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A comparison of maternal identity in younger and older primiparae during the third trimester of pregnancy.

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Shaffer, Faye Hilley, D.S.N.

The University of Alabama in Birmingham, 1988

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A COMPARISON OF MATERNAL IDENTITY IN YOUNGER AND OLDER PRIMIPARAE DURING THE THIRD TRIMESTER OF PREGNANCY

by

FAYE HILLEY SHAFFER

A DISSERTATION

Submitted in partial fulfillment of the requirements for the degree of Doctor of Science in Nursing in the School of Nursing in The Graduate School, The University of Alabama at Birmingham

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ABSTRACT OF DISSERTATION
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Title A Comparison of Maternal Identity in Younger and Older Primiparae During the Third Trimester of Pregnancy

The purpose of this study was to compare maternal identity in younger and older primiparae during the third trimester of pregnancy. The construct of maternal identity and its defining elements were developed within a framework based on Roy's Adaptation Model. Related research questions reflected the defining elements of maternal identity and Roy's four adaptive modes. The study had a descriptive design and used an investigator-developed demographic questionnaire and the 60-item Maternal Adjustment and Maternal Attitudes (MAMA) questionnaire. The item responses for the MAMA were rated on a 4-point scale from most desirable to least desirable, and the total score represented the subject's maternal identity score. The 60 items were subdivided into five subscales of Body Image (BI), Somatic Symptoms (SS), Marital Relations (MR), Attitudes to Sex (AS), and Attitudes to Pregnancy and the Baby (APB) which corresponded to the defining elements of maternal identity. A convenience sample of 33 subjects was divided into younger primiparae (n = 20), age 20 to 30 years, and older primiparae (n = 13), age 35 years and older. The two paper-and-pencil questionnaires were administered to the subjects in four private obstetrical practices and one public health clinic in a medium-size southeastern city. The demographic

data were analyzed with descriptive statistics. The MAMA questionnaire data were analyzed with Students' t-tests and Pearson product-moment correlations. The t-test finding for the total scores for the MAMA indicated that there was no statistically significant difference in the total mean scores for the two age groups, $t(26.30) = 92$, $p \leq .05$. Of the five subscales, only SS showed a significant difference in mean scores for the two age groups, $t(28.02) = 2.46$, $p \leq .05$. The Pearson correlations indicated that all the subscale scores were positively correlated with the total scores for the two groups. The subscale AS was positively correlated with all other subscales for the younger group, and the subscales AS and MR were positively correlated for the older group. The small sample size may account for the findings and further research with a larger sample is recommended.

Abstract Approved by: Committee Chairman _____

Program Director _____

Date _____ Dean of Graduate School _____

DEDICATION

I wish to dedicate this research to my mother, who first taught me that I could do anything I wanted with a good education, and to my husband, who reminded me of that first lesson whenever I wanted to quit.

ACKNOWLEDGEMENTS

I would like to thank the members of my committee who have assisted my endeavors to complete this research: Dr. Janice Gay, chairman; Dr. Beth Stullenbarger; Dr. Juanzetta Flowers; Dr. Martha Hedley; Dr. Margaret Millsap; Dr. Sharron Schlosser; and Dr. Janet Davis. I would like to express special appreciation to Dr. Janice Gay for her patience and unfailing humor, Dr. Beth Stullenbarger for helping me sort out the numbers, and Dr. Juanzetta Flowers for her ability to boost my morale when it needed it most.

Others who have supported me in this study are fellow students: Janice Vincent, who helped smooth out the rough edges on me and the research, and Cynthia Chatham, who probably kept me from killing a computer. These friends were there to listen, empathize, and criticize even when they were busy with their own work.

The wonderful doctors and nurses who were willing to assist me in this research deserve a special acknowledgement: Dr. Isaac Ravizee and his entire staff; the clinical and clerical staff of the Henderson and Walton Women's Center; the physicians and staff of McCaleb, Davis, and Lyle; Dr. Charles Robinett and staff; and the Maternal and Infant nursing staff at the Central Health Clinic. These busy health professionals welcomed me to their practices with interest and courtesy.

Finally, special appreciation to my husband, mother, sister, mother-in-law, and father-in-law who have encouraged me, bragged about me, and listened to me even when they did not really understand what I was saying.

I also must give a written pat-on-the-head to my two dogs who stayed up with me when they really wanted to go to bed and licked my face to keep me awake.

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CHAPTER I

Introduction

Children are what the mothers are.
No fondest father's fondest care
Can fashion so the infant heart.
From Children by Walter Savage Lander
(quoted in Bartlett, 1955, p. 431b)

In this quote, Lander left little doubt that, in his mind, the mother makes the child. One is then left with the question of what the mother is, or more precisely, what makes a woman a mother? What events other than the obvious physical and biological ones must occur for a woman to become a mother?

In 1963, Shainess stated that the "seeds of the mothering capacity exist, like the germinal cells within the ovary, long before the potential of motherhood is realized" (p. 146). Rees (1980a, 1980b) proposed that a woman develops an identification with the role of mother by formulating mental ideas about the attitudes and behaviors a mother needs and then assuming those attitudes and behaviors herself.

Lederman (1984) discussed identification with the maternal role as a developmental process of moving from "woman-without-child to the woman-with child" (p. 36). This developmental process is complex and difficult to document since it is primarily internal (Grossman, Eichler, & Winickoff, 1980). Some of the characteristics associated with the attainment of this maternal role identity have been explicated by numerous authors (e.g., Lederman, 1984; Leifer, 1980; Rubin, 1984; Zajicek, 1981) and include the ability to nurture and envision oneself

as a mother, identification of and with maternal role models, and anticipation of future life changes and conflicts associated with the identity.

Many of the early authors (e.g., Benedek, 1956; Deutsch, 1945) of literature on the development of maternal identity believed it to be a psychobiological development inherent in female physiology. Pregnancy and motherhood were initiated and controlled by the pituitary hormones. Since these early theoretical writings, however, research has shown that pregnancy and the development of the maternal identity are the result of both physiological and psychosocial adaptations by the woman (Bibring & Valenstein, 1976; Grossman et al., 1980; Leifer, 1980; Rubin, 1984).

The development of the maternal identity begins in the earliest stages of pregnancy as a result of dynamic physiological and psychological changes (Cranley, 1981; Grossman et al., 1980; Josten, 1982). Cranley stated that the 9 months of pregnancy are more than a time for fetal development, that they represent an important time in the development of the woman into a mother. She explained that "integral to that development is the consideration of the woman's own identity; her role identity; the identity of her developing fetus; and perhaps the most important, the relationships between herself and her fetus" (p. 281). Leifer (1980) also reported that the emotional bond with the fetus deepens throughout the pregnancy, so that by delivery the woman has established feelings of identity with her fetus.

As an adaptation response to pregnancy, the maternal identity does not develop in the isolation of the pregnant woman's psyche. The intrapsychic processes involving the self-concept and personal role functions are interwoven with the interdependent aspects of the self-concept

and role functions. Brouse (1985) stated that pregnancy involves taking on the new role of mother with both personal and societal expectations for how that role should be performed. The woman's ability to perform this role satisfactorily affects and is affected by her self-concept. Zajicek (1981) noted that this role change involves changes in her status, social situation, and relationships with others. The most significant relationship change occurs with the father of the baby, usually within a marital context, as both partners have to negotiate new roles and altered self-concepts (Dyer, 1963; Grossman et al., 1980). Other relationships which affect and are affected by the woman's maternal identity include the mother-daughter relationship, peer/social relationships, work relationships, and extended family relationships (Gerson, Alpert, & Richardson, 1984; Leifer, 1980; Zajicek, 1981).

By the third trimester of pregnancy, the woman undergoes a summarization process of the entire pregnancy in preparation for the next step in her maternal identity development, moving from the realm of fantasy to the realm of reality (Ziegel & Cranley, 1984). Leifer (1980) noted that women who were emotionally vested in their pregnancies and had used the time for psychological preparation for assuming a maternal identity were eager to have their babies. They were ready to express the physical manifestations of their new identities -- holding, feeding, dressing, bathing, and playing with their babies.

In a discussion of pregnancy and its many components, age is generally considered to be a physiological variable. Women over the age of 35 who become pregnant, especially for the first time, are considered to be high-risk medically (DeVore, 1983). Winslow (1987) noted that these women fall outside the norm but represent a growing segment of the childbearing population. Thus far, however, the professional

literature has not examined in much depth the potential differences in intra- and extra-psychic adaptations experienced by these women. Age then becomes a psychosocial variable. Winslow stated that these over 35 primiparae approach their pregnancies in a deliberate and thoughtful manner, using successful coping strategies previously learned through experience. Though applicable to all first-time mothers, the adaptation to pregnancy and maternal identity development may be more profound for the older primipara as she makes major changes in her self-concept, role functions, and relationships with significant others in her life. Therefore, based on both the available theoretical literature and the lack of empirical support, the essence of this research was age and maternal identity in the third trimester primipara.

This study was particularly significant when placed in the context of the increasing number of older first-time mothers (DeVore, 1983). From 1970 to 1983, the number of first-order births to women over age 35 jumped from 17.1% to 35.4% of all births to women in that age group (Metropolitan Life Insurance Company, 1986). Leifer (1980) and Bibring and Valenstein (1976) emphasized the importance of research which provides an adequate picture of the normal psychosocial changes during pregnancy. Such research is particularly significant for first pregnancies since, according to Zajicek (1981), the first pregnancy in Western societies has greater symbolic value than later ones. DeVore (1983) summarized the need for a better understanding of whether age makes a difference in the primipara's adaptation to pregnancy. She stated that:

> We can ease the "baby shock" which is particularly severe for first-time older parents. Through individual counseling and parenting groups, these couples can be aided in their transition

> from an independent childfree lifestyle to the realities of lost leisure time, baby's demanding schedule, and the disruption of carefully established patterns of work and love (p. 1163).

Purpose

The purpose of this study was to ascertain whether there is a difference in maternal identity between younger primiparae and older primiparae during the third trimester of pregnancy.

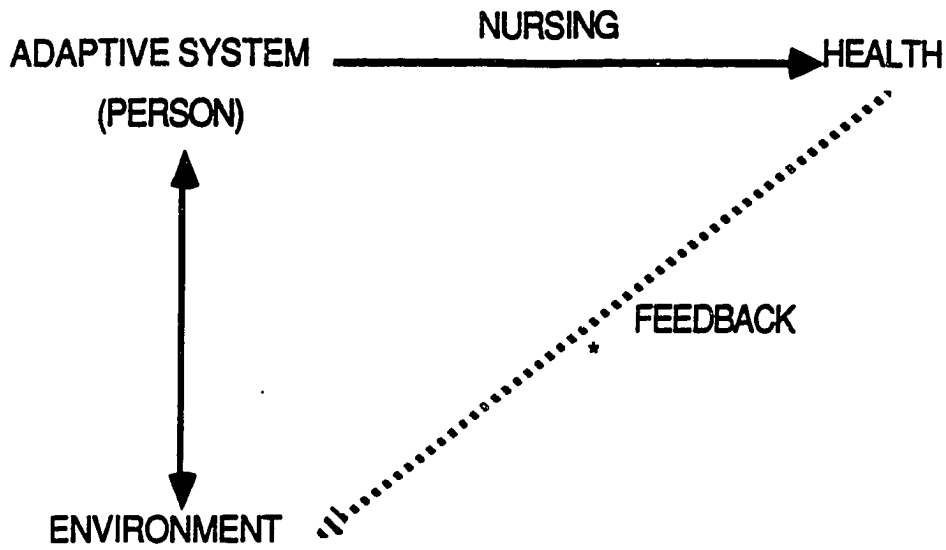
Theoretical Framework

The topic for this study was derived from the synthesis of a conceptual model of nursing and a construct. The conceptual model of nursing was the Roy Adaptation Model and the construct was maternal identity. The major concepts and subconcepts of Roy's model are presented first, followed by a discussion of the model's use in a study of the construct maternal identity.

The Roy Adaptation Model

Roy's model is based primarily on the theories of adaptation and systems and focuses on both process and product. Roy views the individual person, group, or community as an open, adaptive system in constant interaction with the changing environment. Through the use of coping mechanisms, the person attempts to achieve a healthy response to altered life conditions, often through and with the assistance of nursing. These four concepts -- person, environment, health, and nursing -- form the basis of Roy's model (Andrews & Roy, 1986; Roy, 1984). Figure 1 depicts the interrelationships of these four concepts.

In Roy's model, the environment is composed of internal and external stimuli which are the input into the adaptive system (person). These stimuli activate the coping mechanisms composed of the two subsystems (process), cognator and regulator, through which a behavioral response (output/product) is achieved. These responses may be adaptive



* Broken line represents addition to model by author

Figure 1. The Interrelationships of Major Concepts of the Roy Adaptation Model (adapted from Roy, 1984, p. 40).

and promote the integrity of the person-system (health) or ineffective and not promote the goal of health. Nursing acts as a facilitator to promote an adaptive response through use of the nursing process, the first step of which is assessment of the person's behaviors and the stimuli influencing these behaviors. A constant within this model is a feedback mechanism which insures that the interaction between the environmental input and the behavioral output is reciprocal (Andrews & Roy, 1986). Figure 2 depicts the interrelationships of the concepts and subconcepts within a systems framework.

