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UNIVERSITY OF ALBERTA

THE PROCESS OF CONNECTING: THE MOTHER-CHILD RELATIONSHIP IN A HIGH-RISK PREGNANCY

BY

KAREN LOUISE MCGEARY

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF NURSING

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IN A HIGH-RISK PREGNANCY

SUBMITTED BY: KAREN LOUISE MCGEARY

IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF NURSING.

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Date: September 12, 1991

To all high-risk pregnant women who have worked so hard and have been able to achieve the most wonderful gift of all, a child to love and cherish forever.

ABSTRACT

The purpose of this study was to provide a theoretical formulation to explain the pregnant woman's experience of developing a relationship with her unborn child through the second and third trimesters of a high-risk pregnancy. The design chosen for analysis of this problem was a longitudinal field study, utilizing the constant comparative method of data analysis to evolve a substantive, grounded theory. The total sample was comprised of eight pregnant women with various high-risk conditions. The data was collected by interviews, 23 in total, over a seven month period.

The theoretical framework that emerged from the data in this study of how pregnant women develop a relationship with their child when the pregnancy is high-risk, is a process of *guarding.* Guarding is a protective process mobilized in response to perceived *uncertainty* that enables pregnant women to guard self and baby. When uncertainty is perceived as a threat with the potential of harm or loss to the unborn child, women raise their guard and employ the strategies of *doing things right* and *seeking reassurance* to guard the baby, while simultaneously guarding self by *holding back* from developing an inner mother-child relationship (connecting). Positive turning points occurred at various times in the pregnancy or postpartum for some of the pregnant women such that the uncertainty was now reframed as positive. Feeling hopeful that everything would be fine, women now lowered their guard and *moved toward connecting* with the

unborn/born child. Movement toward connecting varied, with women consciously determining their level of involvement.

Suggestions for further research to expand and verify the theoretical model developed in this study are twofold. One, is to conduct a longitudinal field study commencing in the first trimester of pregnancy. Two, is to use different samples of high-risk pregnant women, to further understanding of the process of connecting.

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CHAPTER I

INTRODUCTION

Statement of the Problem

Rapidly changing technology has helped to improve perinatal outcome. The focus has been on the physiological status of the woman and her unborn child with little attention directed to the psychosocial impact of the high-risk pregnancy on the developing mother-unborn child relationship.

One-third to one-half of the pregnant population may be classified as high-risk (Mercer, 1985). In a review of the nursing literature from 1952 to 1983, Mercer reported that only 11 of the 227 studies reviewed dealt with high-risk pregnancy. Mercer (1985) argues that "the gap in our science base regarding high-risk populations needs addressing" (p. 59).

The theoretical literature suggests that a high-risk pregnancy negatively affects the woman's ability to complete the developmental tasks of pregnancy, one of which is attaching to the unborn child (Dulock, 1981; Galloway, 1976; Penticuff, 1982; Warrick, 1974). However,there is no empirical evidence to support this hypothesis. Three correlational studies have explored the impact of a high-risk pregnancy on the mother-unborn child relationship and the variables influencing this relationship (Curry, 1987; Kemp & Page, 1987; Mercer, Ferketich, May, DeJoseph, & Sollid, 1988).

The studies indicated two significant findings: (a) no difference in the prebirth relationship scores referred to as attachment, as measured by Cranley's attachment tool (1981a), in high-risk versus control groups, and (b) the attachment scores did not correlate with demographic, social, psychological, or health variables.

The adequacy of the attachment tool as a measure of the prebirth relationship must be questioned in light of these findings. In all of the above studies the focus of inquiry was on a single moment in time, the third trimester of pregnancy, when there are established theoretical and qualitative bases supportive of the concept as a developmental process (Bergum, 1990; Grace, 1989; Lobiondo-Wood, 1985).

There is no research that addresses the process of developing a relationship in the prebirth period in a high-risk pregnancy. No research has examined the variable of interpretation and definition of the high-risk pregnancy and how this may influence the developing prebirth relationship nor has any research addressed the role the unborn child plays when the pregnancy is high-risk. There is a need for an exploratory longitudinal study using a qualitative methodology to gain an understanding from the pregnant woman's perspective of the process and reality of developing a relationship with the unborn child in a high-risk pregnancy.

Purpose

The purpose of the study was to identify, describe, and provide a theoretical analysis of the pregnant woman's experience of developing a relationship with her unborn child through the second and third trimesters of a high-risk pregnancy.

Research Questions

The following questions were developed initially to guide the research:

1. How does a pregnant woman describe her experience of developing a relationship with her unborn child through the second and third trimesters of a high-risk pregnancy?
2. How does the perception of self as high-risk affect the developing prebirth mother-child relationship through the second and third trimesters of pregnancy?
3. How does the unborn child influence the developing prebirth relationship?

Definition of Terms

1. High-risk pregnancy: the pregnancy involves an above average risk of death or disability to the mother, or unborn child or both when

compared to an uncomplicated pregnancy.

2. Informant: a subject in a qualitative study.
3. Trimesters: pregnancy is divided into three trimesters, each a three month period.
4. Fetus/Unborn Child: a developing child who is alive, presently in utero and not yet born.

Significance of the Study

A woman who is experiencing a high-risk pregnancy usually attends prenatal classes, undergoes numerous assessments designed to ensure the well-being of her child, and is often hospitalized during her pregnancy. Thus, nurses have many opportunities to assist these women. It is important for nurses to know the meaning of the relationship with the unborn child to the high-risk pregnant woman so that support can be given on an individual basis. The proposed study was necessary as there is little research in the area of prebirth relationships and with our rapid developing technology, high-risk pregnancies are being maintained to the point of viability. There is a need to address the impact of the at-risk childbearing experience on the developing relationship between the pregnant woman and her unborn child. The study was proposed to generate substantive theory which may lead to specifying hypotheses to be tested quantitatively.

Further research could then be developed to look at whether there is an association between the prebirth mother-child relationship and subsequent attachment in the postpartum. If a correlation between fetal and newborn behaviors were established, then it would be possible to test the hypothesis that the stress of adaptation and adjustment that is currently characteristic of the postpartum period may be reduced by raising parental consciousness of their infant's individuality so that they can realistically prepare for parenting (Stainton, 1985a).

In conclusion, understanding the meaning guiding the prebirth relationship in high-risk mother-child dyads will serve as a foundation for appropriate nursing in the area of teaching and support. It is recognized that this is an initial step and will provide a basis to develop further questions to advance nursing's body of knowledge.

CHAPTER II

LITERATURE REVIEW

The purpose of the following chapter is to summarize and critically assess the existing literature which pertains to the prebirth relationship in a high-risk pregnancy and to demonstrate the need for further research in the area.

In this chapter, research literature from nursing, medicine, and the behavioral sciences will be reviewed. The literature review is divided into several sections. First, an overview of attachment theory as it relates to the prebirth attachment relationship, will be discussed. Following this, qualitative and quantitative research in the area of prebirth attachment in both low and high-risk pregnancies will be analyzed.

Postbirth Relationship

The mother-child relationship, defined as attachment has been studied for more than three decades. The concept of attachment arose from ethological data from a variety of animal observations. Both Bowlby (1969) and Klaus and Kennell (1976, 1982) borrowed the concept of attachment and postulated that human mothers also have species-specific attachment behaviors to their infant. Bowlby (1969) posited that human infants, like

young of other mammals, are born with a biological predisposition to seek proximity and contact with adults of their own kind.

Klaus and Kennell (1976, 1982) used Bowlby's concept of attachment to gain insight into the situation of mother-infant attachment in the neonatal period. They discussed a "sensitive period" in the first few minutes and hours after an infant's birth which is optimal for parent-infant attachment. This theory developed from research on maternal deprivation. They had observed that an infant's failure to thrive and maternal abuse were often associated with infant prematurity, birth defects, or neonatal illness. As these conditions traditionally have required separation of the newborn from the mother, they reasoned that the misfortunes that befell the infants resulted from a failure of maternal attachment right after the infant's birth. They concluded that early close contact between a mother and infant was necessary for optimal development of the infant (1976).

These three scholars defined attachment as an enduring affectional tie between a mother and infant developing out of species-specific response patterns (to ensure that infants will be cared for resulting in survival of the species) and exists independent of time and space (Bowlby, 1969; Klaus & Kennell, 1976 & 1982). In addition they proposed the significant role of the early attachment relationship on the psychological well-being of the child in later life, suggesting that the attachment that is established between a mother and her child serves as the foundation for future attachment

relationships. The difference between the three was in the time frame required for attachment. Bowlby said there were four major sequential yet overlapping stages lasting up to two years. Whereas, Klaus and Kennell conceptualized a specific period after delivery which enhances the attachment between the mother-infant dyad.

At present there are no definitive studies to either confirm or refute the presence of a sensitive period or to assess the length of time required in the first few hours and days after birth to produce such an effect. The positive consequence from the concept of a sensitive period was the humanizing of birthing practices. But, what price has been paid for this conceptualization? Have we created parents that feel guilt or failure when they have been unable to have initial contact with their newborn? Extended or early contact is not the only healthy way. Insisting that mothers have their babies 24 hours a day and assume all the caretaking responsibilities may not be appropriate for some mothers (Nelson, 1985). The desirability of early contact stands quite independent of the idea that it is a facilitator of, much less a precondition for, subsequent mother-infant attachment. Such a notion puts unnecessary constraints on human adaptability and resilience, and it fails to account for satisfactory attachments between mothers with adopted children and satisfactory psychosocial development of premature infants (Campbell & Taylor, 1979; Chess & Thomas, 1982; Elliot, 1983; Herbert & Sluckin & Sluckin, 1982; Lamb, 1987; Stainton, 1986;

Tulman, 1981).

Two major approaches to the study of maternal-infant attachment have emerged. The principal focus has been on the early postbirth period. One approach has been the presence or absence of specific observable maternal behaviors that are considered indicative of a relationship between a mother-infant dyad (Funke & Irby, 1978; Reiser, 1981; Rhone, 1980). Avant (1979) summarized the following four specific observable behaviours ascribed to the neonatal period: (a) touch, (b) eye-contact, (c) voice, and (d) expressing positive feelings toward the infant.

The other approach to the study of maternal-infant attachment concerns the interactive process. Brazelton, Koslowski, and Main (1974) called this reciprocity; a rhythmic attention-withdrawal pattern of cyclic quality that is developed by six to eight weeks of life. The interactional view of maternal attachment defines attachment as developing through the reciprocal interaction between the mother and her infant. The behaviour of one of the individuals triggers a response in the other person. In this interactional process, modification of responses occurs as the behaviour is shaped into a pattern (Tulman, 1981).

Maternal-infant attachment is established in phases according to Rubin's (1977) theoretical formulation. Identification is characterized by becoming acquainted with the infant's appearance, inherent behaviors, and reflexes. This phase is characterized by eye-contact, visual identification,

touch, and high pitched vocalizations. Claiming of the infant is the second phase, and it is characterized by caretaking skills, reading the infant's cues, and reciprocity.

Past studies of the mother-child relationship followed an empirical approach, behaviors were studied as outcome variables, deductively reducing their complexity into small units of observable behaviour. Thus there is a great deal of information describing what attachment looks like and why it is important in the postbirth period. But neither of these approaches adequately explains what motivates or guides the development of the mother-child relationship nor what the experience means to the participants.

In conclusion, birth conceptualized as the beginning of the mother-child relationship does not recognize the presence or sensing of the child prebirth as an individual nor the depth of experience mothers acquire during that period (Stainton, 1985b).

Prebirth Interventions to Enhance the Postbirth Relationship

On the premise that the prebirth experience may influence postbirth maternal attachment, studies have been conducted to determine whether or not prebirth nursing interventions enhance postbirth maternal attachment.

Four studies (Carson and Virden, 1984; Carter-Jessop, 1981; Croft, 1982; Grace, 1984) used a post-test only control group design to measure

postbirth maternal attachment behaviors after administering prebirth interventions. The prebirth interventions varied from childbirth education classes, to prebirth visualization of the fetus on ultrasound, and knowledge of fetal gender. In only one study (Carter-Jessop, 1981) were significant results reported. The limitation of the other studies is the design; by using a post-test only control group design, baseline information was missing on how the subjects may have varied in prebirth levels of attachment. A further methodological concern is the instruments used to measure postbirth attachment. The reliability and validity were undetermined and the varied instruments used precludes comparability.

Two studies (Cranley, 1981b; Davis & Akridge, 1987) utilized a pretest-postest design to correct the problem with the aforementioned studies. Davis and Akridge (1987) measured prebirth attachment in a sample of 22 low-risk primigravidas in their third trimester of pregnancy. The intervention was the same as developed by Carter and Jessop (1981). Avant's (1979) maternal attachment scale was used to measure postbirth attachment at two and four days postbirth. Reliability and validity were undetermined for this tool. Findings indicated that there was no significant difference in attachment behaviors between the experimental and control groups on prebirth and postbirth attachment scores. The development of attachment from the last trimester of pregnancy to the newborn period was examined by Cranley (1981b), who predicted that levels of prebirth maternal

attachment would be positively correlated with a mother's perceptions of her newborn, as measured by the Neonatal Perception Inventory (NPI). Contrary to expectations, no correlation was found. Possible explanations for this lack of association are, that there is no relationship between pre- and postbirth attachment, or the scales used to measure the two variables measure distinctly different aspects of the relationship and are not comparable.

In conclusion, there is no empirical support for a relationship between maternal-fetal attachment and subsequent maternal-infant attachment. Clarification of this issue should wait until the concept of maternal-fetal attachment is examined qualitatively. Then interventions aimed at promoting attachment and early diagnoses of problems can be addressed. The concept of prebirth attachment must be theoretically examined and described prior to the development of predictive studies, using quantitative methodology.

