. I can talk to some of my friends or relatives about questions I have concerning motherhood.	A	B	C	D
30. My budget allows me to get the help I need with housework and other tasks.	A	B	C	D
31. My husband criticizes me as a wife.	A	B	C	D
32. My husband wants to share in the care of the baby.	A	B	C	D
33. I am glad I had this baby now.	A	B	C	D
34. I get annoyed if the baby frequently interrupts my activities.	A	B	C	D
35. I am concerned about having a steady income for my family.	A	B	C	D
36. I feel that I know my baby and what to do for him/her.	A	B	C	D
37. My husband would rather spend time at work or a hobby than be with me.	A	B	C	D
38. My husband cares about how I feel.	A	B	C	D
39. My husband makes me feel I am a burden to him.	A	B	C	D
40. I have friends or relatives who encourage me to care for the baby in my own way.	A	B	C	D

	Very Much So	Moder- ately So	Some- what So	Not at All
41. I am able to hire a baby-sitter when I need one.	A	B	C	D
42. I enjoy being a mother.	A	B	C	D
43. When I am feeling down or depressed, my husband reassures me.	A	B	C	D
44. Feeding the baby gives me a feeling of satisfaction.	A	B	C	D
45. My husband and I are having problems with our marriage.	A	B	C	D
46. My parent(s) are interested in the baby.	A	B	C	D
47. I feel joyful when I remember the birth of the baby.	A	B	C	D
48. I feel I reacted badly to the pain of labor.	A	B	C	D
49. I can share my thoughts and feelings with my husband.	A	B	C	D
50. I am concerned about being able to meet the baby's needs.	A	B	C	D
51. There is enough money for all my family's basic needs.	A	B	C	D
52. I don't know how to care for the baby as well as I should.	A	B	C	D
53. I play with the baby between feedings when s/he is awake and quiet.	A	B	C	D
54. My husband shows an interest in the baby.	A	B	C	D
55. Discussions I have with my husband end in arguments.	A	B	C	D
56. My husband lets me down when I need him.	A	B	C	D
57. When the baby cries, my husband ignores it.	A	B	C	D
58. I have regrets about how I coped with labor.	A	B	C	D
59. I trust my own judgment in deciding how to care for the baby.	A	B	C	D
60. Our home is too small for all of us.	A	B	C	D
61. I know what my baby wants most of the time.	A	B	C	D
62. I can rely on friends or relatives to help me with the baby when necessary.	A	B	C	D
63. I am unsure about whether I give enough attention to the baby.	A	B	C	D
64. I feel burdened with the many demands made on me as a mother.	A	B	C	D

	Very Much So	Moder- ately So	Some- what So	Not at All
65. My husband dislikes caring for the baby.	A	B	C	D
66. My parent(s) make me feel like there is little I can do right.	A	B	C	D
67. Overall, my labor and delivery was a good experience.	A	B	C	D
68. I feel disappointed in the delivery experience I had.	A	B	C	D.
69. I have friends or relatives who are interested in the baby.	A	B	C	D.
70. I worry about how we will manage on our present income.	A	B	C	D.
71. My husband enjoys holding the baby.	A	B	C	D.
72. My parent(s) think I should take better care of the baby.	A	B	C	D.
73. Giving birth was gratifying to me.	A	B	C	D
74. My husband avoids helping me with child care.	A	B	C	D
75. I would prefer to go to work or classes and have someone else care for the baby.	A	B	C	D.
76. I am unsure of what to do for the baby when s/he cries.	A	B	C.	D.
77. My parent(s) seem to like the way I care for the baby.	A	B	C.	D.
78. I have friends or relatives who think I am a good mother.	A	B	C	D
79. I feel good about how I handled myself during labor and delivery.	A	B	C	D.
80. My parents show little interest in the baby.	A	B	C.	D.
81. I feel secure about my future financial situation.	A	B	C.	D.
82. I have confidence in my ability to care for the baby.	A	B	C.	D.