Environment. The environment is the input into the system and includes internal and external stimuli which impel the person to make responses to changing life conditions. The stimuli are categorized as: (a) focal, the one(s) immediately confronting the person; (b) contextual, those which can be validated and affect the behaviors caused by the focal stimuli; and (c) residual, those which affect adaptation but cannot be validated. These stimuli together define the adaptation level, which determines the person's ability to utilize the adaptive coping mechanisms (Roy, 1984).

Coping mechanisms. The coping mechanisms in Roy's model are the process component of the system and are divided into two subsystems, cognator (psychosocial) and regulator (physiological), each of which is associated with adaptive modes through which the person's behavioral responses are manifested. The cognator adaptive modes are self-concept, role function, and interdependence. The regulator subsystem has one adaptive mode, which is physiologic. The four adaptive modes interact with each other, the environmental stimuli, and with nursing to affect the person's behavioral responses. Each mode has a specific goal, defining elements, and influencing stimuli which clarify its

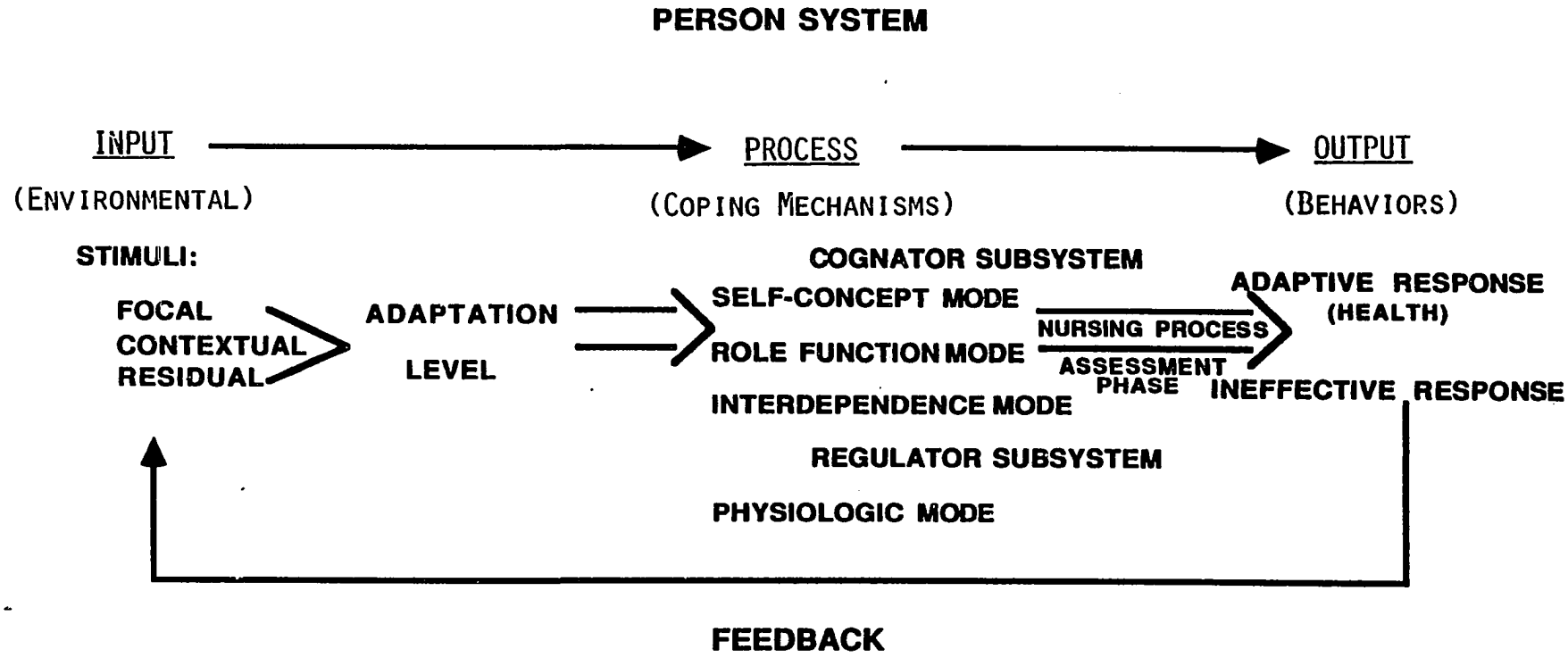


Figure 2. The Roy Adaptation Model in a Systems Framework (adapted from Roy, 1984, p. 30).

interrelationships with the other components of the model and are depicted in Table 1 (Andrews & Roy, 1986). Each of these modes has an extensive theoretical background which provides the basis for identification of associated behaviors and stimuli within the nursing process (Roy, 1984).

Table 1

Goals, Behavioral Elements, and Influencing Stimuli of Maternal Identity Subcomponents/Adaptive Modes

Subcomponent/ Adaptive Modes	Goals	Behavioral Elements	Influencing Stimuli
Physiologic	Physiological integrity	Oxygenation Nutrition Elimination Activity and rest Protection Senses Fluid and electrolytes Neurological factors Endocrine function	Common stimuli Specific factors related to each of the behavior elements
Self-concept	Psychic integrity	Physical self body sensation body image Personal self consistency ideal self moral/ ethical/ spiritual self	Perception Growth & development Learning responses of others Developmental status Coping mechanisms

Table 1 (continued)

Subcomponent/ Adaptive Modes	Goals	Behavioral Elements	Influencing Stimuli
Role function	Social integrity	Role level (1^o, 2^o, 3^o) Expressive Instrumental	Partitions Social norms Physical makeup and age Self-concept Role models Knowledge Ability Other roles
Interdependence	Affectional/ nurturing adequacy	Significant others Support systems	Expectations/awareness of needs Nurturing ability Self-esteem Interactional knowledge and skills Developmental age/ tasks

Table 1. Roy's adaptive modes (Andrews & Roy, 1986)

Nursing process. The nursing process is also part of the process component and is the mechanism through which nursing acts to promote an adaptive response by the person. The first step of the nursing process, assessment, is composed of two levels: assessment of behaviors and assessment of stimuli (focal, contextual, residual) influencing those behaviors. This assessment is organized through the four adaptive modes for consistency (Andrews & Roy, 1986). Although Roy's model does include the other three steps of the nursing process--planning, intervention, and evaluation--only assessment will be considered in this study.

Behavioral responses. The behavioral responses of the model are the output, or product, of the system. These responses may be adaptive,

enabling the person to attain and/or maintain the adaptation goal of health, or ineffective, preventing the person from attaining or maintaining health. Health is both the process and product of becoming an integrated and whole person capable of fulfilling one's potential and purpose in life. The goals of healthy adaptation are survival, growth, reproduction, and mastery (Andrews & Roy, 1986; Roy, 1984).

The Roy Adaptation Model and Maternal Identity

Maternal identity was categorized as a construct based on defining characteristics by Fawcett and Downs (1986). They stated that a construct refers to a property that is neither directly nor indirectly observable and is invented for special scientific purposes. A construct has an intrinsic theoretical meaning but empirical meaning only when connected to an observable property, such as a person's report of feelings or a subject's responses to a questionnaire.

The decision to use Roy's model as the basis for a study of maternal identity in younger and older third trimester primiparae was a logical one. The available literature on maternal identity generally supported pregnancy as an adaptation process (Curry, 1983; Grossman et al., 1980; Mead & Newton, 1967; Roy, 1984; Rubin, 1984; Shereshefsky, Plotsky, & Lockman, 1974) and maternal identity as an adaptation response to pregnancy (Cranley, 1981; Lederman, 1984; Leifer, 1980; Rees, 1980a; Rubin, 1975, 1984).

The clearest description of the dimensions or elements of maternal identity was found in Reva Rubin's (1984) work. She stated that "the development of maternal identity . . . is effected in a progressive series of cognitive operations that are manifest in conceptual and behavioral modes" (p. 39). She further noted that this development parallels the development of the pregnancy and fetus. Other prominent

authors (e.g., Brouse, 1985; Chodorow, 1978; Colman & Colman, 1971; Cranley, 1981; Grimm, 1969; Lederman, 1984; Leifer, 1980; Mercer, 1985; Rees, 1980a, 1980b) have described core conceptual and behavioral adaptation operations for the pregnant woman that are comparable to Rubin's. Zajicek (1981) stated that "a woman's reactions to her pregnancy can be affected by a host of past and present circumstances" (p. 31). These circumstances may include her relationships with her parents and husband, her desire to take on the motherhood role, and her beliefs about society's expectations of her as a pregnant woman and a mother.

Within all these descriptions of maternal attitudes and behaviors there were common developmental elements that correspond to the elements of Roy's Adaptation Model. The literature cited above supported the existence of responses that result from the (focal) stimulus of pregnancy, are influenced by common (contextual) stimuli such as culture and developmental stage, and can be categorized as physiological and psychosocial. The physiological (regulator) responses are generally self-evident and include overall health status and alterations in physiological functioning related to pregnancy. The psychosocial responses were divided into subcategories that correspond to the cognator subsystem adaptive modes of self-concept, role function, and interdependence (Roy, 1984). As was discussed in the introduction, these subcategories are interrelated throughout pregnancy to form the maternal identity.

In summary, the interrelationships among the components of Roy's model can be summarized as follows. The stimuli from the internal and external environment activate the regulator and cognator subsystems which effect behavioral responses through and in the adaptive modes of physiologic, self-concept, role function, and interdependence. These responses may be adaptive and promote the integrity of the person or

ineffective and not promote the goal of health. The function of nursing in the model is to promote an adaptive response through use of the nursing process, the first step of which is assessment of the person's behaviors and the stimuli influencing those behaviors in each of the four adaptive modes. The model includes a feedback mechanism to insure that the behaviors interact reciprocally with the envrionmental stimuli. The Roy Adaptation Model was a logical basis for the study of maternal identity since it provided a framework which encompassed the elements of maternal identity and synthesized those elements into a format which was the foundation for the study design and methodology.

Problem Question

Is there a difference in maternal identity between younger primiparae and older primiparae during the third trimester of pregnancy?

Related Research Questions

Is there a difference in physiological function between younger primiparae and older primiparae during the third trimester of pregnancy?

Is there a difference in self-concept between younger primiparae and older primiparae during the third trimester of pregnancy?

Is there a difference in role function between younger primiparae and older primiparae during the third trimester of pregnancy?

Is there a difference in interdependence relationships between younger primiparae and older primiparae during the third trimester of pregnancy?

Null Hypothesis

There is no difference in maternal identity between younger primiparae and older primiparae during the third trimester of pregnancy.

Definition of Terms

The following definition of terms used in this study included theoretical definitions, when appropriate, and operational definitions for hypothesis testing.

Maternal Identity - an adaptation response to pregnancy by the pregnant woman involving the integration of her evolving physiologic function, self-concept, role function, and interdependence relationships associated with becoming a mother into her existing identity. Operationally, maternal identity was defined as the total score obtained from the Maternal Adjustment and Maternal Attitudes (MAMA) Questionnaire (Kumar, Robson, & Smith, 1984) as completed by the subject. Physiologic function, self-concept, role function, and interdependence relationships were defined operationally as the subscale scores from the MAMA related to each individual element.

Younger Primipara - any woman who had not had a previous pregnancy which extended past the end of the first trimester (12 weeks) of gestation and was between 20 and 30 years of age, inclusive, at the estimated time of delivery (Ziegel & Cranley, 1984).

Older Primipara - any woman who had not had a previous pregnancy which extended past the end of the first trimester (12 weeks) of gestation and was age 35 years or older at the time of conception or delivery (Ziegel & Cranley, 1984).

Third Trimester of Pregnancy - the period of pregnancy beginning with the 25th week of gestation and ending with the delivery of the infant (Pritchard & MacDonald, 1980).

Assumptions

The following assumptions were considered to be true and were offered as the fundamental tenets upon which this study was based.

1. Pregnancy requires adaptation by the pregnant woman (Grossman et al., 1980; Lederman, 1984; Rubin, 1984; Shereshefsky et al., 1974).

2. The development of a maternal identity by the pregnant woman is an adaptation response to pregnancy (Grossman et al., 1980; Rubin, 1984; Shereshefsky et al., 1974).

3. Maternal identity develops throughout the antepartal period of pregnancy (Grossman et al., 1980; Lederman, 1984; Leifer, 1980; Rubin, 1984).

4. Maternal identity can be assessed during the third trimester of pregnancy (Grossman et al., 1980; Lederman, 1984; Leifer, 1980; Kumar et al., 1984; Shereshefsky et al., 1974).

5. The maternal identity may exist on an adaptive to ineffective continuum of adaptation responses to pregnancy (Grimm, 1969; Lederman, 1984; Rubin, 1984; Shereshefsky et al., 1974).

Significance of the Study

There are a number of possible contributions which a study of maternal identity in older and younger primiparae during the third trimester of pregnancy can make to nursing knowledge, theory, and practice. First, such a study can generate knowledge related to the age-specific psychosocial adaptation of women to pregnancy (DeVore, 1983; Leifer, 1980; Winslow, 1987). This knowledge can assist health care providers in designing programs of care to meet the needs of women in all age groups during childbearing.