Prebirth Relationship in a Low-Risk Pregnancy

Developmental Process

Developmental theorists view pregnancy as a normative developmental process with specific psychological tasks, one of which is the development of maternal feelings toward the unborn child. The way in

which these tasks are mastered are associated with adaptation to the maternal role and the woman's relationship with her child postbirth (Coleman & Coleman, 1973; Rubin, 1975; Tanner, 1969; Tilden, 1980; Valentine, 1982). Development of maternal feelings toward the unborn child is not, however, a one-sided relationship, for the unborn child exhibits a remarkable range of abilities in the months preceding birth. Brazelton et al (1974) reported that the unborn child will turn toward soft lights, and similarly, lock its movements in synchrony with a rhythmic pattern of sounds emanating from the outside world.

Although different theorists describe the developmental process of the prebirth relationship variably in their own terms, the process can be extrapolated from the literature (Ballou, 1978; Coleman & Coleman, 1973; Leifer, 1977; Rubin, 1975; Tanner, 1969; Tilden, 1980; Valentine, 1982). In the first trimester the woman incorporates the fetus into her body and self-image. The woman becomes aware of the fetus as an idea. In the second trimester, usually associated with quickening, there is an increased emotional affiliation with the fetus. The fetus becomes identified as part of the self as the woman becomes aware of the presence and behaviors of her unborn child. In the third trimester, there is a letting go of the fetus in emotional preparation for delivery. The fetus is related to as a separate being with interactive capabilities. Preparation of a nursery often begins at this time. Although these tasks are organized according to trimester, it is

important to recognize that the tasks are fluid and may cross trimesters (Curry, 1987).

In conclusion, the theoretical literature and early exploratory studies suggest that the mother-child relationship begins during pregnancy and is one of the developmental tasks of pregnancy.

Quantitative Research

In the last ten years researchers have begun to systematically study the prebirth relationship in a low-risk pregnancy using qualitative and quantitative methods of analysis (Bergum, 1990; Cranley, 1981b; Grace, 1989; Lumley, 1982; Stainton, 1985b, 1990; Vito, 1986). Cranley (1981a) building on the observations of Leifer (1977) and Rubin (1975), developed an instrument to measure the concept of maternal-fetal attachment (MFA). The concept was defined as the extent to which women engage in behaviors that represent an affiliation and interaction with their unborn child. Cranley's (1981a) MFA tool grouped maternal-fetal behaviors into five categories: (a) differentiation of self from the fetus, (b) interaction with the fetus, (c) attributing characteristics and intentions to the fetus, (d) giving of self, and (e) roletaking. Face and content validity and internal consistency for the entire scale were reported. Several limitations in studies using this research tool are noteworthy. First, prebirth relationship behaviors were viewed as an outcome variable not as a process, and secondly only one

assessment time was used, that is, the last month of pregnancy.

Building on Cranley's (1981a) pioneering effort in the measurement of prebirth maternal attachment, Vito (1986) developed a revised edition of the Cranley scale. Using Rubin's (1975) theoretical framework which postulated that nesting behaviors were an important component of the maternal binding-in or attachment process in late pregnancy, Vito used the five subscale items (Cranley, 1981a) and included the nesting subscale. The Vito Version of the MFA scale viewed attachment as a developmental process and assessments were done in all three trimesters using the subscale scores rather than the total score, thus improving on Cranley's scale (1981a). Grace (1989) administered Cranley's (1981a) MFA scale, monthly from the onset of prenatal care until delivery to 69 gravida women. Results demonstrate that prebirth attachment is an individual developmental process, with all but one subscale (Giving of Self) increasing significantly as pregnancy progressed. A methodological limitation is the repeated measures design which could be causing the increase in scores.

Researchers have attempted to identify which variables influence the development of the prebirth attachment process. These studies tend to cluster around demographic, personality and social support variables.

Demographic Variables. Kemp and Page (1987) using Cranley's (1981a) tool, found no correlation between race and prenatal attachment scores. This finding was part of a larger study, and the limited range of

racial differences in the sample precludes a conclusive statement about the impact of race on prebirth attachment. It should be noted that the majority of studies on prebirth attachment have been performed with Caucasian, middle-income women.

Age is another demographic variable whose influence on prebirth maternal attachment is not clear. Grace (1989), Kemp & Page (1987), and Cranley (1981a, 1981b) found no significant relationship between the variables of age and prebirth attachment. However, the investigators dealt with small samples and a mean age of approximately 27 years. Koniak-Griffin (1988) did not find a significant correlation with Cranley's MFA scale (1981a) and the variable of age in her study of adolescents. Vito (1986) found the variables of planned pregnancy, being older and having had a previous pregnancy, in combination, related to higher scores on the subscales of roletaking, giving of self, and nesting.

Other demographic variables, including education level attained, socioeconomic status, number of previous pregnancies, ordinal position of the expectant child, and intendedness of the pregnancy, have been investigated (Cranley, 1981a & 1981b; Kemp & Page, 1987; Lobiondo-Wood, 1985; Vito, 1986). None were found to correlate significantly with prebirth attachment.

The limitations of this research on demographic variables is the sampling method. Sampling was purposeful through childbirth education

classes with small numbers of homogeneous, middle-class, primigravida women. The sample bias limits the generalizability of the findings; the samples may in fact not be representative of pregnant women in general.

The advent of real-time ultrasonography performed prior to the 16th gestational week of pregnancy could alter the importance of quickening as a validator of pregnancy and as a stimulus to maternal-fetal attachment. Now a women has a more familiar looking, moving, two dimensional, television-like view. Women are able to recognize not only the outline of the fetus but such activities as thumb-sucking, heart motions, and extremity movements (Sandelowski, 1988). Evidence for the benefits of ultrasound on prebirth attachment are scant and inconclusive. Early descriptive studies suggested that ultrasound induces an earlier and more intense identification with the fetus (Campbell, Reading, Cox, Sledmere, Mooney, Chudleigh, Beedle, & Ruddick, 1982; Kohn, Nelson, & Weiner, 1980; Milne & Rich, 1981) in groups receiving both visual and verbal feedback. On the other hand, recent studies report no effect from prenatal ultrasound on measures of prebirth attachment (Grace, 1984; Heidrich & Cranley, 1989; Kemp & Page, 1987; Reading & Platt, 1985) as measured by Cranley's MFA scale (1981a) and a fetal attitude rating scale developed for the study (Reading & Platt, 1985). The methodological limitations of these studies are twofold. Firstly, the majority of women sampled were in their second and third trimesters of pregnancy. After quickening the woman begins to construct for herself an

image of the fetus, and ultrasound in the latter half of pregnancy may not influence this process. Secondly, the reliability and validity of the fetal attitude rating scale was undetermined. Stewart (1986) warns that rather than improving the bond between a mother and fetus, it is possible that ultrasounds are making women more worried than they were before because of the concomitant risk of the technology. She further argues that the reassurance felt after the scan is completed may be related to the procedure itself rather than the results per se.

There are two correlational studies that examined the prebirth maternal attachment process over time and both reported that ultrasound significantly influenced the MFA subscale (Cranley, 1981a) of *giving of self* (Carey, 1985; Vito, 1986). Giving of self was a behaviour that occurred throughout pregnancy but was found to be predominant in the first trimester (Vito, 1986). It is possible that ultrasound induces an earlier identification with the fetus and that this may have therapeutic benefits; a woman is giving of herself for a healthy pregnancy and baby. A word of caution in interpreting the results; none of the studies controlled for the reason for performing the ultrasound, which may in fact influence maternal feelings and behaviour toward the unborn child.

In conclusion, Cranley (1981a, 1981b) suggests that a woman's attachment to her fetus is dependent on the accomplishment of the developmental tasks of pregnancy and not on demographic variables.

However, further research over the course of pregnancy is required before definite conclusions can be made about the impact of demographic variables on prebirth attachment. The impact of personality variables on prebirth maternal attachment have also been investigated.

Personality Variables. Since factors such as anxiety and self-concept have an impact on postbirth maternal attachment, investigators have sought to unveil the extent of their impact on prebirth maternal attachment (Cranley, 1981a, 1981b; Gaffney, 1986; Mercer et al., 1988; Zachariah, 1985).

Most studies of pregnant women point to anxiety as an overriding emotion throughout the pregnancy (Leifer, 1977; Lumley, 1980, 1982). Lederman (1984) suggests that anxiety directed toward the fetus appears to be reflective of maternal attachment and adaptive preparation for motherhood. Gaffney (1986) found an inverse relationship between state (temporary) anxiety and prebirth maternal attachment. Mercer et al. (1988), using the same instrument, found no correlation between anxiety and scores on the MFA scale developed by Cranley (1981a). It should be noted however, that all studies were conducted at only one point in pregnancy, with women who demonstrated relatively low levels of anxiety. By the third trimester, anxiety may decrease because the unborn child is doing well and has reached the point of viability. The instrument used may not have been sensitive enough to differentiate between the mother's anxiety regarding self

and anxiety related to the fetus. Thus, no conclusions can be drawn about the impact of anxiety on prebirth maternal attachment.

Another personality variable and its relationship to prebirth maternal attachment that has been investigated is the pregnant woman's self-concept. Cranley (1981b), Gaffney (1986) and Mercer et al. (1988) could not confirm a relationship between these two variables. Again, lack of consistent tools for the measurement of self-concept is a limitation.

Social Support Variables. Social support serves as an environmental mediator and influences a woman's experience and the outcome of pregnancy (Cronenwelt, 1985; Norbeck & Tilden, 1983). In particular, marital support is critical to the preparation for the motherhood role (Brown, 1986; Richardson, 1983). Lack of husband's interest/support in the fetus has been shown to affect maternal-fetal attachment (Cranley, 1981b; Lumley, 1980). May (1980) warns that the husband's style in experiencing his mate's pregnancy ranges from being highly involved to being a detached observer. Lederman (1984) and Weaver and Cranley (1983) found that the husband's support during pregnancy is thought to be an indicator to his wife of his involvement in their pregnancy and his preparation for attachment to their child.

Cranley (1981b) found social support to be correlated positively with high levels of prebirth maternal attachment, but results are conflicting. Mercer et al. (1988) found no significant correlation with social support and

prebirth attachment. Inadequacy in measurement is a limitation. The researchers used different instruments to measure social support and measurement occurred once in the third trimester; therefore no conclusions can be drawn. Zachariah (1985) examined intergenerational attachment with a convenience sample of 115 primigravidas in their third trimester. She found that the total MFA scores (Cranley, 1981a) were not related to mother-daughter attachment or husband-wife attachment, using Lederman's (1984) prenatal self-evaluation questionnaire. Internal consistency, content and construct validity of the instrument were reported for this study. These findings conflict with Rubin's (1977) schema, which indicates that an important part of the binding-in process is the acceptance of the infant by the mother's significant others.

Qualitative Research

Lumley (1982) described developing an awareness of the fetus as a person in a longitudinal study with 26 married, middle-class, primigravida women using semi-structured interviews. She reported that as the pregnancy progressed, maternal descriptions of the fetus changed to include the word *baby* by 36 weeks gestation.

Stainton (1985b), using grounded theory methodology, jointly interviewed couples in the last two months of pregnancy. The descriptions of fetal movements and responses given by the expectant couples parallel

current knowledge about fetal development and activity (Bernhardt, 1987). This suggests that the social capabilities of the fetus are important in examining the development of an emotional tie between mother and child. Findings indicated that mothers and fathers do form a relationship with their unborn child during pregnancy and construct for themselves a perception of the infant as a separate other. Five categories of awareness of their unborn child were identified: (a) appearance, (b) communication, (c) gender, (d) sleep/wake cycle, and (e) temperament. Mothers and fathers agreed with each other regarding the unborn's behaviour and responses, but there was variation among couples as to what degree the infant's responses and characteristics were distinctly perceived. In a further exploratory study, Stainton (1990) revealed that parents develop a sense of their unborn child's presence in an individualized manner. Although parents varied in their knowledge of their unborn infant; four coexisting levels of awareness were delineated: (a) awareness of infant as an idea, (b) awareness of infant's presence, (c) awareness of specific infant behaviour, and (d) awareness of their infant's interactive ability. Stainton's research is limited to the third trimester of pregnancy and involves interviews with couples. A methodological concern in both studies is the influence of joint interviews. The different demands of pregnancy on each partner may contribute to a discrepancy in their view of the unborn child. The joint interviews may have hindered expression of different feelings. A second methodological concern

is that the prebirth relationship was only assessed in the last two months of pregnancy and recent studies suggest that this process develops over the course of the pregnancy (Grace, 1989; Lobiondo-Wood, 1985; Vito, 1986).

Bergum (1989) used an hermeneutic phenomenological approach to describe and interpret the transformative experience of six women who were pregnant for the first time. Bergum's description of the theme *presence of the unborn child* lends support to the unique and particular relationship between a mother and her unborn child. Bergum's (1990) current research involves exploring with pregnant women how the *relational mode of being* develops. Bergum describes how women develop an understanding of self (pregnant) in relation to the other (fetus/baby). Initially the focus is on self, with the idea of a baby as an abstraction. Then, as the woman encounters the fetus (through movement, ultrasound, or fetal heart beat), the abstraction is now a reality, an extension of self. Finally, women come to know their individual child as a separate being with its own characteristics.

Bergum (1989 & 1990) and Stainton's (1985a, 1985b, 1990) qualitative research is developing descriptive theory about the prebirth mother-child relationship which is characterized by coexisting levels of awareness and a relational mode of being. The difference between the two researchers is the time frame. Stainton's findings pertain to the third trimester of pregnancy whereas Bergum's research is longitudinal in design. The difference in the time frame may in part explain why Stainton describes

coexisting levels of awareness and Bergum describes a relational process. Stainton's research identifies two new concepts related to prebirth relationships: choosing one's level of awareness and variability in style.