APPENDIX Q

PSQ Scoring Information

POSTPARTUM SELF-EVALUATION QUESTIONNAIRE
SCALE AND DIRECTION KEY

<u>Item</u>	<u>*Dir. Key</u>	<u>Scale Key</u>	<u>Item</u>	<u>*Dir. Key</u>	<u>Scale Key</u>	<u>Item</u>	<u>*Dir. Key</u>	<u>Scale Key</u>
1	1	V	33	1	VI	65	0	II
2	1	II	34	0	VI	66	0	VII
3	0	VI	35	0	IV	67	1	III
4	1	I	36	1	V	68	0	III
5	0	IV	37	0	I	69	1	VII
6	1	III	38	1	I	70	0	IV
7	0	II	39	0	I	71	1	II
8	0	IV	40	1	VII	72	0	VII
9	1	III	41	1	IV	73	1	III
10	1	I	42	1	VI	74	0	II
11	0	VI	43	1	I	75	0	VI
12	0	V	44	1	VI	76	0	V
13	0	II	45	0	I	77	1	VII
14	1	V	46	1	VII	78	1	VII
15	1	VII	47	1	III	79	1	III
16	1	II	48	0	III	80	0	VII
17	0	V	49	1	I	81	1	IV
18	0	IV	50	0	V	82	1	V
19	0	VII	51	1	IV			
20	0	VI	52	0	V			
21	0	II	53	1	VI			
22	1	VI	54	1	II			
23	0	VI	55	0	I			
24	0	I	56	0	I			
25	0	VI	57	0	II			
26	0	V	58	0	III			
27	0	V	59	1	V			
28	0	III	60	0	IV			
29	1	VII	61	1	V			
30	1	IV	62	1	VII			
31	0	I	63	0	V			
32	1	II	64	0	VI			

*Direction Key:

0 = Not reversed

1 = Reversed

POSTPARTUM SELF-EVALUATION QUESTIONNAIREI. QUALITY OF RELATIONSHIP WITH HUSBAND

- (43) 1. When I am feeling down or depressed, my husband reassures me.
- (38) 2. My husband cares about how I feel.
- (49) 3. I can share my thoughts and feelings with my husband.
- (4) 4. My husband is understanding (calms me) when I get upset.
- (10) 5. I feel close to my husband.
- (31) 6. My husband criticizes me as a wife.
- (24) 7. It is hard to talk to my husband about problems I have.
- (37) 8. My husband would rather spend time at work or a hobby than be with me.
- (56) 9. My husband lets me down when I need him.
- (55) 10. Discussions I have with my husband end in arguments.
- (39) 11. My husband makes me feel I am a burden to him.
- (45) 12. My husband and I are having problems with our marriage.

II. MOTHER'S PERCEPTION OF FATHER'S PARTICIPATION IN CHILD CARE

- (71) 1. My husband enjoys holding the baby.
- (2) 2. My husband participates in the care of the baby.
- (16) 3. My husband spends time with the baby.
- (7) 4. My husband feels that caring for the baby is not his responsibility.
- (54) 5. My husband shows an interest in the baby.
- (74) 6. My husband avoids helping with child care.
- (57) 7. When the baby cries, my husband ignores it.
- (21) 8. My husband gets annoyed when I ask him to help with the care of the baby.
- (32) 9. My husband wants to share in the care of the baby.
- (65) 10. My husband dislikes caring for the baby.
- (13) 11. My husband helps as little as possible with child care.

III. GRATIFICATION FROM THE LABOR AND DELIVERY EXPERIENCE

- (67) 1. Overall, my labor and delivery was a good experience.
- (79) 2. I feel good about how I handled myself during labor and delivery.
- (48) 3. I feel I reacted badly to the pain of labor.
- (6) 4. Childbirth gave me a feeling of accomplishment.
- (58) 5. I have regrets about how I coped in labor.
- (68) 6. I feel disappointed in the delivery experience I had.
- (28) 7. I remember labor as unpleasant and frightening.
- (73) 8. Giving birth was gratifying to me.
- (47) 9. I feel joyful when I remember the birth of the baby.
- (9) 10. My recent delivery made me proud of myself.