Second, this study can assist in refinement of the assessment of maternal identity during the antepartal period (Bibring & Valenstein, 1976; DeVore, 1983; Winslow, 1987). As the first and most important

step of the nursing process, accurate assessment of the pregnant woman's adaptation to becoming a mother is vital to her physiological and psychosocial health.

Third, the study can assist in the evaluation of existing prenatal education programs and the development of ones which will meet the specific needs of the over-age-35 primipara and her family. Most prenatal education programs available currently are generic in that they have content and presentation formats that are general in nature and are not based on the variable needs of the pregnant family that result from different life experiences (DeVore, 1983).

Fourth, the study's use of the Roy Adaptation Model can provide further explication of the model in nursing research and practice. It is anticipated that further research in this area with Roy's model will provide a basis for completion of all four steps of the nursing process.

Fifth, the study can generate much needed empirical data regarding the antepartal development of maternal identity (Bibring & Valenstein, 1976; Cranley, 1981; Grossman et al., 1980; Leifer, 1980). Such data will support or challenge the efficacy of the theoretical framework of the study and identify areas for further research.

CHAPTER II

Review of Literature

This chapter presents a review of relevant selected research literature related to maternal identity. The areas of research reviewed are pregnancy as an adaptation process, maternal identity as an adaptation to pregnancy (including the defining elements of maternal identity), the age variable in pregnancy and maternal identity, and application of the Roy Adaptation Model.

Pregnancy as an Adaptation Process

Gillman (1968) interviewed and tested 44 women during and after their first pregnancies to determine the nature of their manifest dreams and the relationship of those dreams to their adaptation to the maternal role. Negative dream elements were found to be nonpredictive of adaptation; however, those subjects judged to be most adequate in their adaptations to pregnancy had fewer negative elements in their dreams. Women who appeared the most secure in their new identities exhibited less conflict in their dream content.

Bibring and Valenstein (1976) conducted a study of 15 married, first trimester primigravidas using an interview methodology to identify some of the psychological effects of pregnancy and the earliest mother-child relationship. They hypothesized that pregnancy requires a reconsideration of the expectant mother's self-image and roles, and that taking-on a new self-image and new role of mother requires adaptation which could be stabilizing and positive or neurosis-inducing and negative. Their

findings supported their hypothesis and indicated that pregnancy and motherhood present the woman with an adaptation situation laden with potential for maturation. They concluded that modern obstetrical care focused too exclusively on the physiological management and too little on the psychological attitudes, fears, and expectations of the pregnant woman.

In their research, Uddenberg, Fagerstrom, and Hakanson-Zaunders (1976) concluded that pregnancy and childbirth constitute a developmental stage requiring an adaptational process. This conclusion supported earlier research by Grimm and Venet (1966) who followed women from early pregnancy through the early postpartal period in an attempt to identify relationships between ratings of emotional adaptation in early pregnancy and later physical and emotional outcomes. They found no relationship between prenatal emotional status and postpartal physical outcome, but did find a relationship between a positive prenatal emotional adaptation and emotional stability in the postpartal period.

A number of researchers have conducted research related to the psychological aspects of pregnancy in a framework of adaptation. Shereshefsky et al. (1974) provided one of the earliest and most frequently cited studies of pregnancy adaptation. This study of 60 families experiencing a first pregnancy included interviews, psychological tests, medical examinations, and observation directed toward identifying and describing characteristic adaptations to pregnancy. Their research findings supported adaptation as a relevant and functional framework for studying pregnancy.

In her 1980 work, Leifer found that her research subjects described pregnancy in terms of a psychological preparation time for adapting to becoming a mother. Grossman et al. (1980) conducted their research

within a framework of adaptation and concluded that pregnancy is a time of transition and preparation for motherhood accomplished through a series of adaptational processes. Zajicek's (1981) study also indicated that women use pregnancy as a time for adaptation to the experience of childbearing and as a time of preparation for motherhood.

This review of research defining pregnancy as an adaptation process has not been inclusive, but has furnished a broad base of support for the current research project. Other researchers have conducted studies related to specific aspects of adaptation to pregnancy. These will be presented in the following sections.

Maternal Identity as an Adaptation to Pregnancy

Maternal identity, as an adaptation process and a product of pregnancy has been studied by the nursing, medical, and psychosocial disciplines. In an attempt to present this research in a logical format, the defining elements of maternal identity within the Roy Adaptation Model will be used as organizational categories.

Physiological Function in Maternal Identity

Some of the earliest research effort studying the experience of becoming a mother was conducted by Benedek (1956). Benedek believed that the relationship between mother and fetus, followed by the one between mother and infant, were relationships of symbiosis rooted in the psychobiological imperative connected with being female. Hormonal control of a woman's needs and behaviors from fetal state to menopause was the central construct of her theory. Women became mothers because their hormones prepared them for the role. She did state, however, that being a mother and mothering were not the same state. Anyone could mother, that is, provide nurturance and care for a child. Only a woman, though,

could become a mother. Her findings suggested a plausible link between a woman's physical health status and her psychosocial experience of pregnancy.

Rubin's (1961a, 1961b) research found that the common physical symptoms of pregnancy, while certainly uncomfortable at times, may actually increase the expectant mother's identification with her pregnancy and fetus. The physical experience of being pregnant--morning sickness, fatigue, sore breasts, frequent urination--may serve to positively influence the woman's emotional adaptation to impending motherhood. The data from the postpartal segment of the research supported Rubin's contention that the prenatal pregnancy experiences are closely linked to the postpartal experience of actual motherhood.

Newton's (1963) review of research on the emotions of pregnancy indicated a definite link between physical complaints (e.g., nausea, vomiting, constipation) by pregnant women and their emotional adaptations to pregnancy. The research cited by Newton suggested that fewer physical complaints by subjects were associated with a more positive adaptation to pregnancy.

The Shereshefsky et al. (1974) definitive research on the psychological aspects of a first pregnancy supports Newton's (1963) work by showing an inverse relationship ($p < .05$) between pregnancy-related physical symptoms and pregnancy adaptation for 57 subjects. The researchers concluded that the physical and psychological states in pregnancy are inextricable. However, the direction of the relationship between the two states could not be determined.

Zajicek's (1981) research of over 85 pregnant women and comparable samples of non-pregnant mothers and student nurses indicated that there was very little difference in the three groups' reports of physical

ailments generally associated with pregnancy. There was no data to suggest a relationship between the physical discomforts of pregnancy and the pregnant subjects' experiences of becoming mothers. Zajicek's findings would appear, in some measure, to refute the research cited above regarding the physiological influence on the psychological experience of pregnancy.

Self-Concept Mode in Maternal Identity

Self-concept is how one defines oneself in relationship to others, how one's personal and physical self intertwine to direct one's attitudes and behaviors (Roy, 1984). A woman's self-concept, before and during pregnancy, affects her identification of herself as a mother. Deutsch's (1945) work on the psychology of women and feminine identity was an important first step in describing the link between being a woman and becoming a mother. Her developmental research approach provided some of the earliest support for viewing maternal identity as a consequence of the woman's attitudes about herself as a female person, family member, and member of society.

Shainess (1963) conducted a case-study analysis to define the developmental phases of the mothering encounter following delivery. She postulated that the maternal attitude is determined before the birth of the infant and is "a distillate of the woman's personality, acceptance of femininity, values, philosophies, relationship with husband, security, and motivation for pregnancy" (p. 160). Her case study analysis appeared to support her hypothesis and confirmed Deutsch's (1945) theory of maternal identity development.

Flapan (1969) conducted a qualitative study of 82 women ages 20 to 41 to develop a framework for investigating motivational conflicts related to childbearing. The analysis of the interviews with the

subjects provided 13 motivational considerations pertaining to childbearing. Among these considerations were identity implications of childbearing and motherhood, childhood experiences with parenting (especially mothering), developmental and physical age, and expectations by self and others regarding motherhood. All these considerations are defining characteristics of self-concept related to the maternal identity.

Bibring and Valenstein (1976) stated that an expectation of their research was that becoming a mother would stimulate a woman to recapitulate her view of herself and of her perspective of herself in life, that is, her self-concept. The analysis of their data from four encounters with a group of 15 subjects indicated that pregnancy was indeed a time during which a woman redefined her image of herself as a female, daughter, wife, and mother. This redefinition related strongly to her pre-pregnancy self-image. Leifer's (1980) study also found that the women with high psychological functioning in early pregnancy were those who had a stable personality integration early in pregnancy as measured by self-concept and body image scores. She stated that these women were more able to use the pregnancy experience to further their personal growth and were less threatened by changes in their personal identities and body images than women with low psychological functioning in early pregnancy.

Zajicek's (1981) research findings provided a slightly different view of the function of self-concept and the maternal identity in pregnancy. Of the 56 subjects who were evaluated on a self-esteem questionnaire, the ones who started their pregnancies with low self-esteem were more likely to have problems during pregnancy than the ones who had medium or high self-esteems. What was interesting in this study was that while 30 (61%) of the subjects stated that they felt they had been changed by their pregnancies, only 4 (8%) felt that the pregnancy had

been a major milestone in their lives. The majority did not feel that they had undergone any major re-evaluation of themselves as a result of becoming a mother.

Curry's (1983) research dealt with the identification of variables related to adaptation to motherhood in normal primiparae. Of the 20 studied, 9 (n = 15) of the self-designated difficult adapters to person-hood and 1 (n = 5) of the self-designated easy adapters raised their self-concept scores on the Tennessee Self-Concept Scale from the prenatal testing period to the postpartal testing period. The rest of the sample lowered their scores more than 10 points from the prenatal to the post-partal testing periods. Curry concluded that for women who began the pregnancy with a high positive self-concept, adapting to pregnancy had a positive influence on their self-concepts.

Josten's (1981, 1982) research to develop a tool for identifying, prenatally, women who would need assistance in providing adequate parent-ing after delivery found that more mothers designated as inadequate had negative perceptions of the complexity of mothering. This finding, Josten stated, may be related to the poor past and current nurturance of the mother, the inability to look at herself and to sense what others feel and experience, and an inadequate self-concept. She noted that almost all of the inadequate mothers had experienced multiple stresses along with the inadequate self-concept.

Rubin (1984) stated that "with each childbearing experience there is an incorporation into a woman's self system of a new personality dimension . . . [and this] incorporation of the maternal identity into the self system is by way of the idealized self as mother of this child" (pp. 38-39). The self is defined as having three spheres: the ideal self, the self-image, and the body image. The ideal self is what one

wishes to be; the self-image is a regulator based on interaction with physical and social worlds; the body image delineates and orients the self as an entity in the world of the self-image. These definitions and categories related to the self-concept in maternal identity resulted from Rubin's research of more than 6,000 women interviewed at various points during their pregnancies, deliveries, and early postpartal periods. One hundred of these women served as longitudinal subjects for the study. A criticism of Rubin's (1961a, 1961b) research methodology has been that her naturalist, field-theory approach makes it impossible to replicate. While this may be true, there can be little doubt that her extensive study of the pregnancy experience and becoming a mother has provided some of the most well-known and frequently cited contributions to our understanding of this part of the life cycle.

Brouse (1985) studied the effect of gender role identity on patterns of feminine and self-concept scores in late pregnancy and early postpartum. In a sample of 52 primiparae and 21 multiparae, Brouse found that the self-concept scores for the primiparae were higher at three measurement periods than the scores for the multiparae. She noted that this finding may indicate a need for the study of women in the first trimester based on Rubin's suggestions that the change in the three components of the self begins in early pregnancy and slows by late pregnancy.

A consideration of Roy's adaptive mode of self-concept in light of this selected research indicates that the inclusion of the self-concept as a defining element of maternal identity is valid. Research related to the element of role function in maternal identity will be presented in the following section.

Role Function in Maternal Identity

Without a doubt the most frequently researched aspect of motherhood has been the maternal role. The changes that occur for the woman becoming a mother, especially for the first time, provide a multihued tapestry for the researcher to unravel.

Flapan's (1969) and Flapan and Schoenfeld's (1972) studies of childbearing motivations in pregnant and nonpregnant subjects found a number of elements associated with maternal role function. They stated that women planned or did not plan to have children based on a number of considerations: (a) childbearing expectations by family, friends, and society; (b) their need to confirm or demonstrate feminine identity; (c) maternal role modeling provided by their own mothers; (d) anticipated satisfactions from childbearing; and (e) age and physical health. These motivational factors parallel Roy's identification of stimuli influencing behavior in the role function mode.

Breen's (1975) study, which looked at first pregnancies, found that women who had positively adapted to their pregnancies came to terms with the new role of motherhood and perceived themselves as similar to their beliefs about the ideal mother. Women who were not positively adapted to their pregnancies still had conflicts regarding their perceptions of themselves within the maternal role.