In conclusion, the majority of the research on the mother-child prebirth relationship has been conducted with women experiencing an uncomplicated pregnancy. Further research over the course of pregnancy using a sample of high-risk pregnant women would enhance our understanding of the developmental sequence and the factors pertaining to this unique process.

Prebirth Relationship in a High-Risk Pregnancy

There have been theories hypothesized about the impact of a high-risk pregnancy on the mother-unborn child relationship but there is little scientific evidence to document these effects. The literature suggests that the high-risk label may negatively affect a woman's ability to complete the developmental tasks of pregnancy, one of which is attachment to the unborn child (Dulock, 1981; Galloway, 1976; Penticuff, 1982; Warrick, 1974).

Quantitative Research

The impact of a high-risk pregnancy on the prebirth mother-child relationship has been recently studied using quantitative methodology.

Three correlational studies have compared Maternal-Fetal Attachment scores (Cranley, 1981a) in high-risk versus control groups of pregnant women (Curry, 1987; Kemp & Page, 1987; Mercer et al., 1988). As well, the researchers attempted to identify which variables influenced the prebirth relationship in a high-risk pregnancy. The term high-risk was defined as a medical condition threatening the health of the mother-unborn child dyad. The studies all used Cranley's (1981a) attachment tool on a sample of nulliparous and multiparous women in their third trimester of pregnancy who were experiencing a variety of high-risk medical conditions.

Kemp and Page (1987) found no difference in the attachment scores of 32 non-hospitalized high-risk pregnant women and 53 low-risk pregnant women. Furthermore, the attachment scores were not correlated with education level, age, race, whether the pregnancy was planned, whether the women had an ultrasound, and the ordinal position of the infant.

Similarly both Curry (1987) and Mercer et al. (1988) reported no significant difference in attachment scores of hospitalized high-risk pregnant women as compared to women who had experienced a low-risk pregnancy. Both studies tested conceptual models of correlates of Maternal-Fetal Attachment scores and reported that attachment scores did not correlate significantly with demographic, social, psychological, or health variables. From the results in these three studies, one might conclude that in a high-risk pregnancy, women develop a relationship with their unborn child similar

to that of low-risk pregnant women, independent of the usual variables associated with the progression of pregnancy. However, there are several methodological concerns which preclude this conclusion.

First, attachment was studied as an outcome variable in the third trimester of pregnancy. Curry's (1987) interview data lends support to the idea that by the third trimester a woman might be feeling optimistic that the unborn child would survive which would affect her perception of their relationship. Also, a single measure may not be indicative of the overall feelings for the unborn child. Secondly, the Maternal-Fetal Attachment scale developed by Cranley (1981a) may not be a valid measure of the concept of attachment.

Lastly, the studies used quantitative methodology in an area where little is known about this topic. There was no attempt to understand the meaning of the high-risk pregnancy from the woman's perspective. Corbin's (1987) exploratory longitudinal study of 20 pregnant women with various chronic illnesses lends support to the importance of the woman's perspective. Corbin used grounded theory methodology to discover a process termed protective governing. Protective governing was carried out through the strategies of assessing, balancing, and controlling. By assessing the risk level in her pregnancy a woman comes to perceive her risk potential for harm to her unborn child. Corbin reported that when the woman perceived that there was a high potential for harm to the fetus, the presence

of fetal activity was especially important.

Although Corbin's (1987) research does not specifically address the topic at hand, the findings raise important questions for further research. Firstly, how does the woman's perception of her risk during pregnancy affect her emotional investment in her unborn child? Secondly, what role does the unborn child play in influencing the woman's perception of the developing relationship? Stainton's findings (1985b) support the hypothesis that the unborn child has a behavioral style and temperament which influences the mother's response.

Perhaps we have moved too quickly into defining and measuring the concept of prebirth attachment. Since the phenomenon of a woman's beginning relationship with her unborn child is not visible and concrete and therefore cannot be observed clinically, it poses difficulty in establishing clarity in conceptualization and measurement. Bergum (1989) refers to the presence of the unborn child as a primordial relationship, a mysterious union unlike any other. The fact that the unborn child is within the woman as part of her makes it difficult to conceptualize the relationship as attachment, intimacy, interaction, or in the case of a high-risk pregnancy, protection or commitment toward the unborn child's well-being. It is for this reason that the writer has chosen the term relationship rather than attachment. It is anticipated that the informants will give meaning to the term relationship.

In conclusion, a redirection in the research to date is needed to

advance nursing knowledge. A iongitudinal exploratory study using a qualitative method is warranted to gain an understanding from the pregnant woman's perspective of the process and reality of developing a relationship with the unborn child when the pregnancy is high-risk.

CHAPTER III

METHODS

The purpose of this study was to provide a theoretical formulation to explain the pregnant woman's experience of developing a relationship with her unborn child through the second and third trimesters of a high-risk pregnancy. It was evident from the review of the literature that there is a paucity of research in this area. Clearly, a descriptive level of theory development was necessary to further articulate the concept of prebirth relationship prior to testing the concept deductively. Therefore, a qualitative methodology using an inductive approach to gain an understanding from the pregnant woman's perspective was imperative.

In the following chapter the qualitative method selected for this investigation will be discussed, including sampling, data collection, and analysis. As well, the steps taken to ensure methodological rigor and ethical conduct during the study will be addressed.

Grounded Theory

Grounded theory was chosen as an appropriate qualitative method to investigate this research problem. A longitudinal field study in conjunction with the constant comparative method of data analysis propounded by

Glaser & Strauss (1967) was well suited to explore the problems associated with developing a relationship with the unborn child when the pregnancy is high-risk. Pregnancy involves changes and progresses with time, therefore this methodological approach was particularly useful in facilitating the discovery of a process rather than a static condition.

Rather than searching for the frequency and distribution of events, the purpose of this method is the delineation of the conditions under which certain events occur, the conditions under which they vary, and their corresponding consequences (Strauss & Corbin, 1990). The theory developed from this method is inductively derived from or grounded in the data and generates hypotheses rather than verifying existing hypotheses.

Central to this method is the interactionist orientation to individual behaviour (Blumer, 1969). Behaviour is not predestined by drives or motives but rather evolves situationally in response to interactions of self with others, with modifications by the individual's unique interpretation. By entering into the world of the individuals under study, explanations for their behaviour and the meaning attributed to it can be discovered. Field & Morse (1985) refer to this as an emic perspective, a picture of the perceived reality of the informants.

In grounded theory, no two researchers examining the same data would come up with identical theories, because of differing theoretical perspectives. Theoretical perspectives arise from a variety of sources: the

literature, professional and personal experience, and most importantly through interactions with the data as it is collected and analyzed. Adherence to the methodological procedures ensures that the theory is grounded in the data, thus different substantive theories arising from the same data would be equally credible.

The Sample

Gaining Access

An obstetrician, specializing in perinatology agreed to provide access to his private patients (see Appendix A). The obstetrician is affiliated with a university teaching hospital which serves as a referral centre for high-risk obstetrical care. It seemed feasible that the obstetrician's practice would provide both a range and degree of high-risk conditions and enough participants from which to theoretically sample.

Theoretical Sampling

Informants were selected to meet the informational requirements of the study, referred to as theoretical or purposeful sampling (Glaser, 1978; Glaser & Strauss, 1987; Strauss & Corbin, 1987). As a result, the type of informant sought to expand and verify the theory later in the data collection process, was different from those informants sampled initially. To this end,

the initial selection criteria were:

1. Pregnant women who were between 16 to 20 gestational weeks.

2. Pregnant women whose pregnancy was diagnosed as high-risk based on criteria establishing by the Reproductive Care Committee of the Alberta Medical Association (refer to Appendix B).

3. Pregnant women who were able to speak and read English.

4. Pregnant women who were willing to talk about their experience of a high-risk pregnancy.

5. Pregnant women who were attending the private practice of an obstetrician, specializing in perinatology.

Informants were recruited after ascertaining their eligibility for the study. The researcher reviewed the patient's files that were to be seen that day by the obstetrician, for those who would meet the selection criteria. Informants who met the criteria were informed of the study by the obstetrician's nurse. For those informants who expressed an interest in the study, the nurse gave them a brief letter explaining the study (see Appendix C). In this way, the researcher was assured of similar information being supplied to each informant. The researcher was advised of those informants who picked up an information letter. The women were then telephoned by the researcher for further explanation of the study and possible enrolment.

Of the six informants initially contacted, referred to as primary informants, one declined to participate because the demands of work and

home left no time for interviews. The five primary informants were between 20 to 23 gestational weeks at the time of their first interview. It was anticipated that by virtue of undergoing the experience of being high-risk in their pregnancy, that the informants would be knowledgeable about the topic.

As data from these interviews was analyzed, it became obvious that more data was required to develop the categories. Three informants were recruited after data analysis began, referred to as secondary informants. One informant at 28 gestational weeks was purposefully sampled from the obstetrician's practice. This informant had a complicated medical condition and was selected to further understand the meaning of high-risk, when the pregnancy threatened not only the child but the woman's life as well. A second informant, known to the researcher, was purposefully sampled who was in the first trimester of pregnancy, because during analysis it became evident that the first trimester of pregnancy was related to when women guarded. A third woman, known to the researcher, was 37 gestational weeks, and she was purposefully sampled to validate the developing theoretical model. Thus, information gathered from early interviews directed the focus of further sampling to verify emerging categories and to enrich and later validate the data.

Description

The demographic data is presented to orient the reader regarding where and to whom the process occurred. Refer to Appendix D, Demographic Data Sheet for the types of demographic data that were collected for each informant. Glaser (1978) warns that the demographic variables are not necessarily a property of the process under study until discovered as such. In the present study, the variables were not controlled nor did they serve as a basis for sampling, because during analysis they did not prove to be important.

Of the eight informants in total, six were private patients of the obstetrician, and two were know to the researcher through community involvement. To maintain the anonymity of the participants, only aggregate demographic data will be presented. Women were similar in education and marital status. In general, the sample was somewhat advantaged in terms of education. Seven of the eight informants had post-secondary education, with five of these seven holding university degrees. The majority of the women were married and living with their spouses. One of the women was in a common-law relationship, and a second woman was single.

The women varied in age, parity, pregnancy risk, and location of residence. The age range of the participants was from 23 to 42 years, with a mean of 31.5 years. Four of the women had one or more living child(ren) and the remaining four were nulliparous. The pregnancy risks varied,

examples of some the risks are: gestational diabetes, premature labour, twin pregnancy, and renal disease. Four of the informants resided within the city limits and the other four lived in rural areas.

Data Collection

The method of collecting and analyzing data in this study was unlike the more conventional methods whereby the collecting process is one of many separate and distinct research tasks. This study is based on the constant comparative method, developed by Glaser (1978) and Glaser & Strauss (1967), to generate a grounded substantive theory. This method requires that the data collection process be controlled by the emerging theory. For this to be accomplished, the work of collecting, coding, analyzing, and deciding what further data was required and where it could be found, happened concurrently. However, for the sake of clarity, each step of the method will be presented and described separately.

The present study was longitudinal in design (learning about the prebirth relationship over time), therefore the five primary informants were interviewed through the second-half of their pregnancy. The first interview occurred in the fifth gestational month, because this is the time of quickening, a recognition of the child's movements within. This time was targeted to learn how the change in perceived sensory experience with the

unborn child would influence the prebirth relationship. For consistency in data collection, the informants were interviewed at approximately the same time period in each pregnancy, which enhanced understanding of the topic. Comparisons were then made between women in the same month of pregnancy allowing for the examination of similarities and differences in the interview data. To this end, subsequent interviews occurred at seven and nine gestational months and within the first eight weeks after the birth.

The five primary informants were interviewed in their fifth and seventh gestational months. Only three of the five primary informants were interviewed in the ninth gestational month because of premature deliveries for two of the informants at 35 and 36 weeks respectively. The five primary informants were interviewed during the postpartum, with a range from two to eight weeks following delivery. The postpartum interview provided an opportunity for both the researcher and informant to reflect, clarify, and review the findings.

Two of the three secondary informants were interviewed once. One informant was interviewed at 10 gestational weeks and the second at 37 gestational weeks. The third secondary informant, with a complex medical condition, was interviewed consecutively at seven and nine gestational months and six weeks after delivery. In summary, 23 interviews, of one to one and a half hours in length, were conducted by the researcher with eight women over the period of one year.

Interviews were conducted in the home for those informants residing within the city limits. For those informants living outside the city limits, interviews were conducted prior to the regularly scheduled doctor's appointment, and took place in a private office within the clinic setting.

To build rapport the researcher began the initial interviews by chatting with the informants about general topics, such as their spouse, pets, and living arrangements, etc. When the informants became comfortable talking, then they were asked to tell their story about the experience of being in a high-risk pregnancy. The sample questions in Appendix E were used only as was necessary to elicit the story. The initial interviews were unstructured as the informant's story served to define and direct the interview. Subsequent interviews always began in an open-ended format, for example, "What has been happening in your pregnancy since the last time we talked?" and became more directed and focused on expanding the categories and verification of the hypotheses. For example, one question that permitted comparability was: "Some women in the study have talked about *feeling close* to their baby. How does that term fit for you?" While interviews became increasingly structured as analysis continued, at the same time, informants were given the opportunity to discuss subjects that were of importance to them, furthering the inclusion of possible pertinent and valuable data.

Data Analysis

All interviews were tape recorded and transcribed verbatim by a typist. The interviews were transcribed with a wide right hand margin so that codes could be written in this space. Once coded, data was entered in a computer using a program called Ethnograph, which provided a means of storage and retrieval of the coded data.