IV. SATISFACTION WITH LIFE SITUATION AND CIRCUMSTANCES

- (81) 1. I feel secure about my future financial situation.
- (70) 2. I worry about how we'll manage on our present income.
- (35) 3. I am concerned about having a steady income for my family.
- (51) 4. There is enough money for all my family's basic needs.
- (60) 5. Our home is too small for all of us.
- (8) 6. We need more things than we can afford to buy.
- (5) 7. This baby is a financial burden for us now.
- (18) 8. I am concerned about raising children in the neighborhood we live in.
- (41) 9. I am able to hire a babysitter when I need one.
- (30) 10. My budget allows me to get the help I need with housework and other tasks.

V. CONFIDENCE IN ABILITY TO COPE WITH TASKS OF MOTHERHOOD

- (26) 1. I have my doubts about whether I am a good mother.
- (17) 2. My patience with the baby is limited.
- (12) 3. I am uncertain about whether I can make the right decisions for my baby.
- (76) 4. I am unsure of what to do for the baby when s/he cries.
- (59) 5. I trust my own judgment in deciding how to care for the baby.
- (27) 6. I would like to be a better mother than I am.
- (61) 7. I know what my baby wants most of the time.
- (36) 8. I feel that I know my baby and what to do for him/her.
- (50) 9. I am concerned about being able to meet the baby's needs.
- (1) 10. I know what my baby likes and dislikes.
- (52) 11. I don't know how to care for the baby as well as I should.
- (14) 12. When the baby cries, I can tell what s/he wants.
- (63) 13. I am unsure about whether I give enough attention to the baby.
- (82) 14. I have confidence in my ability to care for the baby.

VI. SATISFACTION WITH MOTHERHOOD AND INFANT CARE

- (22) 1. I enjoy taking care of the baby.
- (25) 2. When bathing and diapering the baby, I would like to be doing something else.
- (75) 3. I would prefer to go to work or classes and have someone else care for the baby.
- (3) 4. It bothers me to get up for the baby at night.
- (11) 5. It is boring for me to care for the baby and do the same things over and over.
- (64) 6. I feel burdened with the many demands made on me as a mother.
- (34) 7. I get annoyed if the baby frequently interrupts my activities.
- (53) 8. I play with the baby between feedings when s/he is awake and quiet.
- (42) 9. I enjoy being a mother.
- (44) 10. Feeding the baby gives me a feeling of satisfaction.
- (20) 11. I am unhappy with the amount of time I have for activities other than child care.
- (33) 12. I am glad I had this baby now.
- (23) 13. I am upset about having too many responsibilities as a mother.

VII. SUPPORT FOR MATERNAL ROLE FROM FRIENDS AND FAMILY

- (62) 1. I can rely on friends or relatives to help me with the baby when necessary.
- (77) 2. My parent(s) seem to like the way I care for the baby.
- (78) 3. I have friends or relatives who think I'm a good mother.
- (46) 4. My parent(s) are interested in the baby.
- (15) 5. I have friends or relatives who reassure me as a mother.
- (66) 6. My parent(s) make me feel like there is little I can do right.
- (40) 7. I have friends or relatives who encourage me to care for the baby in my own way.
- (72) 8. My parent(s) think I should take better care of the baby.
- (29) 9. I can talk to some of my friends or relatives about questions I have concerning motherhood.
- (80) 10. My parent(s) show little interest in the baby.
- (19) 11. My parent(s) criticize me as a mother.
- (69) 12. I have friends or relatives who are interested in the baby.

APPENDIX R

Letter of Permission to Use PSQ

The University of Texas Medical Branch at Galveston

*School of Medicine
Graduate School of Biomedical Sciences
School of Allied Health Sciences
School of Nursing*

*Manne Biomedical Institute
Institute for the Medical Humanities
UTMB Hospitals and Clinics*



School of Nursing

February 13, 1996

Ms. Barbara Petrowski, B.N.
264 Campbell
Winnipeg, Manitoba
Canada R3N1B5

Dear

In response to your recent request, I have enclosed a copy of the Postpartum Self-Evaluation Questionnaire, as well as a scoring key and tables of scale items.