Rubin's (1967a, 1967b) research was designed to first identify the processes involved in attainment of the maternal role and second to conduct a longitudinal study of primiparae (n = 5) and multiparae (n = 4) to determine the validity of the identified processes. Her content analysis in the first part of the research indicated that there are five operations involved in becoming a mother: mimicry, role-play, fantasy, introjection-projection-rejection, and grief work. The

longitudinal part of the study supported these operations as valid by the high rate of relevant role-taking behaviors elicited from the subjects through observations and interviews. Rubin (1967b) states that these behaviors increased in the neonatal period and were consistently higher for the multiparae than for the primiparae. The endpoint or goal in the investigation was identity, described by Rubin as the time when the pregnant subject spoke of I as her real self and placed her verbs in the present tense.

Rees (1980a) conducted research similar to Rubin's (1967a, 1967b) in that she first developed a theoretical framework to serve as the basis for empirical studies of the relationship between identification with the mothering role and infant care. In the second part of the research (Rees, 1980b), an instrument was developed to measure construct identification with the mothering role by primigravidas. The three concepts measured were feelings of motherliness (FOM), conception of fetus as a person (CFP), and appropriateness of fantasies about baby-to-be (AFB). Each concept was found to have related subscales. For a sample of 34 subjects, multiple testing procedures revealed that two of the concepts (FOM, CRP) were valid and reliable but that the concept AFB was not. Even though Rees concluded that further work on the scales and subscales was needed, her study represented an important step in the empirical measurement of the maternal role and maternal identity.

Zajicek's (1981) research, discussed in previous sections, also looked at the expectations of the subjects related to role changes in becoming a mother. The findings indicated that the issues underlying the concerns of the subjects were related to the changing social role of being first a mother-to-be and then a mother.

Lederman's (1984) study of the motherhood role identified two associate factors: motivation for role assumption and preparation for the role. Each of these factors has defining characteristics. Motivation characteristics are the ability to nurture and anticipation of interaction with the child. Preparation characteristics are envisioning oneself as a mother, utilizing role models and life experience, and resolving conflicts with other roles. The major strength of Lederman's research was the richness and specificity of the descriptions of behaviors associated with the maternal role.

One of the most interesting research reports reviewed was by Shand (1985), an anthropologist. She studied the perception of maternal role in 102 Japanese women and 104 American women in the last trimester of their first pregnancy. Her findings indicated that Japanese women perceived their roles as mothers to be rearing their child to fit into the larger social structure and to be competitive. They were not, however, necessarily confident of their ability to accomplish these goals. American mothers, on the other hand, did not acknowledge the social relevance of the maternal role. They focused on meeting the child's immediate needs for nurturance and fostering creativity. Most were confident of their ability to be a good mother. The Japanese women regarded their maternal role as a lifelong commitment, whereas American women perceived their roles as relatively short-term. This significant difference in maternal role perception related to cultural differences confirmed the need to assess cultural traditions and expectations especially in a mixed culture society as is found in the United States.

Shand's (1985) findings supported those found by Harris, Linn, Good, and Hunter (1981) in their study of attitudes and perceptions of various perinatal concepts (e.g., attitude toward pregnancy, activity of fetus)

for subjects of Black-American, White-Anglo, and Cuban-Hispanic cultures. The findings indicated that the concepts of Pregnancy and Unborn (Newborn) were sensitive to cultural differences and change over time. The Cuban-Hispanic subjects had the most positive perceptions of their pregnancies.

The function of the maternal role in maternal identity is often difficult to separate from that of self-concept. As will be discussed in the following section, both are intertwined with the interdependence function in maternal identity.

Interdependence Function in Maternal Identity

Roy (Andrews & Roy, 1986) stated that the interdependence mode reflects the person's need for affectional adequacy, that is, the need to be nurtured and to nurture. Basically, the interdependence function is relationships, those with significant others and those with support systems.

One of the most important significant others and sources of support for an expectant woman is the father of her baby. Rubin's (1961a, 1967a, 1967b) research has consistently documented the importance of the father's positive acceptance of the pregnancy, anticipation of the child, and support of the mother as crucial elements in the woman's development of a maternal identity. Any sign of rejection may leave disabling fears. Acceptance and support of other family members and friends are also significant contributors to the maternal identity.

Flapan (1969) reported that a woman's relationship with her husband, his interest in having children, and her appraisal of his potential for fatherhood affect her childbearing motivations. The woman's relationships with her own parents was also identified as a motivational consideration for childbearing.

Colman (1969) studied the psychological state during the first pregnancy. He reported that one of the most important findings of the study was that a key determinant of the total pregnancy system was the husband's reaction to the pregnancy. The husband has to accept his wife's changing shape and changing emotional needs. He may for the first time have to meet someone else's dependency needs rather than having someone else met his needs. The findings also indicated that the quality of relationships with other family members and the proximity of helpful friends contribute to the maternal adaptation potential.

Shereshefsky et al. (1974) reported a strong correlation between the husband's responsiveness to the paternal role and maternal responsiveness and self-confidence. The findings also indicated that for many of the subjects, other sources of social support (e.g., family and friends), were not as available as the woman would have liked.

Helper, Cohen, Eaton, and Blitenmanet (1968) reported that women with negative attitudes to pregnancy have been shown to have an inability to develop close relationships with their husbands or mothers. It was assumed that these women were unable to have personal relationships with anyone.

Grossman et al. (1980) stated that the number and kind of a woman's interpersonal supports and her perception of available support influence her experience of childbearing. Though the woman's relationship with her husband is important, she needs that special kind of communication that only another woman can provide.

Cranley (1981) reported that a strong social support system was positively associated (r = .51) with maternal-fetal attachment in her sample of 71 prenatal subjects. Using a researcher-developed Maternal-Fetal Attachment Scale, Cranley found that none of the demographic

factors nor the self-esteem score was significantly related to maternal-fetal attachment; only social support evidenced a relationship.

Finally, Richardson's (1981) study of 14 subjects in an antepartal clinic found that the subjects' important relationships were described as more changing than stable during pregnancy. The woman's expectations for her important relationships indicated two major relationship systems: differentiation and support. In the differentiation system, the woman helps significant others make preparations for the expected baby. In the supportive system, the woman is the recipient of the nurturing and caring actions of others. The interaction between the two systems affects the woman's adaptation to the pregnancy.

All these studies reflect the elements of Roy's interdependence mode and its importance in the expectant woman's adaptation to pregnancy and her maternal identity. The next section of the literature review will present studies related to the age variable in pregnancy and maternal identity.

Age Variable in Pregnancy and Maternal Identity

As was discussed in Chapter I, age is frequently considered a physiological variable in research. However, as Grossman et al. (1980) and DeVore (1983) pointed out, age is also a psycho-social-cultural variable. Age may have a significant bearing on all factors related to pregnancy and maternal identity. The nature of the age function, however, is widely debated.

Flapan (1969) reported that age influences a woman's childbearing motivations. He found that a woman may postpone pregnancy because she believes herself too young to be a mother or in order to pursue a career. On the other hand, an older woman may eagerly seek pregnancy because she is afraid to wait too long for fear of encountering fertility

problems or concern that she will be too old to care for an infant. Postponing childbearing, whether elective or medically-related, may intensify the desire for a child or increase the reluctance to disrupt a set pattern of life.

Rees (1980b) found a significant correlation between age and two instrument subscales, Feelings of Motherliness and Conception of the Fetus as a Person. Younger subjects had a higher positive score on the two subscales. She proposed that the current ability of women to control childbearing may influence the association between age and these subscales. A woman who chooses to have a child early in her adult years may have decided that being a mother was her primary role in life.

Josten (1982) reported that age seems to influence how a woman emotionally deals with the tasks of childbearing. In her sample, inadequate mothers had a wide age range from 14 to 31 years with a mean age of 18.4 years. Excellent mothers had a narrower age range from 16 to 29 years with a mean age of 22.9 years.

Wilkie (1981) suggested that women who delay motherhood provide healthier environments for their children because of their tendency to discourage dependency, encourage verbalization, and invite spouse involvement in child-rearing decisions. However, she stated that these older mothers may also be under more pressure because their own parents may not be around to assist with childbearing.

Mercer's (1985) research findings supported her literature review which revealed that competency in role behaviors increases with increasing age. This relationship with age was not found for gratification in the role or feelings about the baby. She suggested that this difference may indicate that the core self's definition of emotional experience is not the same as society's definition of competency.

The final research reviewed for age and pregnancy was a qualitative, grounded theory study by Winslow (1987). Twelve primiparae between 35 and 44 years of age were interviewed and tape-recorded one time; five of the subjects were interviewed a second time. Analysis of the interviews yielded a conceptual framework in which pregnancy was viewed as a four-phase project, from preconception to the latter half of pregnancy. Winslow's study provided an important recognition of the fact that older primiparae do perceive pregnancy and maternal identity differently than younger primiparae and may need a different assessment perspective of their needs.

It is interesting to note that of all the research reports having an antepartal-postpartal testing sequence, only four (Colman, 1969; Gillman, 1968; Mercer, 1985; Shereshefsky et al., 1974) conducted postpartal testing beyond 3 months after delivery. This notable absence of long-term assessment of maternal identity attainment suggests that the construct as an antepartal adaptation may not be very well understood and has implications for future research.

Application of the Roy Adaptation Model

Roy's model has been used by other nurse theorists and researchers as a framework for their work. These applications of Roy's model have occurred in a variety of settings, from curriculum development to community health. This section of the research report will present a review of selected applications of Roy's model.

The most extensive application of Roy's model has been at Mount St. Mary's College in Los Angeles, where Sister Roy was a professor of nursing. Since her first published work on the adaptation model in 1970, Roy has continued to refine her model through its use as the framework for the curriculum at Mount St. Mary's. Both her first definitive text

(Roy, 1976) and her second (Roy, 1984) reflect the theoretical development and practical application of the model that can only result from continuous and extensive evaluation by clinicians, faculty, and students who have defined their nursing care within a common framework.

Contributing to Roy's application of the adaptation model in a curriculum designed to prepare nurses for practice has been the use of the model in actual practice settings. Galligan (1979) utilized Roy's model in a pediatric setting to devise a plan of care for children. Wagner (1976) tested Roy's model in a comparison of adaptation as a framework for nursing care in an acute health care setting and in an episodic health care setting. Mastal, Hammond, and Roberts (1982) implemented a pilot program for nursing care in a hospital setting using Roy's model as a framework. Schmitz (1980) discussed her implementation of the adaptation model in a home health setting.

A number of nurses have applied Roy's model to specific populations of clients. Starr (1980) used Roy's model as a basis for her care of the dying client. Lewis (1978) examined adaptation in chemotherapy clients using Roy's model. As cited above, Galligan (1979) based her care of pediatric clients on the Roy model. Dahlen's (1980) doctoral dissertation research utilized Roy's model to analyze factors related to the adaptation of the elderly following cataract surgery.

The phases of the nursing process have also been examined within an adaptation framework. Koeckeritz (1981) devised a patient history interveiw (assessment) using Roy's model as a foundation. Peabody (1969) discussed the assessment and planning of home care for patients following discharge from the hospital. Idle (1977) developed a tool for measuring (assessing) self-perceived adaptation in an elderly population.

Finally, the Roy Adaptation Model has been applied in broad contexts, such as Mastal and Hammond's (1980) discussion of the models' contributions to holistic nursing. Rambo (1983) and Randell, Poush-Tedrow, and Van Landingham (1982) have published entire texts based on the use of Roy's model as the framework for nursing care. Such diverse applications of the model indicated to the investigator that it was an appropriate framework for practice-based research.

Summary

This chapter has presented a review of selected research literature related to maternal identity. The fact that many of the studies reviewed were cited in more than one section of the chapter indicated that the construct of maternal identity was complex, and that the defining elements were difficult to separate and study individually. The literature also supported the elements of the adaptation model used in defining maternal identity--physiologic function, self-concept, role function, interdependence--as relevant concepts to include in a framework for the study of maternal identity.

CHAPTER III

Methodology

The support for the methodology for this research was provided in Chapters I and II. This chapter presents the purpose, design, instrumentation, sample criteria, procedure, and data analysis for the research.

Purpose

The purpose of this study was to ascertain whether there is a difference in maternal identity between younger primiparae and older primiparae during the third trimester of pregnancy.

Design

The design of this study was descriptive and conformed to Dickoff and James' (1968) Level 1, factor isolating, and Level 2, factor relating, theory categories. The two main variables are age, younger and older primiparae, and maternal identity. Variables related to maternal identity which were also considered were physiological function, self-concept, role function, and interdependence. These four related variables corresponded to the four adaptive modes in Roy's adaptation model and were components of the maternal identity construct as defined by this investigator.

Instrumentation

Data Collection Tools

The tools used for data collection in this research were the Maternal Adjustment and Maternal Attitudes (MAMA) Questionnaire (Kumar et al.,

1984) and an investigator-designed demographic data tool. The MAMA (Appendix A) consists of a 60-item self-administered paper-and-pencil questionnaire designed to investigate patterns of change in: (a) the pregnant woman's adjustment (i.e., adaptation) to her pregnancy, (b) the marital relationship, and (c) attitudes toward the baby.

This tool was designed to be used at two stages in the childbearing period: during the late antepartal period and in the early postpartal period. The rationale for the use of the MAMA questionnaire for this research resulted from the analysis of the items from the antepartal testing version. These items were determined by the investigator to include the essential components of the maternal identity construct, as defined in Chapter I, and the Roy Adaptation Model in a format compatible with the purpose and deisgn of this research.