Glaser's (1978) constant comparative method of analysis was used to analyze the data. By comparing the data as it is collected, the researcher created more abstract levels of theoretical connections. In short, theory is gradually built up inductively from the progressive stages of data analysis. Glaser (1978) delineates two stages of data analysis: substantive coding and theoretical coding. The first stage of substantive coding is the development of codes and their properties from the empirical substance of the data. The second stage of theoretical coding is the establishment of relationships between the categories, sometimes referred to as linkages. Each stage will be described separately while acknowledging that the process of analysis is not restricted to linear movement through the stages, rather it is circular, often with the steps occurring simultaneously (Strass & Corbin, 1990).

Substantive Coding

Within substantive coding, there is a further subdivision of open and axial coding. The purpose of open coding is to generate an emergent set of categories which fit, work and are relevant for integrating into a theory (Glaser, 1978). Open coding began as soon as the first interview was completed. The data was read line by line and each event was coded as a concept and written in the margins. Glaser (1978) suggests asking a set of questions of the data to *open up* the inquiry. Rather than using preconceived codes, the researcher tried to generate codes that fit and worked by asking "what is this?" and "what is happening in this instance?" The concepts were then grouped together creating a category. A category is an abstraction of phenomena observed in the data (Corbin, 1986). One of the first categories to evolve from the data was keeping a distance from the child within. It was inferred from statements such as "I don't feel excited about this;" "the baby is just the baby, it doesn't have a name or a face or a sex;" "it's not like a real person;" "I really don't feel an emotional tie to the baby;" "it just has to do what I want it to do;" "it seems like it's in it's own little world."

As the categories developed, a file was prepared for each category and all informants' experiences pertaining to that category were filed together. Each category, containing data from all the informants interviewed up to that point in analysis was examined as a whole, thereby permitting

comparison of data from one informant to another. By making comparisons, the researcher began to generate ideas about the theoretical properties and dimensions of each category. Properties are the characteristics of a category and dimensions are the location of the properties along a continuum. For example, the category of uncertainty, had a property of intensity, with a dimensional range of high to low. When the informants felt highly uncertain, the uncertainty was perceived as a threat as compared to when the uncertainty lowered in intensity, then there was a perception of hope.

After the data was taken apart in open coding, it was put back together in relational form called axial coding (Strauss, 1987; Strauss & Corbin, 1990). The focus was on specifying the category in terms of the conditions that gave rise to it; the context in which it was embedded; the strategies by which it was handled; and the consequences of those strategies. Referring to the example of distancing, the researcher asked, "When did the women distance themselves?" The women in this study seemed to distance themselves when they felt threatened (antecedent condition) and this related to being at-risk in pregnancy (context). When the risk of loss/harm was perceived as high (property of intensity), then women responded by keeping a distance (consequence). The questions, answers, and thoughts were kept as memos and were dated and filed with the respective category. The answers to the basic questions became the focus

for further sampling.

Two secondary informants were theoretically sampled during substantive coding to expand and verify the categories. During open coding of the initial interviews with the volunteer sample of five primary informants, the question arose as to whether a more complicated pregnancy would increase the perceived uncertainty (a category that continued to surface in the data), so one informant was purposefully selected because of her complicated medical condition to develop properties and dimensions of the category uncertainty.

Once the categories were identified and related in terms of the conditions, context, strategies, and consequences (axial coding), sampling focused on uncovering and validating the relationships within the categories. During analysis, it became evident that the first trimester of pregnancy corresponded to the time when women guarded. The initial volunteer sample of informants were in their second trimester of pregnancy, so one informant was purposefully selected who was in her first trimester of pregnancy to further understand the relationship of time in pregnancy (context) and guarding (a category). This informant was felt to be an *expert* by virtue of this pregnancy being her third high risk pregnancy.

Data were coded and recoded by going over the data many times to ensure that the categories were fully developed and fit the data, and eventually a core category evolved which was central to the others and

reoccurred frequently. Guarding is an example of a core category; it seemed to explain how the informants responded to the perceived uncertainty in their pregnancy and also determined the degree of involvement with their unborn child. In reference to the example of the category *distancing*, the question "why do women distance themselves?"; was answered by their need to guard self in case something went wrong.

If the core category is processural, and has two or more clear stages then it is called a Basic Social Psychological Process (BSPP) (Glaser, 1978). Guarding takes place over the course of pregnancy, involves the stages of raising and lowering one's guard with a critical event determining movement to another stage, and therefore meets the criteria of a BSPP as delineated by Glaser (1978) and Glaser & Strauss (1967). Guarding does not solve the uncertainty but rather processes it, in response to the perception of uncertainty. The next stage of data analysis is theoretical coding.

Theoretical Coding

Theoretical coding is the establishment of hypothetical relationships, or linkages, between the categories. Theoretical codes were developed to connect the categories in relation to *guarding*, the core category. A set of 18 theoretical coding families provided by Glaser (1978) were used to sensitize the researcher to possible relationships that may exist between the categories. Glaser lists the coding families as; the six c's, process, degree,

dimension, type, strategy, interactive, identity-self, cutting-point, means-goal, cultural, consensus, mainline, theoretical, ordering, unit, reading, and models. A causal-consequence model seemed to be the best fit, with *uncertainty* as the causal condition and *connecting* as the consequence of that uncertainty. A change in the intensity of the perceived uncertainty was the context of the process of guarding.

As the process of building connections continued, the framework for a grounded theory began to emerge. Relating the categories to the core category was done by means of asking questions of the core category using the coding family, described by Glaser (1978) as "the six C's": causes, contexts, contingencies, consequences, covariances, and conditions. The answer to these questions specified the relationship between the categories. For example, the researcher posed the question, Is the category of *distancing* related to *guarding* as a strategy in response to the *perceived uncertainty*?, thereby providing a linkage between several categories.

Once the researcher was able to write a hypothetical statement regarding the relationship between the categories, two informants were selected to validate the story. One informant, from the initial five primary informants sampled, was interviewed again because she was such a "good informant," in terms of being reflective, articulate, and willing to participate (Morse, 1991). A second informant was one of the three secondary informants. This informant was new to the study and it was felt that as an

outsider she would add verification and densification without having been biased by prior interviews. Both informants were able to place themselves in the guarding process and discussed their respective turning points, reporting that "guarding made sense to them." Comparisons were also made between the categories and the literature to verify and elaborate the categories. Thus a secondary literature review was on going as categories emerged.

By means of this joint process of data collection, coding, and making comparative analysis, categories were eventually saturated; that is, no new qualifying conditions or theoretical properties of the categories emerged, resulting in the cessation of theoretical sampling. Linkages were established between the categories and validated, resulting in a theoretical framework which explained how women develop a relationship with their unborn child when the pregnancy outcome is uncertain.

Methodological Rigor

Qualitative methodology is inherently different from quantitative methodology by virtue of its subjectivity. The purpose of this study was not to objectify and measure the concept or test the theories on attachment, but rather to gain an understanding of the experience of high-risk pregnant women as they develop a relationship with their unborn children. Therefore, it is appropriate to evaluate the methodology chosen, against criteria

appropriate to qualitative methods.

Sandelowski (1986) redefines the criteria used for qualitative research and suggests the following four criteria be used to judge the rigor of a qualitative study: credibility, fittingness, auditability, and confirmability. In the following section, Sandelowski's criteria will be employed to assess the rigor of this study.

Credibility

Guba and Lincoln (cited in Sandelowski, 1986) suggest that credibility rather than internal validity in the quantitative sense be the criterion against which the truth value of qualitative research be evaluated. Credibility was enhanced by several factors. First, the longitudinal study permitted prolonged contact with informants over a seven month period, providing ample opportunity to verify earlier observations within the context of changed conditions.

Second, the repeated contact with the informants led to a trusting relationship which enhanced openness and encouraged discussion. Field and Morse (1985) suggest that the greater the degree of intimacy that the researcher establishes with informants, the more accurate will be the information. Involvement brings the researcher in touch with the phenomenon in ways which make the required data accessible and the analysis relevant (Stainton, 1985b).

Third, the researcher brought to the study her unique life experiences as a nurse with a speciality in obstetrics and a common experience in childbearing. The researcher's background was a valuable and essential asset for viewing the problems of these women from their perspective and for understanding their behaviours. To reduce the researcher's influence on the developing theory it was important to recognize and assess the beliefs held, and to continue to do this through the development of the theory.

Credibility occurred when the informants recognized the experience to be like their own (Sandelowski, 1986). In other words, the researcher's portrayal was congruent with the informant's experience. Two informants were sampled for the purpose of validation and were able to describe where they saw themselves in relation to the guarding process, thus verifying the core category as a credible representation of their experience.

Fittingness

Fittingness, rather than external validity is the second criterion used to judge the applicability of the research. Generalizability is not an issue in qualitative research because the findings are situation specific, in that the research situation entails the particular researcher in interaction with the particular informants within a particular context. To assess fittingness, one needs to know how the sampling was undertaken.

Morse (1986 & 1991) suggests two methods for evaluating samples in

qualitative research : appropriateness and an adequate sample size. "Appropriateness refers to the degree to which the choice of informants and method of selection fits the purpose of the study" (Morse, 1991, p. 134). Purposeful or theoretical sampling was the method chosen to facilitate understanding of the mother-child relationship in a high-risk pregnancy. Initially informants were chosen who were currently experiencing a high-risk pregnancy and who were willing to share their experience. The five primary informants had the qualities of a good informant, that is, each was able to reflect and provide detailed experiential information. As the study progressed, secondary informants with particular knowledge were sought. The decisions that guided the theoretical sampling have been discussed earlier in this chapter.

The second method for evaluating samples is adequacy, "one assesses the relevance, completeness, and amount of information obtained" (Morse, 1991, p. 135). To ensure adequacy, the researcher ceased sampling when a sense of understanding about the prebirth relationship in an at-risk pregnancy was achieved. A further test of adequacy was the validation reports of the secondary informants.

Fittingness occurs when the findings have meaning and application to readers (Sandelowski, 1986). The findings of this study were discussed informally with women who had experienced a high-risk pregnancy in the past and with nurse-midwives who reported that the findings were helpful in

understanding the developing mother-child relationship in an uncertain pregnancy.

Auditability

Auditability rather than reliability is the third criterion used to evaluate methodological rigor. Auditability refers to the ability of another researcher to clearly follow the *decision trail* used by the researcher in the study (Sandelowski, 1986). The research process has been outlined in this chapter, explicating what was actually done and why. Auditability is also documented through the use of memos. Memos were the researcher's written records of the ideas and decisions made during the analysis process. Memos demonstrated the theory developing step by step and were in fact used by the researcher to write up the findings.

Confirmability

Confirmability rather than objectivity is the fourth criterion used to evaluate methodological rigor. "Confirmability is achieved when auditability, truth value, and applicability are established" (Sandelowski, 1986, p. 33). As confirmability refers to the meaningfulness of the findings, then further determination must be left until the findings are reported.

Ethical Considerations

Several strategies were utilized to ensure the ethical conduct of this research. First, ethical approval was received from the ethical review committee at the Faculty of Nursing, University of Alberta. Second, written informed consent was obtained from all informants. The purpose and procedures of the study were explained to each informant and any questions the informants had were answered prior to obtaining consent. At the first interview, signed informed consent was obtained (Appendix F). All informants were given a copy of the informed consent form. The informants were aware that participation in the study was voluntary and that they could withdraw from the study at any time without consequence.

Third, measures were taken to ensure anonymity of the informants. The identity of the informants was known only to the researcher. Data were kept confidential by using numerical codes on the transcripts. Any identifying information within the texts of the transcripts was deleted or altered. The informant's name, code number, and date were kept in a locked file cabinet. Upon completion of the study, informants names and addresses will be destroyed. The transcripts and tape-recordings will be kept by the researcher in a locked location.

"Ethical issues in relation to interviewing parallel those about human research in general, that is, they cluster around the need to balance the

benefits of scientific discovery against the potential risks to the informant" (May, 1991, p. 199). The interviews with the primary informants were conducted over a seven month period, resulting in considerable self-disclosure and investment in the relationship. The interview that occurre ' after the delivery provided an opportunity for both the researcher and the informant to terminate. Although the informants' pregnancies were progressing normally, there was the potential for the crisis of hospitalization and/or fetal demise. Therefore, the researcher continually evaluated the appropriateness and timing of the interviews with the well-being of the informant being placed above the value of the research. In interviewing there is always the potential for anger, embarrassment, or conflict (May, 1991). During this study, the researcher was not aware of trauma arising from the interviews. To the contrary, there were instances where the informants said that having someone listen to them was very helpful. In one case an informant said, "No one has ever asked me how I really felt about all this."

CHAPTER IV

FINDINGS

The researcher began her study with an interest in how a high-risk pregnancy impacts on the developing mother-child relationship. It soon became apparent that the primary issue was the work high-risk pregnant women undertook to protect themself and their baby, and this in fact determined the nature of the woman's relationship with her unborn child. The researcher, then focused on the core category of *guarding* because this phenomenon came through strongly in each interview.

In this chapter, the findings that relate to the process of guarding are presented. Following this discussion, the perceived uncertainty that led to a need to guard will be explicated. In this study, the women did not define themselves as high-risk, but, *at-risk* for pregnancy complications, which resulted in feelings of uncertainty about the pregnancy outcome. Finally variation in the movement through the process of guarding will be delineated, by centering the discussion on two differing patterns of movement, referred to as: (a) fast to move toward connecting, and (b) slower in movement toward connecting.

The term *attachment* will not be utilized in this chapter as the ambiguity of the term precluded a common meaning. Instead, the term

connecting was chosen, to represent the emotional and social prebirth mother-child relationship, as it evolved from the data.