Permission to use the questionnaire is given with the understanding that the instrument will be administered only in its complete form with all the scales intact, and that papers and publications resulting from research with the instrument similarly reflect analysis of all questionnaire scales. Please use the scoring key provided so that your results may be compared to those achieved by others. I also am requesting that you share either your raw data or results with me upon completion of the project.

You may order the instrument using the enclosed invoice and by remitting a check in the appropriate amount to Regina Lederman. Also, please include a description of your research and an acknowledgment of the above conditions.

If you decide to use the instrument, I will be glad to consult with you and offer assistance in data analysis and interpretation of the results, since I sometimes have noted errors in these areas with previous users. Further information on the personality dimensions and their reliability and validity can be found in:

Lederman, R., Weingarten, C., & Lederman, E. (1981). Postpartum self-evaluation: Measures of maternal postpartum adaptation. In R. Lederman & B. Raff (Eds.), *Perinatal parental behavior*. New York: Liss - March of Dimes Birth Defects Foundation, Original Article Series, *17*(6):201-232.

Lederman, R., & Lederman, E. (1987). Dimensions of postpartum adaptation: Comparisons of multiparas three days and six weeks after delivery. *Journal of Psychosomatic Obstetrics and Gynaecology*, *7*(3), 193-203.

Please call me at (409) 772-6570 should questions arise or if you wish to discuss the instrument or your project.

Best of luck with your research project.

Sincerely yours,

A handwritten signature in black ink that reads "Regina Lederman". The signature is written in a cursive style with a large, sweeping initial 'R'.

Regina Lederman, Ph.D., Professor
Maternal and Child Nursing, and
Department of Preventive Medicine and
Community Health, Division of
Sociomedical Sciences

Enclosures

APPENDIX S**Script for Telephone Follow-up**

Hello, this is Barbara Petrowski, the nurse researcher for the study on motherhood. I'm calling as planned to see if you have had your baby yet?

(If the subject replies that she has had her baby) How are you and the baby? (If there are no major problems i.e. baby still hospitalized, I will continue). I would like to come to visit you when your baby is between 4 and 6 weeks old. Could we plan a date and time today that is convenient to you? (If yes, we will schedule the home visit).

(If the mother is hesitant or there are problems, I will offer to call back at a convenient time).

(If the mother does not want to continue participating in the study) The study is completely voluntary and you may withdraw if you wish. Thank you very much for your contribution.

(If the mother has not delivered I will call her back in 7-10 days).

APPENDIX T

Prenatal Demographic Data Form

To answer each question, please place a check beside the answer that applies to you or fill in the blank.

1. Your age: _____
2. Due date of baby: _____
3. Number of weeks pregnant: _____
4. At which hospital are you planning to deliver?

5. Your marital status:
_____ married
_____ common-in-law
_____ separated
_____ divorced
_____ single
6. How many years have you been in this relationship? _____
7. What is the last grade you completed? _____
8. How many years of education after high school have you completed? _____
9. What is your ethnic background?
_____ Caucasian _____ Aboriginal/First Nation's People
_____ Oriental _____ Other, please state _____
10. What is your total family income in 1995 before taxes?
_____ under \$20,000
_____ \$20,000-\$39,999
_____ \$40,000-\$59,999
_____ over \$60,000

APPENDIX U

Postpartum Demographic Data Form

To answer each question, please place a check beside the answer that applies to you or fill in the blank.

1. What date did you deliver? _____
2. What type of delivery did you have? ___ vaginal ___ cesarean section
3. How long did you stay in hospital following your baby's birth? (please provide your answer in hours) _____ hours.
4. Did you experience any problems with the delivery? ___ yes ___ no
If yes, please describe _____

5. Did you have any problems before you were discharged? ___ yes ___ no
If yes, please describe _____

6. Did your baby experience any problems at delivery? ___ yes ___ no
If yes, please describe _____

7. Did your baby have any problems before you were discharged? ___ yes ___ no
If yes, please describe _____

8. How are you feeding your baby? ___ breast ___ bottle ___ both breast and
bottle