Kumar et al. (1984) pin-pointed five main areas of maternal attitudes, self-perception, and behavior that were categorized as Body Image, Somatic Symptoms, Marital Relationship, Attitudes toward Sex, and Attitudes toward Pregnancy and the Baby. The items in each of these categories were derived from questions and topics elicited in unstructured interviews with two groups of antepartal clinic patients in London and from a survey of the literature by the authors. The content of the items for each category elicits the information identified by Roy (1984) as necessary to assess the behaviors and stimuli in each of the four adaptive modes.

The demographic data collection tool (Appendix B) was designed by the investigator and consists of 10 items regarding age, race, educational level, socioeconomic status, pregnancy motivation (planned/unplanned), gestational age (in weeks), perceived current physical health status, and perceived emotional health during the pregnancy.

These items, with the exception of age, were used only for the purpose of describing the sample characteristics. The subjects were instructed to complete this section before they began the MAMA questionnaire. The items were of mixed response type. Those related to age and gestational age required an answer to be written. All the other items had forced-choice responses.

Reliability and Validity of the MAMA Questionnaire

The reliability of the questionnaire was examined with test-retest and split-half reliability measures (Kumar et al., 1984). The test-retest reliability correlation coefficients (n = 38) for the five categories of questions ranged from .81 for Marital Relationship to .95 for Attitudes toward Sex. All the correlations were significant at $p < .001$.

The split-half reliability correlation coefficient's (n = 119) for the five categories of questions ranged from .58 for Somatic Symptoms to .82 for Attitudes toward Sex. All correlations were significant at $p < .001$. It is interesting to note that for both reliability measures, the highest correlation was for Attitudes toward Sex.

The validity of the tool (Kumar et al., 1984) was determined by comparing findings related to the questions obtained independently by different methods. The MAMA sub-scale scores for Somatic Symptoms, Marital Relationship, Attitudes toward Sex, and Attitudes toward Pregnancy and the Baby were compared, using students' t-tests, with the scores from other tools designed to measure the same concepts. All findings supported the hypothesis that the mean MAMA scores were equal to the mean score for the corresponding tool at $p < .01$.

Kumar et al. (1984) noted that the high reliability estimates combined with the criterion-related validity measurements suggested that the subjects were not responding to the questionnaire items in a haphazard

manner. They also noted, however, that changing patterns of responses might be noted on repeated measures at different times during the childbearing period since childbearing is considered to be a developmental and, therefore, constantly changing process. Different testing intervals could affect the validity and reliability measurements for the questionnaires and, limit its use for other research purposes.

Use and Scoring Procedure

Each of the 60 items in the MAMA questionnaire was rated on a four-point scale (e.g., never, rarely, often, very often) and were randomly ordered with the rating scales also randomly ordered to prevent response set (Kumar et al., 1984). The time frame covered by the items was 1 month prior to the time the subject completed the questionnaire. The rating scales required the subjects to respond either positively or negatively to every item.

The questionnaire was scored by assigning a number from 1 to 4 to each rating scale response, making the scale a Likert type and, therefore, ordinal data. A score of 1 corresponded to the most desirable response, and a score of 4 corresponded to the least desirable response. In scoring the questionnaire, it was necessary to rotate the responses for 30 of the 60 items so that all 60 items had responses reading in the same direction from 1 to 4 (R. Kumar, personal communication, August 5, 1987). The total score then was computed by summing the ratings for each item and was considered interval data. A total score of 60 to 150 was desirable, and one of 151 to 240 was undesirable.

Subscale scores for each of the five categories, containing 12 items each, were obtained by summing the ratings for items in each

category and were also considered interval data. A subscale score of 12 to 30 was desirable, and one of 31 to 48 was undesirable for each of the five categories.

Sample

Description and Setting

The sample for the research was one of convenience and consisted of 33 women, 20 in the 20 to 30 age group and 13 in the 35 and older age group, who were patients in the designated settings, met the criteria, and agreed to participate in the study. The settings were four selected private obstetrical practices in a large southeastern city and a public health antepartal clinic in the same city. One of the private practices consisted of black, middle and upper socioeconomic level women. The other private practices consisted predominately of white, middle and upper socioeconomic level women. The public health clinic consisted of women representing a variety of ethnic backgrounds from a predominately low socioeconomic level. These settings were chosen to provide a sample representing the majority of socioeconomic and educational levels in this area of the country.

Sample Criteria

The criteria for selection of the sample population from the target population were as follows.

1. Age - the subject had to be age 20 to 30 years (younger primipara) or age 35 years or older (older primipara) at the time of expected delivery. Subjects under the age of 20 were considered to be adolescents and were not included in this study because of the particular health and psychosocial needs of this age group.

2. Parity - the subject had to be considered to be a primipara, that is, she could not have had a previous pregnancy which extended past

the end of the first trimester, or 12 weeks, of gestation. The number of previously terminated pregnancies and the method of termination, spontaneous or therapeutic, were not factors in subject selection.

3. Marital status - the subject had to be married to or living with the father of the expected child. This criterion corresponded closely to the MAMA questionnaire category of marital relationship and more loosely to attitudes toward sex.

4. Health status - the subject had to be without uncontrolled, confounding health problems (e.g., diabetes, high blood pressure, sexually transmitted disease). This criterion allowed the inclusion of women who had health problems related to chronic illness or to their pregnancies that were currently controlled through medical care. These subjects were considered to be basically healthy individuals.

5. Literacy - the subject had to be able to read, comprehend, and respond to a paper-and-pencil questionnaire. A minimum of an eighth-grade level of education was chosen as appropriate for this criterion based on the nature of the items contained in the questionnaire.

6. Gestational age - the subject had to be in the third trimester of pregnancy as defined in Chapter I. This trimester was chosen based on the literature (Roy, 1984; Rubin, 1984; Zeigel & Cranley, 1984) which supported the third trimester as the time when the expectant mother has incorporated the fetus' presence into her self-identity but has accepted the fetus as separate from herself.

Sampling Method

Based on previous related research, the investigator determined that the most efficient method for identifying potential subjects was to review the charts of all women who had appointments scheduled with a particular physician on the selected day for data collection. This

review, done the day before data collection or just prior to the morning or afternoon appointment schedule, permitted the investigator to quickly determine which women met the criteria, to flag those charts, and to note the women's names. When a potential subject checked in for her appointment, the receptionist notified the investigator who then spoke to the woman about participating in the study.

The above sampling method was quite efficient for identifying and contacting potential subjects in the 20 to 30 age group. However, it did not work as well in the age 35 and older group due to the erratic scheduling for these women in three of the four private obstetrical practices and was modified on the advice from one of the private physicians. Since these three practices were small to moderate in number of patients, either the physician or the office nurse was able to identify all women who might meet the study criteria. The charts for these women were reviewed by the investigator. If the study criteria were met by the potential subject, a manilla envelope containing the consent form, the two questionnaires, and a letter (Appendix C) written by the investigator specifically to the age 35 and older potential subject explaining the purpose and significance of the study, was placed in the woman's chart. When the woman came into the office for her next appointment, she was told that her physician was participating in a research project about first-time mothers and that she met the criteria for the study. She was then given the envelope, and if she agreed to participate, was requested to complete the questionnaires, put them back in the envelope, and return it to the nurse before she left. The investigator returned to each office at a later date and collected all the envelopes from the charts.

The fourth private practice was quite large and identification of potential subjects was not possible by the above method. The original sampling method was used for this practice.

Data Collection

Procedures

This section details the strategies and procedures for data collection, including human subject protection, agency permissions, preliminary data collection, and the actual data collection process. Each section will be discussed in detail.

Human Subject Protection

Prior to any data collection, approval for the research was requested from the Institutional Review Board (IRB) of the investigator's sponsoring institution. Once this approval (Appendix D) was obtained, the investigator met with each individual private physician and the head nurse of the public health department to obtain written approval (Appendix E) to use their facilities for subject identification and contact.

Once a subject was contacted and verbally had agreed to participate in the study, the investigator requrested that she sign a form (Appendix F) which detailed the purpose of the study, protection of confidentiality, the subject's rights in the study, and her consent to participate in the study. The investigator explained that the subject's names would be kept in confidence and not used for recording data or reporting results.

Preliminary Data Collection

A pilot study was conducted by the investigator to determine the criteria for subject selection, the procedure for subject selection, the anticipated time frame for the study, and the usefulness of the proposed

framework for maternal identity. The findings from this study were used to develop the proposal for the major research being conducted.

Data Collection Procedure

After obtaining approval from the IRB, the participating physicians, and the public health department, the procedure for data collection was as follows:

1. A copy of the consent form, numbered demographic data collection form, numbered MAMA questionnaire, and a pencil was placed in a numbered manilla envelope. If the modified procedure for an age 35 and over subject was to be followed, a copy of the letter to that subject was included.

2. On the day before or the day of the scheduled clinic time, the investigator identified potential subjects according to the procedure or modified procedure described in the sampling method section.

3. A. If the original sampling method was to be followed, on the scheduled clinic day, the investigator contacted each potential subject as she came in for her appointment. The purpose of the study, protection of confidentiality, rights in the study, and use of the findings were explained to the subject. If she agreed to participate, she was requested to sign and date the consent form.

B. If the modified sampling method was to be followed, after the investigator determined whether the potential subject met the criteria, an envelope containing the letter, consent form, demograhpic data collection questionnaire, MAMA questionnaire, and a pencil was placed in the subject's chart. The data collection then proceeded as described in the sampling method section above.

4. After the subject signed the consent form, she was given an envelope containing a demographic data collection questionnaire, MAMA

questionnaire, and a pencil. The instructions for completing the questionnaires were explained. The subject was encouraged to ask questions regarding only the marking of the questionnaire at that time. She was reminded that the investigator could not provide information regarding the meaning of any of the questionnaire items.

5. The subject took as long as she needed to complete the questionnaires. After completing these, she placed all materials back in the numbered envelope and returned it to the investigator.

6. The investigator remained in the clinic until all envelopes were returned by the subjects.

7. At the end of each clinic day, the numbered consent forms were placed in a locked file. The demographic data collection forms and MAMA questionnaires were separated to facilitate the tabulation of the data for analysis.

Data Analysis

Demograhpic Data

As stated in the instrumentation section, the demographic data collected were used to describe the sample. The data were analyzed using appropriate descriptive statistical methods and reported as sums, frequencies, means, and ranges.

MAMA Questionnaire

The total scores from the MAMA questionnaire were compared for each age group, 20 to 30 years and 35 years or older, by using the Student's *t*-test to determine if there were differences in the two age groups. The total score was the score which had been determined to correspond with the maternal identity construct. The null hypothesis for this

statistical test was: There is no difference in maternal identity between younger primiparae and older primiparae during the third trimester of pregnancy.

The scores for the five subscales (Body-Image, Somatic Symptoms, Marital Relationship, Attitudes to Sex, Attitudes to Pregnancy and the Baby) of the questionnaire were compared for the two age groups by using t-tests to determine whether there were differences in the two groups. The total score and subscale scores were also analyzed by Pearson product-moment correlations to ascertain the appropriateness of the subscale category designations within the total maternal identity questionnaire. Since these categories correspond to the adaptive modes as described in Chapter I, this analysis provided relevant findings.

As was described in the instrumentation section of this chapter, the validity and reliability of the MAMA questionnaire were determined by the questionnaire developers (Kumar et al., 1984). Further validity and reliability measures for the use of the questionnaire in the sample population for this study were not possible due to the small available sample for the age 35 and older subject group.

Limitations

The following limitations of the study were identified by the investigator.

1. The study focused only on basically healthy pregnant women who were over the age of 19, were in the third trimester of pregnancy, and agreed to participate in this study. The findings are applicable only to this population.

2. Since the sample selection was not randomized, the possibility of investigator bias in identifying potential subjects existed. Such bias could have influenced the findings of the study.

3. The MAMA questionnaire was tested by its authors (Kumar et al., 1984) for validity and reliability for only one sample. Testing with other samples and in a different trimester during the childbearing period could result in different reliability and validity estimates.

4. The items on the MAMA questionnaire that composed the subscales were assigned by the authors (Kumar et al., 1984). Subsequent testing could indicate that the assignment of these items was not appropriate for any single subscale or combination of subscales.

5. The classification of subjects by age group, 20 to 30 years and 35 years or older, could have been less appropriate than by another method, for example, by developmental stage. Such a limitation could restrict the applicability and/or scope of the findings.

6. Subjects who had had a previous pregnancy which was terminated, spontaneously or therapeutically, in the first trimester of pregnancy could have had different perceptions of themselves as mothers. These different perceptions could have affected the subjects' responses to the questionnaire for the purposes of this study.

7. The criterion of gestational age could have been limiting in that by the late third trimester, the pregnant woman could have been anxious regarding delivery and fatigued by the pregnancy. These conditions could have effected different responses to the items in the questionnaire than would have been given at an earlier testing time.

8. The criteria for sample selection did not exclude women who may have had diagnosed or suspected infertility problems. A history of infertility could have affected a subject's responses to questionnaire items.

9. The criteria for sample selection did not exclude women who may have had an adopted child. Such prior experience with mothering could have affected a subject's responses to questionnaire items.