Guarding

Glaser (1978) stated that the generation of a grounded theory occurs around a core category which accounts for a major portion of the variation in observed behaviour. A Basic Social Psychological Process (BSPP) is a type of core category as it accounts for changes in behaviour which occur over time. The BSPP, to which all other categories in this study relate, is *guarding.*

Guarding is defined as a protective process mobilized in response to perceived uncertainty that enables pregnant women to guard self and baby. Guarding has several properties: first, it is not a passive process but rather an active process whereby informants take action in response to an uncertain pregnancy. A second property is that it has a course, which can be conceptualized as raising and lowering one's guard. Raising one's guard occurs when the uncertainty is perceived as threatening; there is a focus on possible harm or loss either in terms of self or the baby. Lowering one's guard occurs when the uncertainty becomes reframed positively as a challenge; the focus changes to hope that the pregnancy will progress normally and conclude with a healthy baby. A third property is that guarding

is not linear but rather can be circular and ongoing. The dotted lines in Figure 1 depict the potential of guarding to be repetitive.

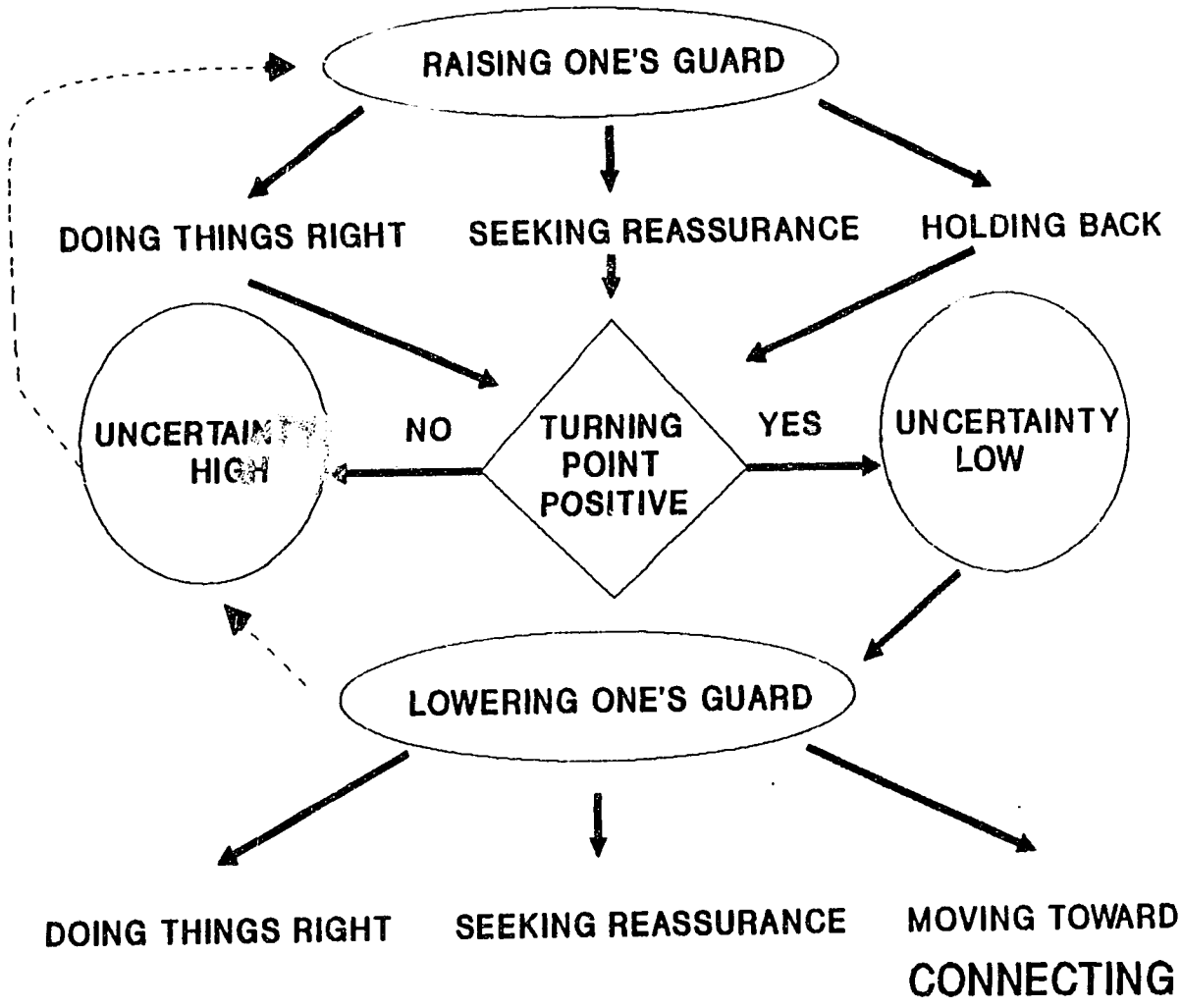
The cyclic nature of guarding is well stated by a secondary informant interviewed in the first trimester of pregnancy.

> Because the diabetes doesn't supposedly kick in or get bad until twenty-nine weeks, so of course if I don't feel it that much now, then I will raise my guard even more because that's when there's the real problems ...

At present, the informant's guard was raised as she worried about the threat of prematurity. In this situation, the turning point of time would increase the threat, and thus the informant anticipated a need to raise her guard higher later in the pregnancy.

The course of guarding was determined by positive turning points, which were critical incidents that enabled the informants to lower their guard. It must be recognized that in this study, the informant's pregnancies were on course, that is there were no complications, thus the critical incidents were positive and therefore progression was forward. It is probable that in a pregnancy that went off course, that is, with a negative critical incident, that the informants would raise their guard again. The dotted lines in Figure 1 depict the potential impact of a negative turning point. Another possible scenario is that there would not be a turning point of enough magnitude or critical enough to alter one's course. It is the course of guarding that sets perimeters around the nature of the inner mother - child relationship heretofore referred to as connecting.

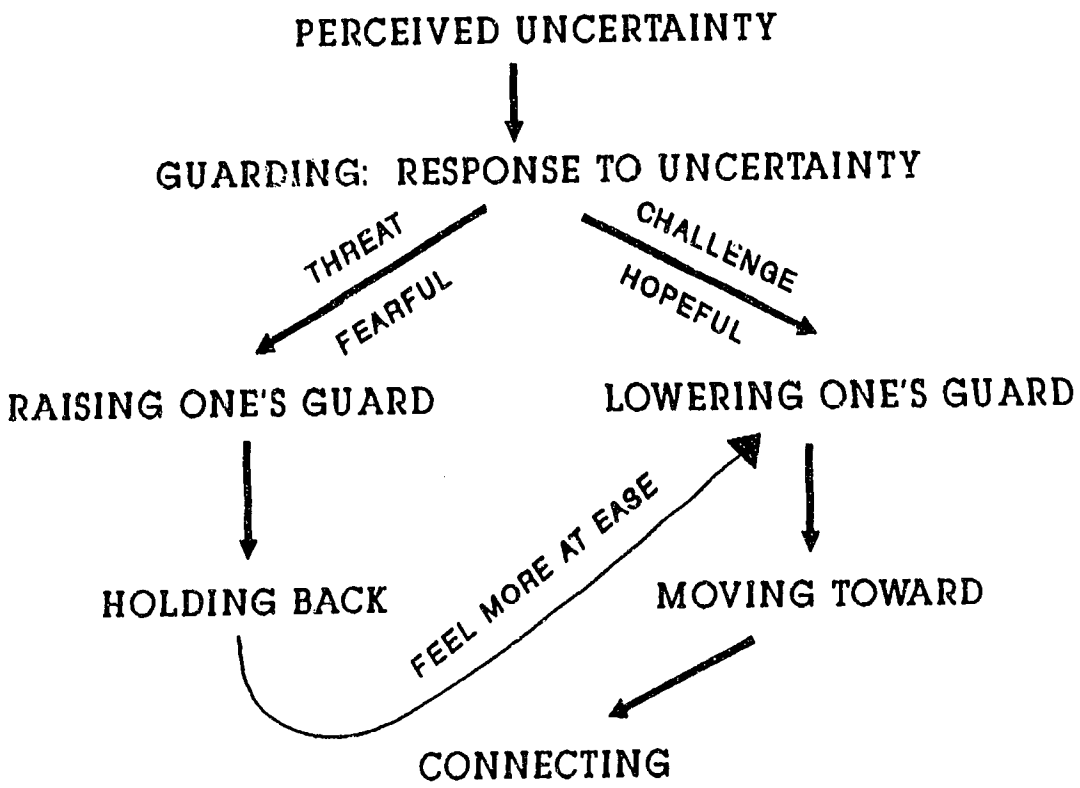
Figure 1. Guarding: Taking action in response to uncertainty.



Guarding, the BSPP involved three strategies: doing things right, seeking reassurance, and determining involvement. The strategies were employed to guard self and baby in response to the perceived uncertainty. The first strategy, *doing things right* involved the perception that there was something that one could do to influence the outcome. The aim of doing things right was twofold: firstly, to maximize the chances of having a health baby and secondly, if something did go wrong to minimize the feelings of guilt. *Seeking reassurance* was the second strategy employed when guarding. Seeking reassurance was a means of reassuring self that everything was progressing normally. The third strategy was *determining involvement,* which had two dimensions. Initially, when feeling threatened, there was a conscious effort to *hold back* from connecting because of fear of loss or harm. Then, when feeling safe, that everything was going to be all right, there was a conscious choice to *move toward* connecting (see Figure 2).

Based on variation in the course of guarding, progression toward connecting differed. In this study, two differing patterns of movement were identified amongst the five primary informants. In the first pattern of movement, two informants were slower in their progress toward connecting. In the slow pattern, the informants guard remained raised and they continued to hold back from connecting during the pregnancy. Movement toward connecting in the slow pattern occurred once informants were able

Figure 2. The process of connecting in a high-risk pregnancy.



to lower their guard following the birth of their healthy baby. In the second pattern of movement three informants were faster in their progress toward connecting. In the faster pattern, the informants were able to lower their guard and move toward connecting during the pregnancy. Variation was also noted in the faster pattern, related to the timing of the turning point. The two patterns clearly show that not all informants go through the process in the same manner, while recognizing that not all the change and movement could ever be captured.

In the following sections, the conditions that gave rise to the variation as well as the corresponding turning points that move the process forward will be discussed and illustrated with verbatim statements.

Perceived Uncertainty

There were two types of uncertainty that the informants were faced with: conception ambiguity and an unpredictable pregnancy. The informants that were slower in their move toward connecting had been faced with the additional uncertainty of conception ambiguity, that is whether they would get pregnant. The informants talked about *labouring to conceive.*

> We had tried a year on our own and then we went to our family doctor and he did tests for about six months. And then we were referred to a gynaecologist, a specialist, Dr. M., so we went with Dr. M. for about six, eight months and then we were referred to the infertility clinic and that took about five months to get in there.

Another aspect of the ambiguity was not knowing the reasons for the infertility. There were no medical dysfunctions discovered, thus the infertility remained unexplained. All but one of the three informants had stopped seeking medical assistance.

> We were playing out all the options and there was that one option about going to Hamilton where you can get the white blood cells injected from the husband I guess, it's the allergy one. We were even, if necessary going to go through that, but we had talked -- I talked to him actually about an adoption a year ago. Because I didn't want to go through life without kids. One of the last things before this trip was to do the operation on the uterus. They didn't figure that was the problem, but just to eliminate it as a factor they would do it.

Once conception occurred the informants had to face a second part of the conception ambiguity which was related to what kind of pregnancy they had achieved.

> Well, I was really happy but I was a little apprehensive because I knew that there was a risk of miscarriage. Then we went for an ultrasound at seven weeks and they could see the sac but not the fetus, so we had to wait two weeks until nine weeks to see if there was a fetus so that was a tense time because we were pregnant but we may not be, kind of. That was a little difficult for us, then at nine weeks we saw the baby and the heartbeat and that was wonderful.

For the informants in the slow to progress toward connecting pattern, prior conception loss determined the need to resolve the ambiguity over what kind of pregnancy they had achieved. Once assured of their pregnant status, that is, pregnant with child, they were then able to assume an identity of self as pregnant.

A commonality to both patterns was wanting and achieving a child, the difference in the slow to progress pattern was they had laboured to achieve. For informants in both patterns there was a description of the baby as special, something they thought would never happen to them.

> We were just both really happy. Yeah. Elated, and that was right from the beginning. When we found it was twins, it was even more so, like we were just thrilled I don't think once I've ever felt, "Oh my goodness, it's twins, how will I ever manage." I've never felt that, I almost feel that it's kind of like a double blessing or more special.

The informants in the slow to progress pattern are characterized by holding back from connecting through the pregnancy. A common influencing condition was a sense of caution.

> Even in my normal everyday life, whatever that is, I'm not sure what it is any more, I don't like to talk about things until they happen or until, I don't know, there's an old cliche, count your chickens before they hatch or something and I don't like doing that. I've kind of always been like that . I would never tell anyone I was up for a job interview until I had the job and I've never phoned anyone with any good news until I knew for sure that it was good news. So it's kind of the same thing.

The informants caution is attributed to several factors. Initially the caution was related to feeling more at risk because of the experience of infertility. Although not scored on the prenatal risk form, pregnancy after infertility increases the perception of risk just because there may not be another chance for a pregnancy. A second factor contributing to cautiousness is prior reproductive loss; informants have not been able to take their reproductive health for granted and are now unable to trust the ability of

their bodies to carry a baby to term.

The second type of uncertainty facing the informants in both patterns of progression was an unpredictable pregnancy. In a normal pregnancy, there is an expected trajectory, a normal course of events that ends with birth of a healthy baby and assumption of the motherhood role. For the informants in this study, the normal trajectory was altered, leaving informants unable to project what would happen. There was uncertainty about how the pregnancy would end.

Although the informants were diagnosed as medically high-risk based on a scoring system developed by the Alberta Medical Association (see Appendix B), they did not define themselves as high-risk.