Summary

This chapter identified and described the methodology for the study. The design, instrumentation, sample, data collection procedure, data analysis, and limitations were discussed in detail. The methodology evolved from the conceptual model and the reivew of the literature discussed in Chapters I and II and was the basis for the presentation of the findings in Chapter IV.

CHAPTER IV

Findings

The problem question for this research asked whether there is a difference in maternal identity between younger and older primiparae during the third trimester of pregnancy. The related research questions inquired whether there were differences in the four defining elements (physiological function, self-concept, role function, interdependence) of maternal identity between the two age groups of primiparae during the third trimester of pregnancy. The design of the study was descriptive and consisted of a convenience sample of 33 women who met the study criteria and were assigned to one of two age groups: 20 to 30 years or 35 years and older. The tools used were the MAMA questionnaire (see Appendix A) developed by Kumar et al. (1984) and a demographic questionnaire developed by the investigator. This chapter presents the data analysis and statistical findings of the study.

Description of the Subjects

The sample of 33 subjects consisted of 20 subjects in the 20 to 30 age group and 13 subjects in the 35 and older age group. Table 2 presents the descriptive information regarding selected demographic variables for the sample of the two age groups.

For the 20 to 30 age group, the mean age for Caucasian subjects was 24.8 years and for Black subjects, 27.4 years. The one Hispanic subject was 21 years old. In the 35 and older age group, the mean age for

Caucasian subjects was 36.8 years. The one Black subject was 35 years old. The mean age for the 20 to 30 age group was 24.4 years and for the 35 and older age group was 35.9 years.

Table 2

Selected Demographic Variables for Sample by Age Group

Variables	Age Groups: 20 to 30 Years (n = 20)	Age Groups: 35 Years (n = 13)	Total
Race			
Caucasian	14(70.0%)	12(92.3%)	26(78.8%)
Black	5(25.0%)	1(7.7%)	6(18.2%)
Hispanic	1(5.0%)	---------	1(3.0%)
Gestational Age[1]			
25 to 32 weeks	7(35.0%)	6(46.1%)	13(39.4%)
33 to 40 weeks	13(65.0%)	7(53.9%)	20(60.6%)
Educational Level[2]			
Grades 9-12	4(20.0%)	3(23.1%)	7(21.2%)
College	6(30.0%)	3(23.1%)	9(27.3%)
College Graduate	8(40.0%)	4(30.8%)	12(36.3%)
Graduate School	2(10.0%)	3(23.1%)	5(15.2%)
AFI[3]			
< $6,000	4(20.0%)	---------	4(12.2%)
$6,000 - 10,000	1(5.0%)	---------	1(3.0%)
$10,000 - 15,000	1(5.0%)	---------	1(3.0%)
$15,000 - 20,000	1(5.0%)	---------	1(3.0%)
> $20,000	13(65.0%)	13(100.0%)	26(78.8%)

[1]Gestational age at time of interview

[2]Highest level of education reported attained by subject

[3]Annual family income

The mean gestational age at the time of the interview for the 20 to 30 age group was 35 weeks. For the 35 and older age group, the mean gestational age was 33 weeks. The median gestational age for both age groups paralleled the mean.

For both age groups, the highest level of education most frequently reported was college graduate. Since not all subjects specified how many years of college they had completed, a specific numerical mean could not be calculated.

For the 20 to 30 age group, 13(65%) of the subjects reported an annual family income level of greater than $20,000. For the 35 and older age group, all 13(100%) of the subjects reported an annual family income of greater than $20,000.

Two other demographic variables for which data were collected were pregnancy planning, that is, whether the pregnancy was planned or not planned, and whether the subject believed that her physical and/or emotional health during pregnancy had changed how she felt about becoming a mother. In the 20 to 30 age group, 15(75%) of the 20 subjects indicated that their pregnancies were planned and 5(25%) reported that their pregnancies were not planned. In the 35 and older age group, 10(77%) of the 13 subjects indicated that their's were planned pregnancies and 3(23%) reported that their pregnancies were not planned.

For the 20 to 30 age group, 2(10%) of the 20 subjects noted that they did believe that their physical and/or emotional health during pregnancy had changed how they felt about becoming mothers; 14(70%) indicated that they did not believe any change of feelings had occurred. Four (20%) thought that maybe their feelings about becoming mothers had changed in relation to their health during pregnancy.

In the 35 and older age group, 2(15.4%) of the 13 subjects noted that they believed that their physical and/or emotional health during pregnancy had affected how they felt about becoming mothers. Eight (61.5%) indicated that they did not believe any change had occurred in their feelings about becoming mothers, and 3(23.1%) noted that some change in their feelings may have occurred.

Presentation of the Findings

The following sections present the findings from the analysis of the data obtained from the MAMA questionnaire (Kumar et al., 1984). The total MAMA score and the five subscale scores were compared for the two age groups by using the Students' *t*-test. The total scores and the five subscale scores were also analyzed with the Pearson product-moment correlation test to determine the correlations among these variables.

Comparison of MAMA Total Scores and Subscale Scores

Table 3 depicts the mean, standard deviation, range, and *t*-test results for the total score variables from the MAMA questionnaire for the two age groups. The reader is reminded that each item response on the questionnaire was rated from 1 to 4, and the total score was obtained by summing the ratings from all 60 items. A minimum total score was 60 and maximum total score was 240.

Since the number of subjects in each group was not equal, homogeneity of variance for the two groups could not be assumed and a test for homogeneity of variance was performed. The results of this test indicated that the separate variance estimate should be used for the *t*-test analysis.

As the table illustrates, the test statistic did not indicate a significant difference in the mean total scores for the two age groups, $t(26.30) = 92$, $p \leq .05$. The range of scores for the 20 to 30 age group

Table 3

Comparison of MAMA Total Scores[1] for Age Groups

Age Group	n	Mean	SD	Range	t-test Results	
					t*	df
20 to 30 years	20	127.45	18.53	94-161		
					.92	26.30
35 years	13	121.46	18.03	92-148		

[1]Total score possible = 60-240
*$p \leq .05$(two-tailed)

was wider than that for the 35 and older age group, and the mean score for the younger age group was higher than that for the older age group.

Table 4 depicts that mean, standard deviation, range, and t-test results for the variable subscale scores for the MAMA questionnaire for the two age groups. The five subscales are Body Image, Somatic Symptoms, Marital Relations, Attitudes to Sex, and Attitudes to Pregnancy and the Baby. The questionnaire items associated with each subscale are found in Appendix G. As with the total score, the subscale scores had minimum and maximum scores. A minimum possible score was 12 and a maximum possible score was 48.

Since the size of the two samples was also unequal for each of the subscales, a test for homogeneity of variance was performed for each one and the separate variance estimates were read for the t-test analyses.

As the table illustrates, the only statistically significant difference in the mean subscale scores for the two age groups was for the Somatic Symptoms subscale, $t(28.02) = 2.46$, $p \leq .05$.

Table 4

Comparison of MAMA Subscale Scores[1] for Age Groups

Subscale	Age Group		t-test Results	
	20-30 years (n = 20)	35 years (n = 13)	t	df
Body Image			.86	29.38
Mean	28.75	27.08		
SD	6.11	4.74		
Range	15-38	19-34		
Somatic Symptoms			2.46*	28.02
Mean	28.65	24.54		
SD	5.03	4.45		
Range	21-38	19-34		
Marital Relations			-.09	20.74
Mean	20.80	21.00		
SD	5.05	6.69		
Range	14-29	13-33		
Attitudes to Sex			.77	30.11
Mean	24.40	22.85		
SD	6.57	4.99		
Range	12-36	17-31		
Attitudes to Pregnancy and Baby			-.63	17.84
Mean	24.85	26.00		
SD	3.45	5.99		
Range	18-33	16-35		

[1]Subscore possible = 12-48
*$p \leq .05$(two-tailed)

For the Body Image subscale, the mean score was higher and the range of scores wider for the 20 to 30 age group than for the 35 and

older age group. The mean score was higher and the range of scores wider for the 20 to 30 age group than for the 35 and older age group for the Somatic Symptoms subscale. For the Marital Relations subscale, the 35 and older age group had a slightly higher mean score and a wider range of scores than did the 20 to 30 age group. The younger age group had a higher mean score than the older age group for the Attitudes to Sex subscale. The range of scores for this subscale for the younger age group represented the widest range of scores for both age groups on all the subscales and was also the widest range of scores between the two age groups. For the subscale of Attitudes to Pregnancy and the Baby, the 35 and older age group had a higher mean score and a wider range of scores than did the 20 to 30 age group.

Correlations Among MAMA Total Scores and Subscale Scores

In order to determine how the total score variable and the five variable subscale scores correlated with each other for the two age groups of subjects, Pearson product-moment correlation tests for all the variables were performed for each group of subjects. Table 5 summarizes these findings for the 20 to 30 age group.

All the variable subscale scores were significantly correlated with the total score obtained from the MAMA questionnaire. The correlation coefficients for these relationships ranged from a low of r = .58 for the Marital Relations/Total Score correlation to a high of r = .86 for the Attitudes to Sex/Total Score corelation.

Among the five variable subscale scores for the 20 to 30 age group, only the Attitudes to Sex score was significantly correlated with any of the other subscale scores. The Attitudes to Sex score was significantly

Table 5

Correlations Among MAMA Scores for 20 to 30 Age Group (n = 20)

Variable Scales	TS	APB	AS	MR	SS	BI
BI	.6406*	.2425	.4520*	.0324	.3549	-----
SS	.7672*	.4090	.5522*	.3906	-----	
MR	.5863*	.2274	.4351*	-----		
AS	.8634*	.4875*	-----			
APB	.6124*	-----				
TS	-----					

*p ≤ .05
BI = Body Image
SS = Somatic Symptoms
MR = Marital Relations
AS = Attitudes to Sex
APB = Attitudes to Pregnancy and Baby
TS - Total Score

correlated with all four of the other subscale scores. The coefficients for these correlations ranged from r = .44 for Marital Relations to r = .55 for Somatic Symptoms.

Table 6 summarizes the findings for the Pearson product-moment correlation tests for correlations among the total score variable and the five variable subscale scores for the 35 and older age group. As with the younger age group, all the variable subscale scores for the MAMA questionnaire were significantly correlated with the total score for the 35 and older age group. The coefficients for these correlations ranged from r = .56 for Attitudes to Pregnancy and Baby/Total Score to r = .83 for Marital Relations/Total Score.

Table 6

Correlations Among MAMA Scores for 35 and Older Age Group (n = 13)

Variable Scales	TS	APB	AS	MR	SS	BI
BI	.6067*	.2620	.3313	.3048	.1649	-----
SS	.6380*	.4029	.2966	.3499	-----	
MR	.8338*	.2994	.6973*	-----		
AS	.6437*	-.1699	-----			
APB	.5675*	-----				
TS	-----					

*$p \leq .05$
BI = Body Image
SS = Somatic Symptoms
MR = Marital Relations
AS = Attitudes to Sex
APB = Attitudes to Pregnancy and Baby
TS = Total Score

Among the five variable subscale scores, the only significant correlation was between the Marital Relations score and the Attitudes to Sex score. The correlation coefficient for these two scores was $r = .697$. No other significant correlations among the variable subscale scores were revealed through analysis of the data.

Summary

This chapter presented the findings of the analysis of data obtained from the demographic questionnaire and the MAMA questionnaire tools used in this study. The demographic data were analyzed with descriptive statistics and were presented to describe the sample comprised of the two age groups of 20 to 30 years and 35 years and older.

The data obtained from the MAMA questionnaire total score and subscale scores for Body Image, Somatic Symptoms, Marital Relations, Attitudes to Sex, and Attitudes to Pregnancy and the Baby for the two age groups were analyzed with Students' t-tests and Pearson product-moment correlations. The t-tests were used to determine whether there were statistically significant differences between the two age groups in their mean total scores and mean subscale scores. The only significant difference found was for the Somatic Symptoms subscale scores.

The Pearson product-moment correlation tests were used to determine whether there were any significant correlations among the total scores and the subscale scores for the two age groups. For both age groups, all the subscale scores were significantly correlated with the total scores. In the 20 to 30 age group, the Attitudes to Sex subscale score was significantly correlated with all the other subscale scores. In the 35 and older age group, the only significant correlation was between the Marital Relations score and Attitudes to Sex score.

CHAPTER V

Discussion

The research was conducted in order to discover whether there is a difference in maternal identity between younger and older primiparae during the third trimester of pregnancy. The design for the study was descriptive with a convenience sample of 33 subjects who comprised two age groups of 20 to 30 years (n = 20) and 35 years and older (n = 13). The tools used were an investigator-developed demographic questionnaire and a 60-item Maternal Adjustment and Maternal Attitudes (MAMA) questionnaire developed by Kumar et al. (1984). The demographic data were used to describe the sample. The data from the MAMA questionnaire were analyzed with Students' t-tests and Pearson product-moment correlations. The major finding of the data analysis indicated that there was no statistically significant difference in maternal identity between younger and older primiparae during the third trimester of pregnancy. This chapter discusses these findings in greater detail and presents recommendations for future research.

Findings and Conclusions

Comparison of MAMA Total and Subscale Scores

The null hypothesis for the main research question stated that there is no difference in maternal identity between younger and older primiparae during the third trimester of pregnancy. The construct maternal identity was defined operationally as the total score obtained from the MAMA questionnaire. The findings of the Students' t-test analysis of

mean total scores for the two age groups of subjects indicated that the younger primiparae ($\underline{M}$ = 127.45) and older primiparae ($\underline{M}$ = 121.46) did not differ in the third trimester of pregnancy, $\underline{t}(26.30) = 92$, $\underline{p} \leq .05$. Therefore, the null hypothesis for the research question was accepted.

The MAMA questionnaire results were further analyzed through Students' $\underline{t}$-test analysis of the five designated subscale mean scores for the two age groups. The MAMA questionnaire items specific to each of these subscales (see Appendix G) elicit information that parallels the defining elements (physiological function, self-concept, role function, and interdependence relationships) of maternal identity. Therefore, the findings of the analysis of data from the subscale scores were interpreted as they pertained to the defining elements and answered the related research questions.

Of the five subscales, only the Somatic Symptoms score displayed a statistically significant difference between the younger primiparae ($\underline{M}$ = 28.65) and the older primiparae ($\underline{M}$ = 24.54) during the third trimester of pregnancy, $\underline{t}(28.02) = 2.46$, $\underline{p} \leq .05$. This finding suggested that the younger age group of subjects perceived their physiological functions during the third trimester differently than did the older age group of subjects.

The MAMA questionnaire has a possible range of total scores of 60 to 240. Scores of 60 to 150 were designated as desirable and scores of 151 to 240 as undesirable. Though the mean total scores for both groups were within the desirable range, the mean total scores for the younger primiparae ($\underline{M}$ = 127.45) were higher than those for the older primiparae ($\underline{M}$ = 121.46), indicating a slightly more negative maternal identity for the younger subjects during the third trimester of pregnancy.

For the five subscales, the score range was 12 to 48. A subscale score of 12 to 30 was considered desirable and one of 31 to 48 undesirable. The younger primiparae had slightly higher mean scores for Body Image ($\underline{M}$ = 28.75), Somatic Symptoms ($\underline{M}$ = 28.65), and Attitudes to Sex ($\underline{M}$ = 24.40) than did the older primiparae ($\underline{M}$ = 27.08, $\underline{M}$ = 24.54, $\underline{M}$ = 22.85, respectively). Of these three subscales, only the difference in the Somatic Symptoms mean scores was statistically significant, suggesting that the younger primiparae perceived their physiological functions more negatively than did the older primiparae during the third trimester of pregnancy. Though not statistically significant, the older primiparae had slightly higher mean scores for the subscales of Marital Relations ($\underline{M}$ = 21.00) and Attitudes to Pregnancy and the Baby ($\underline{M}$ = 26.00) than did the younger primiparae ($\underline{M}$ = 20.80, $\underline{M}$ = 24.85), respectively.

Correlation Among MAMA Total and Subscale Scores

Pearson product-moment correlations were performed for all the subscale scores and total scores for both age groups to determine the relationships among these scores. For both the 20 to 30 age group and the 35 and older age group, all the subscale scores were significantly correlated with the total score. The coefficients for the subscale/total score correlations ranged from $\underline{r}$ = .58 ($\underline{p} \leq .05$) for Marital Relations/Total Score to $\underline{r}$ = .86 ($\underline{p} \leq .05$) for Attitudes to Sex/Total Score for the 20 to 30 age group. For the 35 and older age group, the coefficients ranged from $\underline{r}$ = .56 ($\underline{p} \leq .05$) for Attitudes to Pregnancy and the Baby/Total Score to $\underline{r}$ = .83 ($\underline{p} \leq .05$) for Marital Relations/Total Score. These values indicated moderate to high positive correlations between the subscale scores and the total scores of the MAMA questionnaire for both age groups and, therefore, positive relationships between the construct of maternal identity and each of its defining elements.

The Attitudes to Sex subscale score was significantly correlated with the other four subscale scores for the 20 to 30 age group. The coefficients for these correlations ranged from r = .44 ($p \leq .05$) for Marital Relations/Attitudes to Sex to r = .55 ($p \leq .05$) for Somatic Symptoms/Attitudes to Sex. These findings indicated a low to moderate positive correlation between Attitudes to Sex and each of the other four subscales for the younger age group.

For the 35 and older age group, the only significant correlation was between the Marital Relations and the Attitudes to Sex subscale scores, r = .697, $p \leq .05$. This value indicated a moderately high positive correlation between these two subscales for the older age group.

Interpretation

This section presents an interpretation of the research findings as they relate to the theoretical framework, review of literature, and methodology for the research. Each of these associations are considered in depth.

Relation of Research Findings to Theoretical Framework

The Roy Adaptation Model was chosen as the theoretical framework for this research because of its logical format and compatibility with the construct of maternal identity. Much of the literature reviewed supported pregnancy as an adaptation process (Curry, 1983; Grossman et al., 1980; Mercer, 1985; Rubin, 1984) and maternal identity as an adaptation to pregnancy (Cranley, 1981; Lederman, 1984; Leifer, 1980; Rubin, 1975, 1984). According to Roy's model, pregnancy is the focal stimulus for an adaptation response, a process and product, affected by contextual stimuli such as age, health, culture, developmental stage, coping

patterns, knowledge, and expectations. The adaptation process and response modes are categorized as physiological function, self-concept, role function, and interdependence relationships.

The authors' (Kumar et al., 1984) stated purpose for the MAMA questionnaire was in accordance with the purpose for the research. The five subscales differentiated by the tool's authors were compatible with the four adaptive modes of Roy's model and were supported as having significant relationships to the total score by the positive Pearson product-moment correlations between each of the five subscale scores and the total score. The total score obtained from the questionnaire satisfied the theoretical definition for maternal identity and became the operational definition for the construct. Of the five subscales, only Somatic Symptoms obviously paralleled one of the adaptive modes, that of physiological function. The other four subscales of Body Image, Marital Relations, Attitudes to Sex, and Attitudes to Pregnancy and the Baby appeared to overlap each other in their relationships with the other three adaptive modes. However, this did not present a problem as the behavioral elements and influencing stimuli in Roy's model also tend to overlap for the psychosocial modes of self-concept, role function, and interdependence relationships.

The finding that there was no statistically significant difference in the total scores for the younger and older primiparae was interpreted as acceptance of the null hypothesis, that there is no difference in maternal identity between the two age groups during the third trimester of pregnancy. This finding was not congruent with the investigator's expectation based on the theoretical framework that the age of the pregnant woman is an influencing stimulus in her adaptation to pregnancy

and her attitudes toward her assumption of a maternal identity. However, this discrepancy between the actual and expected finding can be explained within the context of the theoretical framework.

As a construct, maternal identity encompasses both physiological and psychosocial adaptations to impending motherhood. The psychosocial adaptations for the pregnant woman include common influencing stimuli such as her developmental stage, perceptions, expectations of self and others, self-esteem, knowledge and skills, and cultural background. The lack of a significant difference in the two groups' maternal identities was likely related to varying combinations of these factors which essentially balanced the differences that their ages might have made. The fact that there was a 6-point difference in the mean total scores for the two age groups could have indicated that in actual practice the younger primiparae ($\underline{M}$ = 127.45) viewed their adaptations to pregnancy and to becoming mothers more negatively than did the older primiparae ($\underline{M}$ = 121.46).

This interpretation was supported by the findings from the statistical analysis of the five subscales. For the Somatic Symptoms subscale, a significant difference between younger and older primiparae was found, with the younger age group having the higher and, therefore, more negative scores. The investigator concluded that the younger subjects viewed the physiological changes associated with pregnancy and becoming a mother more negatively than did the older subjects. Since how a person feels physically influences all psychosocial responses to stimuli (Roy, 1984), the findings that the mean scores for two of the four psychosocial scales, Body Image and Attitudes to Sex, were higher for the 20 to 30 age group was logical. The higher scores for these two subscales became more meaningful in the context of verbal and

written comments made by these subjects to the investigator. The most common comments were as follows:

"I feel so fat. How can I even think of sex?"

"Sex is just too uncomfortable now."

"Thank goodness I have an understanding husband."

"Sex is why I look like this."

The older subjects' more positive reports of their Somatic Symptoms during pregnancy may be related to information volunteered by a number of these subjects during sample selection. A larger percentage of these older subjects stated that they worked outside the home. Commitment by these subjects to an outside job would have required going out to work on days when they might not have felt well. Having to get up, get dressed, and deal with the day as though it were a normal day may have influenced their perceptions of how sick they actually felt at that time. This explanation is supported by the link between self-concept and role function and perception of health found in the theoretical framework.

The 35 and older age group had a higher, and therefore a comparatively more negative, mean score for the subscale Attitudes to Pregnancy and the Baby than did the 20 to 30 age group. Though not statistically significant, this finding acquired greater meaning within the context of the verbal comments made to the investigator by these subjects. Some of these comments were as follows:

"This has been a hard pregnancy. It's my first and last."

"I'm anxious to have my baby and get all this over with."

"I'm glad you asked these questions. Nobody else has."

"Nobody else has asked me how I feel about being pregnant at my age."

"I'd like another baby, but not if I have to go through this again."

A comparison of these more negative responses by the older subjects

toward the pregnancy experience itself with their more positive responses for the other subscales suggested that they were able to separate the physical experience of pregnancy from their feelings about being pregnant.

The Pearson product-moment correlation test for the subscale scores and total scores revealed that for the 20 to 30 age group, Attitudes to Sex had a significant positive correlation with the four other subscale scores, and for the 35 and older age group, Marital Relations and Attitudes to Sex had a significant positive correlation. The common positive correlations between Attitudes to Sex and Marital Relations for the two groups suggested that these two psychosocial elements of the subjects' adaptations to pregnancy were significant aspects of their maternal identities.

The research findings also supported the theoretical framework's use of the nursing process as part of the maternal identity adaptation process. In Roy's model, the assessment phase of the nursing process is composed of two levels, assessment of behaviors and assessment of stimuli influencing those behaviors, and organized through the four adaptive modes. The findings of the study indicated that the four adaptive modes are significantly correlated with the construct of maternal identity and, therefore, relevant to the assessment of both the process and product of maternal identity.

Relation of Research Findings to Review of Literature

The lack of published research regarding the younger-older age variable as it relates to the construct of maternal identity limited the comparison of this study's findings to the related research questions

only. However, the findings associated with the related research questions did support and were supported by several of the studies presented in Chapter II.

The study finding that the physical symptoms the subjects experienced during pregnancy were a significant component of their maternal identities substantiated Rubin's (1961a, 1961b) and Newton's (1963) research which reported a definite link between the physical changes associated with pregnancy and the emotional adaptations to pregnancy by a woman. Rubin stated that these physical symptoms, while uncomfortable, actually increase the woman's identification with her pregnancy and baby. Newton suggested that fewer physical complaints by a pregnant woman were associated with a more positive adaptation to pregnancy. Newton's finding was quite similar to this investigator's finding that the group of subjects with the lower (more positive) Somatic Symptoms subscale scores also had a lower (more positive) maternal identity total score.

The positive relationships between the subscales of the MAMA Questionnaire and the total score for maternal identity were supported by the significant positive correlations for these variables obtained in the analysis of the study data. In addition to supporting the relationship between the woman's physiological function mode and her adaptation to becoming a mother, the literature also supported the relationship found between the phychosocial modes and the construct of maternal identity.

Bibring and Valenstein (1976) found that women redefined their perceptions of themselves, their old and new role functions, and their relationships with others during pregnancy and that these redefinitions were associated with their overall feelings about their pregnancies. Shereshefsky et al. (1974) reported that a woman's adaptation to her

pregnancy was influenced by many intertwining psychosocial factors including her perceptions about herself, her beliefs in her ability to fulfill her maternal role, and her dependence upon her relationships with her husband and family. These reports confirmed the current study's findings regarding the relationships between the psychosocial elements of maternal identity and the construct of maternal identity as represented by the positive correlations between the four psychosocial subscale scores of the MAMA questionnaire and the total score.

Relation of Research Findings to Methodology

The descriptive design of the study contributed to the direction of the findings which provided empirical support for the need for assessment of both the physiological and psychosocial elements of maternal identity. The tool was chosen for its compatibility with the purpose, framework, and design of the study. The data obtained from the MAMA questionnaire items provided information which confirmed that the tool was expedient for the study. The significant positive correlations between the MAMA subscale scores and the total scores for both age groups indicated that the questionnaire items in each subscale were appropriate.

The finding that there was no significant difference in maternal identity between younger and older primiparae during the third trimester of pregnancy can most likely be explained in terms of the sample size and availability. A larger sample might have provided significant differences in the mean total scores and more of the subscale scores for the two age groups. This supposition is based on the fact that even with the small and unequal sample sizes, a 6-point difference in mean scores for the two age groups was found. Those 6 points represented 10% of the questionnaire items.