> I think of high-risk pregnancy as being someone with really high blood pressure or some known problem that they're working on. For example an acquaintance, when she carries around her twenty-fifty week, her placenta tends to die for some reason and she has lost a couple a babies. That's high-risk to me because it's diagnosed and then she loses. Like this was sort of maybe, maybe you'll deliver early or maybe you'll have a C-section or maybe you'll deliver vaginally but it's just maybe's. It's not okay you have this problem and this is what we're going to do. So I think that's why I didn't really see myself as high-risk.

Although they did not think of themselves as high-risk, the informants did define themselves as being *at-risk* for possible complications. A common meaning of being at-risk was the expression of *differentness.*

> The people that I've talked to that were in a normal pregnancy, they just never thought -- I've told them some of the things that I've been feeling and they just never felt that. Like they never worried, had that sense of worry that I do.

For the informants in the slow to progress pattern a sense of differentness occurred in association with the infertility.

> I think I appreciate my pregnancy a lot more than some people do. I have a girlfriend right now who's pregnant and this is their third and with each one they've sort of just said "well I think it's time." So to her it's all kind of natural and it's just "yeah, okay, now I'm pregnant again" and it kind of just rolls, whereas, I think I've really appreciated this, the two and half years of tests and surgery and what not, I think I appreciate it more.

Several informants experienced differentness because of their age.

> Well, I think my body isn't holding up very well this time around. Surely when you're younger, maybe you can handle it better. I don't know. I don't think pregnancy is nice, like I don't enjoy pregnancy and I don't think it gets any nicer the older you get.

In summary, uncertainty arose from defining oneself as at-risk and resulted in an expression of differentness. For all informants, raising one's guard occurred when the uncertainty was perceived as a threat.

Raising One's Guard

For the informants whose movement toward connecting was faster, raising their guard occurred at the time the pregnancy was diagnosed. This differed from the slow to progress pattern, where the informants did not

raise their guard until they were assured that they were pregnant with child.

> I was just so unsure in the beginning. Like there were so many questions and it seemed so long to go. Because we knew at six weeks and then had the ultrasound at seven that showed the sac and not the baby and so then we had to wait until nine to find out that everything was okay. Well okay to that point, and so I was very, like I didn't even bother to distance myself. It was just that this was happening and it was all very neutral.

Once assured that they were pregnant with child, then the informants raised their guard in response to being at-risk.

> Finding out that this pregnancy was still okay. I felt protective. I don't know how to explain protective, it's just you read everything you can and then you try to see, to make sure that you're following everything that is supposed to happen. You wonder if things are going the way that they're supposed to.

Guarding takes the form of protecting the baby while paradoxically protecting oneself in case something goes wrong.

> I suppose part of you doesn't get as attached to the baby until you know, so you still maintain some kind of distance until you know that things are going to be okay.

For the informants in both patterns, raising their guard occurred when the uncertainty was perceived as a threat, feeling fearful of loss or harm to their unborn child.

> At first I could only feel movement on the one side. So my first concern was one's okay, one isn't. For the longest time I did feel that something was wrong with the baby on this side of me. And I felt too, that the baby on this side was smaller. But for some reason, I guess, maybe because I couldn't feel as strong movements, I figured a smaller, weaker baby over there.

For the majority of informants raising their guard occurred when the perceived threat was directed at the child within. For one informant the perceived threat was directed at self, fearful that the pregnancy would threaten her kidney transplant which would mean going on dialysis again.

Thus, raising one's guard occurred when the uncertainty was perceived as a threat directed at either self or the child within. Raising one's guard resulted in the utilization of three strategies to guard self and baby: doing things right, seeking reassurance, and holding back.

Doing Things Right

The informants all consciously imposed additional limitations upon themselves to protect self and baby. The focus of these limitations was to do everything right to ensure the possibility of a healthy baby and freedom from self guilt if complications arose.

> I don't want to take any chances. You don't want to cause any problems that you may have prevented otherwise. I've cancelled two trips this summer because I didn't think that I should be travelling or anything at this point.

Doing everything right involved changes in four areas: self-care, household, occupational, and recreational activities. Two underlying themes for changing one's activities were *pacing* and *sacrificing*.

> Once I found out it was twins, I automatically started being more careful and again at work, you know, I thought I was just being wimpy at first because I was getting so tired, well then, when I found out it was twins, I thought "No, I'm not, now I'm just not going to push that extra little mile

Even though the informants reported eating a healthier diet than ever before, they still sought confirmation regarding their nutritional status. By gaining information about weight gain and growth of the baby, informants felt reassured that, yes, they were doing things right.

Seeking Reassurance

Seeking reassurance was a second strategy utilized when guarding. The perceived uncertainty resulted in worries. For most, the worries were specifically related to being at risk and directed at the child's welfare. Three of the informants were worried about prematurity. One informant worried about the normalacy of her child because of medication that had to be taken during pregnancy. For two of the informants, age was the risk as well as non specific worries. They worried about all the possible things that could go wrong during both pregnancy and labour and delivery.

Worries were the antecedent that led to seeking reassurance. The informants employed various strategies to try to reassure self that everything was fine. As the worry intensified, the informants responded by increasing the degree and variety of the strategies used. The following five strategies were employed to reassure self: (a) monitoring, (b) getting information, (c) choosing the best, (d) getting husband involved, and (e) comparing. For awhile, the strategies would enable the informants to feel reassured, but once again the worries would resurface and the cycle would

begin anew. Getting out of the cycle occurred when a significant turning point was reached which will be discussed later in this chapter.

On occasion the strategies were not reassuring as one informant describes during the interview at five gestational months.

> I made the mistake of reading complications that occur during the second half of the pregnancy, which was a really stupid thing to do, because then of course I panicked for the first few days after that, wondering if this was happening and that was happening.

Later, during the interview at seven gestational months, the same informant describes the change.

> No I haven't touched a book in a long time actually. Not for a couple of months, not since I read too much and was getting really uptight about everything.

When the informants were not reassured by their strategies they stopped seeking reassurance, as one informant described "so I don't put too much pressure on myself."

> I could have a stethoscope. I could listen, I know what I'm listening for. I could listen all the time. I guess the other side of it would be paranoia about it, you're so concerned about every little twitch and not having a movement, you could drive yourself nuts to know. "Oh I haven't had a movement every hour and a half today" or something like that.

Although the degree and variety of strategies varied, there were common strategies employed.

Monitoring. The most common strategy employed was monitoring, which involved both self and doctor. Fetal movements were by far the most

common form of self monitoring.

> Feeling movement, everyday, it's wonderful, you know. When I feel movement, I kind of sit back and let them move for a while, just so I know everything is okay, it reassures me and I kind of revel in it almost. But there's times when I will purposefully look for it, I think I'd better see if I can feel them and I'll lay down and get into a position where they'll move. If I'm sitting and relaxing and if I don't feel any movement right away, sometimes I give them a little push or a poke and I'll get a kick back.

Keeping track of movement did not require the same effort at seven gestational months because now the movements were more obvious and formed a sense of continual reassurance. Irrespective of the obvious movement, all the informants talked about making a mental note of the movement each and every day.

The doctor's appointments were also very reassuring for he played a role in monitoring for premature labour and in checking the baby's well-being, which was a necessary addition to the self-monitoring.

> They're very important the doctor's visits. I really look forward to them actually. Once I have one and then, I won't have one Monday but next Monday I have one -- so the week in between I can't wait till the next one comes.

The type of appointment was also a reassuring sign. As one informant describes, "he just checked me over so fast, that obviously there was nothing wrong."

Getting Information. Getting information comes from a variety of sources namely: books, technology, and the doctor. Getting information confirms that things are going the way they should be so that it is not a

guessing game. Ultrasounds were the most important source of information.

> I went for so many ultrasounds that I had the reassurance, because I went for I think six or seven ultrasounds. I don't think I even had a chance to worry because I was always seeing the baby move on the screen.

For this particular informant, seeing the baby move so frequently on ultrasound meant she did not have to spend the time and energy in self-monitoring that the other informants did. On average the informants had four ultrasounds, one at the time of pregnancy diagnosis, and one during the third trimester of pregnancy to assess growth and development of the child. The remaining two were to assess cardiac function, which was part of a study the informants had volunteered participation in. Ultrasound examinations had the most profound influence as one informant stated, "I'd like to have an ultrasound every week, it makes you feel so good."

The other sources of reassurance were information from reading and the doctor.

> I remember specifically asking the doctor about weight gain and how much I should be gaining because I had read in one book that they recommended eighty pounds for twins and I thought that was a ridiculous amount. And he was good too, he said, "No. No. No. You don't have to gain that much." He thought forty, forty-five, somewhere in there. And if I got as high as sixty he still wouldn't be worried.

A component of seeking information was the doctor giving information. Not only did the informants set their own limits but the doctor also set limits which the informants adhered to.

> The doctor said I won't be doing any travelling, I'll have to stick close to home after the end of July. So that is good to know because now I know where my limits are. Because at first, we were like, "Should I go up to the lake?" and something as simple as three hours in a car, I though well maybe I'm bouncing around too much.

Choosing the Best. Informants described seeking a credible authority.

> I feel very reassured that I was under the specialist's care. Because that was also a concern for me. When I was in [Steinbach], first of all, knowing that we were moving and I had to find a new doctor. And then finding out I was having twins and thinking, "I don't just have to find a doctor, I have to find somebody who specializes in this, who knows what they're doing." And it worked out very well.

Having confidence in one's doctor and the hospital were reassuring.

> People have said to me, "Oh you're delivering in the big hospital. Do you like it there?" Like I think "Who cares if you like it there?" You don't pick a place because you like it or I'm going to have a wonderful time when I'm there. Rather I picked a hospital that had everything. I mean everything. It really doesn't matter to me how much or how many instruments or people or anything, the more you're followed, I think, the better. I read these articles on home birth and that's not for me because I could anticipate a problem that would need some sort of intervention.

Getting Husband Involved. A strategy that helped to buffer the worry was getting the husband involved so that he could provide affirmational support. Affirmational support also came from relationships with other at-risk pregnant women.

> The girl that had the twins, we were joking, we decided that we were made to have babies, we're not made to be ballerinas or anything. She said, "No, I'm definitely made to have kids," because she didn't have any problems. She carried right till thirty-seven weeks, I think, and then had a Cesarean section, for whatever reason, there were other complications. I think the babies were getting too big. Which I think, wonderful if they get too big.

For the majority of informants, the experience of differentness made it difficult to get affirmational support.

> You talk a lot to other women and they may let you know about their experiences, and then you just kind of compare them, not so much verbally as to yourself. Just to see whether or not -- because it's pretty hard to admit to someone that you're really worried about it, when they figure that you should just be taking it easy and everything will be fine.

Because of the lack of support from others, there was an even greater need to get husbands involved. Husbands not involved were described as follows:

> He was so hesitant. I mean they don't carry it, they don't get kicked and he was so hesitant even to touch sometimes. Like he would touch for a couple of days and then he wouldn't. He feels like an outsider, he'll cuddle with me but not touch the baby, And he says that he kind of feels like he's almost infringing on my privacy 'cause we've talked about it and I'll say, "I tell you the kid's kicking and you don't want to touch," but he's also not a very emotional guy, it's just the way he is.

While the doctor did provide affirmational support, the contact was not frequent enough and informants described working to get husbands involved.

> This ultrasound that I went to, I felt it was very important for my husband to be there. Actually he did manage to get the time work to come. I didn't know he'd be there until he sort of w[illegible] the door. That's when I was waiting in the waiting room wh[illegible] kind of nice because I thought it was very important that he see them. So he feels, I guess, what I'm feeling. I know he can't feel them move the way I feel them move, however, I thought if he just saw them on screen and saw them, you know, the real life, so to speak, version of them, that he'd start to feel that "Yeah, they're real."

Getting involved occurred once the husband saw the baby on ultrasound.

> Then at fourteen weeks the ultrasound was really nice, because then S. could pick it out, he could see it and that was important for him because up until that time, it wasn't real for him. When he saw it, that made a big difference in his attitude and in how viewed the pregnancy. Now he comes home and talks to my stomach a lot and says, you know, "How're you doing today?" or they'll be moving around a lot a night, and he'll say, "Time to settle down and go to sleep." Like he'll talk right to them which makes me feel really good, because I feel he's already interacting with them somehow, which again, not being a very emotional guy, outwardly, I see that he is because he's doing emotional things whether he would admit it or not.

Once involved, husband's could now take on an affirmational role, be sought out for their opinions and their listening-ear to help buffer the worry and affirm that the baby is indeed okay. The husband's played a more constant role in affirmational support, while the doctor played a role as an official affirmer during the two week appointments.

Comparing. The last strategy mentioned by informants which had the least value was comparing. Informants talked about comparing self to others. Comparing self to other at-risk pregnant women with similar complications was very reassuring. Comparing self to other non-risk

pregnant women was not as helpful because as one informant described, "they have not gone through what I have." It was of some value to use *the others* to compare notes on the normal discomforts of pregnancy. But even then, there was an experience of differentness because as one informant described, "I appreciate heartburn, anything I get that I know I'm supposed to get, I feel better when I do get it. Even if they're things like constipation, nausea or heartburn."

Holding Back

The third strategy that helped informants to guard self was holding back. Holding back from connecting was a strategy employed to guard self in case something was wrong with the baby. Connecting, for the purpose of this study, refers to the inner mother-child relationship. Holding back has two characteristics: (a) an expression or recognition of feelings, and (b) a conscious effort to hold back these feelings.

The informants talked about not getting emotionally involved.

> I feel attached to this baby but not, I don't know if at this point I'd say I'm really close to the baby that way, emotionally tied to the baby that way. That's been part of the detachment, I think. Wondering if things are going alright, in the event that something didn't go the way it was supposed to.