A major factor which affected sample size was the lack of availability of the age 35 and older subjects. The literature supported the increasing size of the 35 and older primiparae population in this country, and the fact is that the older first-time mother is seen more frequently today than 10 years ago. The obstetricians who participated in the study told the investigator that 10 years ago they might have had five primiparous patients age 35 and older in a year; now they have several times that many. The actual numbers, at lease in this area of the country, are still small compared to those for the traditional-age, 20- to 30-year-old, primiparae. This fact is especially true for Blacks and other minorities.

That only 13 primiparae age 35 and older and in the third trimester of pregnancy were located in four private obstetrical practices and one public health clinic suggested that this sample represented a much larger percentage of the older primiparae population than did the sample of 20 subjects for the age 20 to 30 group of subjects. These 33 subjects represented a 100% participation by subjects contacted; all the women were eager to talk and answer questions about their pregnancies.

A larger sample size could possibly have been obtained for both age groups had the sampling method been facilitated by having the necessary information related to the sample criteria more accessible than by the lengthy, and quite frequently unsuccessful, daily review of patient charts. This procedure would possibly have allowed more settings to be productively included in the research and provided a sample of greater diversity as well as larger size.

Implications and Recommendations

Implications

The implications of the findings are closely associated with the significance of the study. First, the findings indicated that maternal identity is a valid construct for nursing research and provides a logical focus for the study of pregnancy as an adaptation process. Nursing educators and clinicians can use this construct of maternal identity as a core concept in the health care of the pregnant woman.

Second, the findings supported the need for more detailed assessment of the primipara's physical and psychosocial needs during the third trimester of pregnancy. The relationships between her physiological function and her feelings about becoming a mother, and between her body image and attitudes about sex during this stage of pregnancy especially need greater consideration by nurses in education, practice, and research.

Third, the findings indicated that some age-specific differences do exist in a primipara's perception of her maternal identity. This information could be used by providers of health care for pregnant women to develop well-defined assessment tools and programs of care that define and meet the needs of child-bearing women of all ages.

Fourth, the findings supported the use of a theoretical framework, the Roy Adaptation Model, as an essential component of nursing research. The compatibility between the adaptation model and the study of maternal identity was explicated by the interpretation of the findings within the framework. Much of the published research reviewed for this study failed to interpret the findings within a specified framework, thereby making application of the findings difficult. The use of a compatible framework by nurse researchers could increase the scope and practical application of their research.

Recommendations

The recommendations for future research in this area of health care pertain primarily to methodological issues. First, the investigator recommends that the study be replicated with the same methodology but with a larger sample size to determine whether the sample size did indeed influence the finding regarding the difference in maternal identity in younger and older primiparae. A larger sample size would also permit tests for validity and reliability of the tool with this sample.

Second, the study should be conducted over the entire childbearing period for a single group of subjects. The MAMA questionnaire would be administered as a repeated measure during the first, second, and third trimesters of pregnancy and at a specified time interval after delivery. The data could then be analyzed to determine the difference or consistency of the subjects' responses throughout the childbearing period.

Third, a repeated-measures study could then be conducted with different age groups of subjects. These findings could enable health care providers and educators to more easily assess the pregnant woman's age-specific needs and plan her care throughout the childbearing cycle.

Finally, this investigator strongly recommends that nurses working in private physician's offices, public health clinics, and hospitals stress the importance of facilitating research by including pertinent demographic data in patients' computerized records. Since computerized patient records are currently in use by all types of health care agencies, the inclusion of identifying data such as age, race, and parity (for females) would enable a researcher to easily obtain a list of possible subjects for a study from a number of sources. Such information is considered necessary for health care and, therefore, does not represent an invasion of the patient's privacy.

Summary

This chapter presented a discussion of the quantitative findings of this study and the conclusions derived from these findings. The relationships of the findings to the theoretical framework for the study, the review of literature, and the methodology were explored in detail. Finally, the implications of the study and its fundings were delineated and recommendations for future research in the study area were proposed.

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Appendix A

Maternal Adjustment and Maternal Attitudes Questionnaire

Appendix B

Demographic Data Questionnaire

ID Number _____

DEMOGRAPHIC DATA QUESTIONNAIRE:
A COMPARISON OF MATERNAL IDENTITY IN YOUNGER AND OLDER PRIMIPARAE DURING THE THIRD TRIMESTER OF PREGNANCY

Instructions

The following questions will provide information that will help in the analysis of the Maternal Adjustment and Maternal Attitudes questionnaire. Please answer these questions before you begin the MAMA questionnaire. After completing both questionnaires, place them, your signed consent form, and the pencil back in the manilla envelope and return to the project director.

Thank you for helping with this study!

1. What is your birthdate? _____/_____/_____ Age? _____
   Month/ Day / Year
2. What is your ethnic background? Caucasian _____ Black _____
   Asian _____ Hispanic _____ Other(specify) _____
3. a. When is your baby due to be born? _____
   b. How many weeks pregnant are you now? _____
4. Was this pregnancy planned or unplanned? Planned _____
   Unplanned _____
5. Have you ever been pregnant before this pregnancy?
   Yes _____ No _____
6. Have you had any problems (physical or emotional) with this pregnancy?
   Yes _____ No _____ Not sure _____
7. a. What would you say your physical health status is now?

   _____

   b. What would you say your emotional health status is now?

   _____
8. Have either your physical or emotional health changed how you feel about becoming a mother? Yes _____ No _____ Not sure _____
9. What is your highest level of education? _____
10. What is your annual family income level? Less than $6000___
    $6-10,000___ $10-15,000___ $15-20,000___ Over $20,000___

Appendix C

Letter to Age 35 and Older Subjects

3295 Hillard Drive
Birmingham, AL 35243
November 20, 1987

Dear

My name is Faye Shaffer and I am a graduate student working on my doctoral degree in nursing at U.A.B. Part of my degree work requires original research in an area that would be of benefit in providing better quality health care for people in my field of specialization. My field is Maternal-Infant Health with a specific interest in older first-time mothers.

The research which I am conducting relates to determining whether there is a difference is how older and younger women develop a maternal identity during their first pregnancies. Because more women than ever before are postponing having a baby until after the age of 35, either electively or because of fertility problems, the health care system is faced with a relatively new and little understood population of first-time mothers. We know quite a lot about the differences in the physical aspects of pregnancy at age 35 and older, but we know very little about the emotional needs and the adaptation for pregnant women in this age group.

Here is where you come into the picture on a personal level. If you are willing to give me about 15 minutes of your time to complete the enclosed questionnaires, you will be contributing to our increased understanding of all women who, like you, are having their first babies later than the traditional childbearing age. Your answers will be completely anonymous. Your name appears only on the consent form which you must sign, and only I have access to that form. After the study is completed those forms will be destroyed so that there will be no record of your ever having participated in the study.

Your doctor has given me permission to contact you about the study and will be willing to answer any questions you might have about it. Also, you may feel free to contact me at the phone number below if you have any questions. Again I emphasize that your participation will assist us in improving health care for all pregnant women by increasing our understanding of the special needs that women of different ages have when they are pregnant, especially for the first time. Your participation will be greatly appreciated!

Sincerely,

Faye H. Shaffer, R.N., M.S.N.
967-0617

Appendix D

Institutional Review Board Consent Form

The University of Alabama in Birmingham
Institutional Review Board for Human Use
205/934-3789

FORM 4: IDENTIFICATION AND CERTIFICATION OF RESEARCH PROJECTS INVOLVING HUMAN SUBJECTS

The Institutional Review Board (IRB) must complete this form for all applications for research and training grants, program project and center grants, demonstration grants, fellowships, traineeships, awards, and other proposals which might involve the use of human research subjects independent of source of funding.

This form does not apply to applications for grants limited to the support of construction, alterations and renovations, or research resources.

PRINCIPAL INVESTIGATOR Faye H. Shaffer

PROJECT TITLE A Comparison of Maternal Identity in Younger and Older Primiparae During the Third Trimester of Pregnancy

---

_____ 1. This is a training grant. Each research project involving human subjects proposed by trainees must be reviewed separately by the Institutional Review Board (IRB).

_____ 2. This application includes research involving human subjects. The IRB has reviewed and approved this application on _____, in accordance with UAB's assurance approved by the United States Public Health Service. The project will be subject to annual continuing review as provided in that assurance.

_____ This project received expedited review.

_____ This project received full board review.

_____ 3. This application may include research involving human subjects. Review is pending by the IRB as provided by UAB's assurance. Completion of review will be certified by issuance of another FORM 4 as soon as possible.

__X__ 4. Exemption is approved based on number(s) 3a.

9-30-87
Date

Russell Cunningham, M.D.
Interim Chairman of the
Institutional Review Board

Appendix E

Consent by Physicians for Investigator to Contact Physician's Patients

CONSENT BY PHYSICIAN FOR INVESTIGATOR TO CONTACT PHYSICIAN'S PATIENTS REGARDING THEIR PARTICIPATION IN THE STUDY
A COMPARISON OF MATERNAL IDENTITY IN YOUNGER AND OLDER PRIMIPARAE DURING THE THIRD TRIMESTER OF PREGNANCY

Purpose: The past decade has seen an increase in the number of women having their first babies after the age of 35. Much research has been done to determine whether these women have physical health needs that are different from younger first-time mothers, but little has been done to determine whether they have emotional needs that are different. The Maternal Adjustment and Maternal Attitudes (MAMA)* questionnaire will help health care professionals who care for pregnant women plan care to meet the needs for all ages of first-time mothers.

All patients who meet the criteria and agree to participate in the study will be asked to sign a consent form stating that they understand the purpose of the study and that their answers will be confidential. Each subject will be assigned an ID number, the only identification appearing on the answer sheets. Data will be scored, analyzed, and reported using only this ID number. Only the investigator will have access to the subjects names and addresses, and this information will be kept in a secure place and destroyed at the completion of the study.

I understand the purpose of this study and the above statements regarding the confidentiality of the subjects' responses and consent to having the investigator, Faye H. Shaffer, M.S.N., R.N., for the study contact my patients for the purpose of participating in the study. I also understand that should I decide to withdraw my consent for this purpose, I can do so at any time by notifying the investigator.

Signed _____

Date _____

Address _____
Street or P. O. Box

_____
City State ZIP

*MAMA developed by Kumar, R., Robson, K. M. (Institute of Psychiatry, London), & Smith, A. M. R. (Biometrics Department, Beecham Pharmaceuticals, Surrey), 1984.

Appendix F

Agreement of Consent and Confidentiality
for Participating in the Study

ID Number _____

AGREEMENT OF CONSENT AND CONFIDENTIALITY FOR PARTICIPATING IN THE STUDY A COMPARISON OF MATERNAL IDENTITY IN YOUNGER AND OLDER PRIMIPARAE DURING THE THIRD TRIMESTER OF PREGNANCY

Purpose: The past decade has seen an increase in the number of women having their first babies after the age of 35. Much research has been done to determine whether these women have physical health needs that are different from younger first-time mothers, but little has been done to determine whether they have emotional needs that are different. The Maternal Adjustment and Maternal Attitudes (MAMA)* questionnaire will help health care professionals who care for pregnant women plan care to meet the needs of all ages of mothers.

As the investigator, I, Faye H. Shaffer, M.S.N., R. N., guarantee that your answers will be kept in strictest confidence, and your name and address will not be used in reporting this data. Only a number will appear on the answer sheets and not your name. This form will be kept in a secure place available only to me.

Signed _____
Investigator

I understand the purpose of this study and the above statements regarding the confidentiality of my responses to this questionnaire and agree to participate in this study. I also understand that should I decide to withdraw from this study at any time I may do so by notifying the investigator.

Signed _____

_____
Witness

Address _____
Street or P. O. Box

Date _____

_____
City State ZIP

Phone _____

*MAMA developed by Kumar, R., Robson, K. M. (Institute of Psychiatry, London) & Smith, A. M. R. (Biometrics Department, Beecham Pharmaceuticals, Surrey), 1984.

Appendix G

MAMA Questionnaire Subscales and Corresponding Questions

MAMA Questionnaire* Subscales and Corresponding Questions

Body Image Subscale:	2, 12, 18, 19, 21, 31, 44, 47, 49 53, 55, 57
Somatic Symptoms:	1, 4, 6, 9, 17, 27, 32, 33, 35, 38 41, 59
Marital Relationship:	3, 8, 15, 26, 34, 36, 37, 43, 48 50, 52, 56
Attitudes to Sex:	5, 11, 13, 20, 23, 25, 30, 39, 42 45, 46, 58
Attitudes to Pregnancy and the Baby:	7, 10, 14, 16, 22, 24, 28, 29, 40 51, 54, 60

*Kumar, R., Robson, K. M., & Smith, A. M. R. (1984). Development of a self-administered questionnaire to measure maternal adjustment and maternal attitudes during pregnancy and after delivery. Journal of Psychsomatic Research, 28 (1), 43-51.

GRADUATE SCHOOL
UNIVERSITY OF ALABAMA AT BIRMINGHAM
DISSERTATION APPROVAL FORM

Name of Candidate Faye H. Shaffer

Major Subject Maternal Child Health Nursing

Title of Dissertation A Comparison of Maternal Identity in Younger and Older Primiparae During the Third Trimester of Pregnancy

Dissertation Committee:

, Chairman

Director of Graduate Program

Dean, UAB Graduate School

Date

PS-1428