The worry that something would go wrong resulted in informants holding back from connecting.

> It's difficult enough to handle the loss let alone if you build yourself up for it. I like the baby now and I think I'll love it, well I know I'll love it once it's born.

The informants went to great lengths to explain that there were some feelings, the term *attachment* was used by some informants to represent those feelings, but they could not yet feel close. Other informants used the term *bonded* to refer to emotional feelings toward the unborn child. The terms bonded and attached were used interchangeably by informants.

One informant talked about holding back feelings in relation to one twin, "am I going to be really close to one and not close to the other?" This informant was worried about something being wrong with one twin because she had felt movement initially from only one side of the uterus (the healthy strong, twin) and then two weeks later felt movement on the other side (smaller, weaker twin). Holding back from connecting to the one twin related to fears about its well-being.

A second characteristic of the strategy of holding back was that it was conscious.

> Because I think distancing, you still have an attachment but you're working not to let the attachment affect you too much in case something goes wrong, whereas the feeling closeness and attachment, you're all caught up in it.

Informants talked about not getting to know the baby which facilitated holding back from connecting. There was an awareness of the baby as an idea, as evidenced by the focus on the baby.

> I think of having a baby but it's sort of a sexless baby. Right now it's not a male, it's not a female, it's just the baby.

Yet, at the same time there was a need to keep the baby sexless. One informant talked about not wanting to assign a sex to the baby and went to great lengths to inform the different radiologists at each of the six or so ultrasounds to please not tell her the sex.

> If I just lost a baby and it was a boy or if I lost a baby and it was a girl, then it's still the baby that I've lost but when you put a sex to it, it becomes much more personal. And I didn't want to do that.

The baby for this informant did not yet have a personhood.

> If I lost the baby ... I would feel really bad, but mainly because of all the other circumstances of the infertility and because of the hopes, but not so much because it's an actual person. Like when you lose a friend, you have that rapport, but if I lost the baby I would feel bad because I lost it, but not so much, because it doesn't have an entity to it really. It wouldn't be like losing a child or losing a friend, someone I knew.

Informants described being aware of the presence of the child within by the seventh gestational month when the movements were more obvious.

> I've felt movement more recently in the last week or two. You know, I feel something sporadic, once in a while, but then I wasn't sure if that was it, and I didn't want to make up my mind as to that being the movement until I was sure.

Informants described in detail both the type and timing of the child's movements, and referred to the child's behaviour in terms of his/her movement using terms like being active and laid back.

> Just more, stronger movements, I guess and I'll watch my stomach sometimes and you can actually see the baby move which is something. But, as I said, the movements are more pronounced than they ever were before. But then as they say, I'm lying around and there may be nothing and then all of a sudden it's like trying to change position or something.
>
> I get up and I read the paper and I do the crosswords, so during that time it's kind of active. And then it settles down for most of the day. There's, you know, kicks and twinges throughout and then about ten to eleven at night is an active time for it.

One can only wonder if the depth of knowledge about the child's presence related in part to the importance the movement played in reassuring self.

No one talked about communicating with the child. Rather there was a sense of the child as separate, that he or she had their own rhythm.

> People have told me, I should be reading to the baby and things. I just feel uncomfortable doing that at this time.
>
> This is why I don't think I'm very good in a study like this because we don't talk a lot and I don't play music to him.

Keeping the baby sexless and not communicating assisted the informants in holding back from connecting to the child within. Although the informants held back because that is what they needed to do to guard themselves, they also felt guilty because of this.

> I feel terrible, I feel like I should, but I don't feel close at all to it. And I read all this in these books about bonding with the baby and I'm thinking, "Oh I hope"... I mean I'm sure that it will be really easy to do once it's born.
>
> I should go for counselling, shouldn't I? I need to go to a shrink, "Hi, I'm emotionally unattached to this critter."

In response to a perceived threat, three strategies were employed to guard self and baby. By doing things right, seeking reassurance and holding back the informants felt protected and protective. Then something happened to enable some of the informants to feel less uncertain and thereby able to lower their guard.

Lowering One's Guard

All but two of the informants were able to lower their guard during pregnancy. Lowering one's guard occurred following a significant positive turning point, the timing of which varied for each informant. For all informants, there was a description of *reaching a safe stage*, whereby the uncertainty was no longer perceived as a threat but rather as a challenge resulting in informants feeling hopeful as compared to the fear they felt when their guard was raised.

For two of the informants whose movement toward connecting was faster, the turning point occurred earlier in the pregnancy. A discussion with the doctor at six weeks of pregnancy was a significant turning point for one of the informants.

> I had to talk to the specialist who had handled transplant patients. The normal doctor's weren't really all that familiar, they had patients who had children before a kidney transplant, but they didn't have a lot of information to give me on what could be expected. What were the normal problems that could arise from the transplant, as well what

> kind of complications would it add? After talking to the specialist, I felt a lot more at ease. He answered the questions that we were concerned about.

Once her health status was no longer threatened, the informant was able to lower her guard stating, "the odds are now in my favour that things will go well." Rather than feel fearful, there was now hope, both in having a baby which she thought would never happen, and because she felt healthier than ever before.

> When I was on dialysis I was very weak and it didn't really agree with me. There was lots of times that I never got a period, so I wasn't very fertile then. I just wasn't healthy enough to even conceive. But I think with this second transplant, I've taken a long time to get back to being healthy and I guess it just tells me that my body is working much better than it ever had been before.

The second informant described two critical incidents that enabled her to feel that she had reached a safe stage.

> Having this last ultrasound done on Thursday made a big difference to me because now I know they're the same size, but I would say up until Thursday, yes I still thought weaker, stronger but now I know they're the same size and I had the radiologist's confirmation that, "Yes, everything looks fine."

> Five months to me was a big hurdle. I think in part because I can remember babies being born at five months, and sure they're pretty weak then and their chances of survival aren't very good, but for me it was like, well at least then after five months, it's no longer a miscarriage, there's a chance of saving them. I don't know that much about twins as far as having a very good success rate but, to me, five months was sort of just a real big hurdle for me.

Feeling equal fetal movements on both sides was a third critical incident that

comprised the turning point that resulted in the informant feeling more at ease, and willing to lower her guard. Both informants still had uncertainties but the intensity was lower. Now the uncertainty was perceived as a challenge, the risk was acknowledged as minimal and framed as positive, in the sense that there was hope.

> I have a lot if confidence in the fact that I am doing a lot of things right. Like I'm doing a lot of resting, and I'm not working. I have a lot of confidence that I'll make it to term.

> Well I just really hope that she's perfect, that there's no problem, because you know you do have concerns. I read a little bit in some of L's books as well about the effects of the drugs I'm taking and although there is some risk there, they've not exactly determined how much and there's no documented cases of them actually having a bad effect but nonetheless it's still there. So I guess that's my concern, I'm just really praying that it hasn't harmed her in any way.

Several of the informants who progressed toward connecting during the pregnancy, experienced turning points later in the pregnancy. For these informants, the major concern was taking their babies to term. Both had charted their own trajectory in terms of when they would feel they had reached a safe stage. For one informant, the safe stage was 38 gestational weeks, but she felt anything after 32 gestational weeks was okay, "because you don't have to worry that the lungs won't be ready or as mature as they need to be." For the other, the safe stage was 37 gestational weeks but anything after 28 gestational weeks was okay "because there would be a good chance that the baby could survive outside the womb." For both

informants, time was the major positive turning point. Making it past the critical time changed the uncertainty from a perceived threat to one of having hope. As one informant described:

> Like I'm sort of on the home stretch now. Even if I did go into labour the chances are more in my favour that the baby will be okay is how I'm feeling now.

The critical time differed for the informants in the fast to progress toward connecting pattern, based on the uniqueness of their charted trajectories. Charting one's trajectory was based on personal beliefs and was not always grounded in medical knowledge.

For the informants in the slow to progress pattern, their turning point was the birth of a healthy child, which subsequently enabled them to lower their guard and move toward connecting.

> I think my turning point will definitely be after, and actually I'll probably even think there's got to be something wrong, knowing me. I guess I'm pretty negative about it just because it did take so long. After, I'll probably pinch myself and the baby, "Are you still there?" I'm sure I will.

The informants in the slow pattern continued to feel highly uncertain, threatened rather than hopeful, throughout the pregnancy. Their trajectory was altered because of risks associated with age making it impossible to chart a course for themselves during pregnancy, resulting in their trajectory remaining uncertain until delivery. Despite reassuring amniocentesis results

and a prior successful delivery of a healthy term infant, the informants remained uncertain, which they attributed to their wary personalities. One can only surmise that the risks associated with age plus infertility made the pregnancy so special that there remained a need to guard until delivery.

> Just because your amnio comes back and what few things they can determine on your amino that are okay and negative or whatever, doesn't mean there still isn't other things, there still could be some major birth defects and that sort of thing that you don't know of until delivery, and I think there's those things that happen at delivery too. I just had it reinforced when, on the weekend there was a stat section for fetal distress. At this point you can't predict it.

In the slow to progress pattern, the informants were unable to get excited in anticipation of the birth, rather they held off from preparing a room and/or clothes in case something went wrong.

As is evident, lowering one's guard varied in timing and was based on a trajectory, that is, when in the pregnancy the informants felt that they had passed a turning point of enough magnitude that they could feel more at ease. Once the informants guard was lowered, the three strategies employed in guarding, doing things right, seeking reassurance, and holding back, now changed in intensity and focus.

Doing Things Right

Doing everything right was maintained by following the limitations

imposed by self, doctor, and the growing baby.

> Just setting things up for the actual baby to be out there in that room versus just taking care of yourself and making sure you're eating right. That is a priority now too, but now you're actively setting up a facility for the baby. So that's kind of initiated a change in focus.

Seeking Reassurance

The worries were less prominent, thus the strategy of seeking reassurance while still present had now lessened in degree.

> I do feel better about things. It's just I won't feel completely assured until the baby's actually born and everything is all right, but I mean it's as good as it probably can get.

Moving Toward

Holding back from connecting changed to moving toward connecting, which heralded changes in feelings, a desire to get to know, and a readiness to prepare. Moving toward occurred once the informants lowered their guard, feeling more at ease and hopeful that the baby was going to be okay. Whereas before feelings were held back, now informants described themselves as feeling close to the child within. Before the child seemed to be separate from self and now there was feeling of oneness. As one informant described, "it's part of me, it's a little half of me, it's like we are in our own little world together."

In the slow to progress toward connecting pattern the change was

more subtle, with uncertainty still present as an inhibitor.

> My feelings have changed a little bit, as I say, I'm getting more attached to the baby emotionally but not a hundred percent yet. Certainly nothing like, if it was a normal pregnancy, because I was talking to my sister-in-law, and she never gave it a thought that things wouldn't go well. So the preoccupation that I've had wondering if things are still going to go all right has probably taken away a little bit from getting as attached to the baby as someone else might.

A noticeable change in knowing the baby was a sense that the baby was real, that is, taking on an identity, no longer an *it* or *just the baby.* The baby, as real, was associated with the strong, obvious movements in the last trimester of pregnancy.

> I think, loving them you have to have some kind of feed back from something to love it. And I feel like I'm getting that now from the movement.

Feeling both, the reality of the child within, and more at ease, the majority of informants now wanted to know the sex of the baby. Several informants still wanted the *surprise* at the end, but did imagine a particular sex.

> For some reason I keep thinking it's a boy, but you know, I really don't know. I guess that's the way I seem to think of it right now, as a boy.

Knowing the sex, permitted the baby to become a person with an identity of it's own. Now movements were interpreted in terms of his/her behaviour.

> With D.'s voice they'll move and stuff, but with too many voices they'll never move. If you're at a social function or at a supper or whatever, they stay pretty quiet. All along I've been saying, "They don't like crowds."

Lastly, in terms of knowing, the informants began to communicate with their babies.

> I would wake up in the morning and sort of ask them how they're doing? So I would say, "Good morning" or "It's time to get up" or something and it's not like I would talk to them all day long but, you know, just kind of acknowledging that they're there.

One informant described her talk as "sort talk", "it's like you sort of talk to yourself as if she were listening and must be listening." For several of the informants, communication seemed to be two-way.

> Sometimes too, if I really think about them or I'll say, "Hey, like what are you guys up to?" then they'll move. I don't know if it is just a coincidence.

Another informant whose size made it difficult for her to move anymore at night, felt the baby kicked her more at night because he was uncomfortable.

The third characteristic in moving toward connecting was a readiness to prepare for his or her arrival accented by an eagerness to enfold in one's arms.

> The fact that it's coming closer, you know, scares me in one way, because with them I'm going to have a big responsibility on my hands, so there's a little bit of fear there, but more excitement and more anticipation, finally getting to see them. I guess you know, meet them and see what they look like, meet them is kind of a strange word because I feel like I already know them in a way, but yet that's what it will be that day, sort of an introduction.

Informants began to get ready for a more direct relationship with their

child by preparing a room and fantasizing about the postbirth relationship.

> I hope to breastfeed. I imagine, first of all, how I'm gonna do it, holding two little footballs. But I imagine that a lot. And I imagine it being very special. I mean, I've been told that breastfeeding one is very special and I just think two is going to be very, very special. I imagine them a lot interacting with other kids too when they're older, I found myself a girlfriend up the road and she has twins and I can picture us going on outings together when they're older.

Lastly, another component of getting ready for the baby was getting oneself ready by preparing for labour and delivery. Informants started reading and asking questions about childbirth.

For the informants in the slow pattern, whose guard remained raised throughout the pregnancy, moving toward connecting occurred after delivery. During the postbirth interview, one informant described her feelings:

> Well I was probably more infatuated when I first saw him. Then, obviously the more time I spent with him it just gets, I think the love gets stronger over time, especially when he's finally looking at you and responding to things that you do and say and it just makes him more of his own person I guess than anything.

For the informants in the slower pattern, a sense of their baby as a unique person began after the birth. Whereas, for the informants in the faster pattern, who were able to lower their guard during pregnancy, their process of getting to know their baby and develop an emotional tie began during pregnancy. The end result was the same, that is, connecting to the child but it was just slower to develop in some women.

CHAPTER V

DISCUSSION

In this study the purpose was to provide a theoretical formulation to explain the pregnant woman's experience of developing a relationship with her unborn child through the second and third trimesters of a high-risk pregnancy. The void in the literature on the subjective experience of high-risk pregnant women as they define their relationship with the unborn child suggested an inductive approach be utilized. Grounded theory methodology was used to collect and analyze the data. The theoretical framework that emerged from the data was a Basic Social Psychological Process of *guarding*. Guarding is a protective process, comprised of two interrelated stages: raising one's guard, and lowering one's guard. The process of guarding involved three strategies: (a) doing things right, (b) seeking reassurance, and (c) determining involvement, which enabled pregnant women to guard self and baby in response to perceived uncertainty.

In the following chapter, five aspects of this study will be discussed. This chapter will begin with a discussion of the findings of this study in relation to the literature that pertains to the process of guarding. Second, propositional statements derived from this study will be explicated. Third, implications of the findings for practice and research will be outlined. Fourth, the research methods utilized in this study will be discussed. Finally, the findings will be summarized.

Discussion of Findings

Uncertainty

Feeling unsure was the antecedent condition that resulted in women guarding self and baby. Mishel (1988a) developed a middle range theory of uncertainty and subsequently developed a scale to measure uncertainty in illness (1988b). Mishel's (1988a) theory of uncertainty is based on the cognitive appraisal of an event. According to the theory, uncertainty can be appraised as a danger or an opportunity with coping strategies aimed at reducing or maintaining the uncertainty. In this study, the informant's appraisal of uncertainty was not a predetermined attitude toward the threat of loss, rather the response varied based on the personal meaning of the particular situation which continued to change. Mishel (1988a) argued that adaptation or stress are the ends achieved after coping. If the person is unable to resolve the uncertainty, stress results.

Mishel's (1988a) theory is based on uncertainty in illness and thereby differs from this sample who did not perceive themselves as ill, nor did they require hospitalization during their pregnancy, rather the informants defined themselves as at-risk for pregnancy complications. Mishel's theory is concerned with reduction of uncertainty, whereas this sample of informants were concerned with living with uncertainty, which only time would resolve.

In a more recent article, Mishel (1990) argues that the uncertainty in illness theory needs to be reconceptualized to include the experience of living with continual uncertainty. This study provides empirical evidence to support this reconceptualization. Appraisal of uncertainty appears in fact to be a process that fluctuates and cycles over the course of a high-risk pregnancy. It is not the enemy that needs to be eliminated or controlled, but rather a phenomenon that has the potential to enable one to grow to higher levels.

The literature refers to high-risk pregnancy as a stressful event (Galloway, 1976; Penticuff, 1982; Snyder, 1979; Warrick, 1974). There are three theoretical orientations to explain stress: (a) stress as a response, (b) stress as a transaction, and (c) stress as a stimulus (Lyon & Werner, 1987). In Mishel's (1988a) theory of uncertainty, stress is viewed as a response to the person's inability to resolve the uncertainty. Lazarus and Folkman's (1984) cognitive theory of stress and coping defines stress as being either a threat or a challenge, something that taxes or exceeds a person's reserves. McCubbin, Joy, Cauble, Comeau, Patterson, and Needle (1980) would argue that an event is a stressor, if it has the potential to produce stress, but it is not synonymous with the state of stress. Lazarus and Folkman's (1984) cognitive theory of stress differs from McCubbin et al.'s family stress theory in that the former refers to transactional stress, stress arising out of the person-environment transaction and the latter refers

to stress as a stimulus. In McCubbin et al.'s (1980) model, perception of the event and the family system's resources determines whether a stressor becomes a stress. McCubbin et al.'s model is applicable to this study, as high-risk pregnancy can be viewed as a stressor because it has the potential to produce stress, but for the informants in this study, the pregnancy was not perceived as stressful, instead the women felt uncertain. This uncertainty was perceived as a threat when one's guard was raised and as an opportunity framed as having hope when their guard was lowered, which corresponds with Lazarus and Folkman's (1984) cognitive theory of stress.

The three models all describe a means of *managing* either the stress or the uncertainty, with adaptation as the result (Lazarus & Folkman, 1984; McCubbin et al., 1980; Mishel, 1988b). Coping is the term applied to the efforts to manage the stress or uncertainty (Panzarine, 1985). Little is known about the coping process used by people in situations of uncertainty. Mishel (1988a) refers to using direct action, and when there is a high degree of uncertainty, use of intrapsychic modes called vigilance and/or avoidance may be of more benefit. Lazarus and Folkman (1984) refer to the use of emotion-focused coping when nothing can be done to modify the conditions, as compared to problem-focused forms of coping, when one manages the problem that is causing the distress. The coping strategies mobilized by the informants in this study were in response to living with the uncertainty rather than efforts to reduce or manage the uncertainty. The strategy of

holding back from connecting may be an example of an emotion-focused form of coping (Lazarus & Folkman, 1984) or an intrapsychic mode (Mishel, 1988a), as the purpose was to lessen the emotional distress. Lazarus and Folkman (1984) suggest that emotion-focused coping is used to maintain hope and optimism, which is in agreement with the findings from this study.

There were two types of uncertainty: (a) uncertainty associated with being high-risk, and (b) uncertainty associated with the infertility. Informants in this study did not define themselves as high-risk, rather they felt at-risk for possible complications which resulted in feelings of uncertainty about the course and outcome of the pregnancy. The second type of uncertainty was associated with the experience of infertility for five of the eight informants. According to both Garner (1985) and Shapiro (1986) pregnancy after infertility is a dubious joy as women have additional anxieties about the ability of their body to carry a fetus to term. The additional uncertainty for the informants in this study with a history of unexplained infertility, manifest itself in the *slow to progress toward connecting pattern.*

Doing Things Right

The efforts expended by the women in this study were essentially focused on the attainment of a positive outcome, a healthy baby. The women believed themselves to be in control which instilled the confidence

that they could respond to the uncertainty by *doing things right*. Corbin (1987) in a qualitative study, using grounded theory methodology, explained how women managed to minimize the risks of harm and/or loss that are associated with the pregnancy-illness through a process of protective governing. Corbin's discussion of protective governing in an on-course, low-risk context is applicable to this study. A pregnancy illness is on-course, but lower in risk, according to Corbin, when it progresses according to the culturally and medically defined expectations, but with the risks to the fetus and to the women greater than if it were an uncomplicated pregnancy. Corbin reported that the outstanding characteristic of women in this context was their sense of confidence that they could control their illness and pregnancy in a manner that would minimize the risks. The informants in this study managed the risks themselves by doing everything right, they imposed upon themselves limitations to ensure a healthy baby. It must be noted that not all women with high-risk pregnancies would priorize the goal of a healthy baby. Some women may choose to guard in favour of their other children, their own health status, or the needs of their partner.

Rubin (1975) delineated four tasks of pregnancy: (a) seeking safe passage, (b) acceptance by others, (c) binding-in to the child, and (d) giving of oneself. Two of the maternal tasks are directly related to the strategy of doing things right. The first task of securing safe passage for herself and for the child, is by means of protective and avoidance behaviours, according to

Rubin. The underlying themes of sacrificing and pacing correspond with Rubin's avoidance behaviours. Seeking safe passage was paramount for the informants when their guard was raised, informants willingly altered their lifestyle in a radical way to ensure a safe passage for their unborn child.

The second task, as stated by Rubin (1975), is the act of giving of oneself to the unborn child. During the first trimester, the woman balances her value of the infant against the cost to herself. Throughout the second trimester, she explores the meaning of giving and being given to. Finally, in the third trimester the woman has a renewed awareness of the demands of pregnancy and her ability to adequately give. Giving of oneself in this study was not incremental as described by Rubin, rather childbearing for these informants was an act of giving from the moment of conception. The women knew that the pregnancy would mean risks to their unborn child and for two of the informants, risks to their own health, and yet giving of oneself in terms of making radical lifestyle changes was willingly provided.

By the third trimester when the informants in the *fast to progress toward connecting pattern* had lowered their guard, doing things right had lessened in intensity and changed in focus. Although the informants maintained the lifestyle changes instituted in early pregnancy, they did not make any more changes as they were feeling more at ease. Now their focus shifted to connecting with their unborn child. This finding is substantiated by Grace (1989) who used Cranley's (1981a) Maternal-Fetal Attachment

Scale monthly from the onset of prenatal care until delivery on 69 gravida women experiencing an uncomplicated pregnancy. Grace reported that the subscale item of *giving of self* decreased significantly as pregnancy advanced.

Seeking Reassurance

The perceived uncertainty resulted in worries. Worries were the antecedent that led to seeking reassurance. The informants employed various strategies to try to reassure themselves that everything was progressing normally.

Rubin (1975) identified the doctor as the major source of help in securing a safe passage for the baby. In this study, the use of technology, particularly getting information from the ultrasound examinations of the child, was the major source of reassurance in the first and second trimesters of the pregnancy. Rubin's research was conducted with pregnant women experiencing an uncomplicated pregnancy at a time when ultrasounds were not routinely used, which may explain the discrepancy in reported findings. The women in this study, reported an average of four ultrasound examinations. While the ultrasounds did not have an impact on the mother-child connecting, which supports current research on ultrasounds and prebirth attachment (Grace, 1984; Heidrich & Cranley, 1989; Kemp & Page,

1987; Reading & Platt, 1985), they did have a major impact on the informants feeling reassured.

The concern with routine ultrasounds is that the fetus is viewed as separate from the woman, a patient in its own right. Both Rothman (1989) and Young (1984) argue against the medicalization of pregnancy, which alienates a woman from her unborn child, by negating or devaluing her own subjective experience. It is interesting that in this study the women's subjective experience of the child within was the major source of reassurance in the third trimester of the pregnancy, when the baby's movements were strong and regular.

Alternatives to ultrasound examinations in the first half of pregnancy, as a major source of reassurance, may be, by the inclusion of midwifery practice as an alternative to the medical model. Rothman (1989) argues for a woman-centered model of pregnancy where the baby is part of the woman, not the woman as a container for the baby. Stewart (1986) suggests that a midwife can offer an alternative form of reassurance by: (a) spending time palpating and measuring fundal height, and by (b) explaining and involving the pregnant woman in her care.

Another important source of reassurance was the support from the husband, particularly in terms of his willingness to listen, attend doctor's appointments, and acknowledge and interact with the baby. House & Kahn (1985) refer to the general domain of social support which encompasses

three different aspects: (a) the existence or quality of social relationships, (b) the structure of a person's relationships, and (c) the functional content of the relationships. The support required from the husbands in this study was in the domain of the functional content of their relationship. Four types of functional support are conceptualized: (a) emotional concern, (b) instrumental aid, (c) informational, and (d) appraisal (House & Kahn, 1985). Informants did not talk about the need for instrumental aid. It appears that it was automatically provided by the spouse and significant family members. For four of the eight women sampled, what appeared to be missing were the types of functional support referred to as emotional, informational, and appraisal. The four husbands not providing functional support were described as unemotional men, who were either scared or not comfortable touching the child within. The women talked about getting their husbands involved, without force, as their involvement was felt essential to the women's well-being.

May (1980) using ground theory methodology explicated a typology of involvement styles adopted during an uncomplicated pregnancy by first time fathers. The unemotional men described in this study correspond to May's style of *observer*. In May's study the observers were described as bystanders, somewhat detached from the pregnancy. It seems plausible that the men in the present study may have been guarding self but only

further research of men's involvement in a high-risk pregnancy would shed light in this area.

May (1982) also suggested that while there is a style of involvement, there is also progressive involvement in the pregnancy. The husbands in the present study did get involved and were able to provide the needed emotional and behavioral support. The husband's involvement corresponded to seeing the baby on ultrasound. According to the informants, husbands then talked about the baby as *real*, began to engage in interaction with the unborn child, and display emotional feelings. This finding reinforces Jordan's (1990) findings when she reported that men's involvement toward becoming an involved father is driven by the unfolding reality of the child. May discussed three stages of involvement in pregnancy: (a) announcement, (b) moratorium, and (c) focusing. The stage of focusing is consistent with the findings in this study, the only difference is the time line, according to May this occurs at 25 to 30 gestational weeks, whereas in this study seeing the baby on ultrasound, rather than feeling the baby move, thrust men into the focusing phase earlier than May reported.

The importance of the husband's involvement in terms of his functional support was essential in reassuring the women, particularly as a sense of differentness resulted in a lack of perceived support from other pregnant women. The importance of support in pregnancy has been addressed (Cronenwelt, 1985; Norbeck & Tilden, 1983). In particular, marital support

is critical to preparation for the motherhood role (Brown, 1986; Richardson, 1983). Mercer and Ferketich (1988) used hierarchal regression analysis to study four groups of high and low-risk men and women to study the effect of social support as a predictor of anxiety and depression. Social support was measured by three dimensions: (a) perceived, (b) received, and (c) network size. Perceived support, that is, the belief that help was available, was the more salient dimension in distress responses among pregnant women. Ford and Hodnett's (1990) study of 27 hospitalized high-risk pregnant women lends support to Mercer and Ferketich's (1988) findings that perceived adequacy of social support positively affects women's adaptation to the stress associated with being hospitalized in pregnancy. Although neither study examined the specific role of the husband in providing support in a high-risk pregnancy, the findings of this investigation draw attention to the husband's supportive role as being important in buffering the worry, resulting in feeling reassured.

Determining Involvement

Women in this study determined their involvement with their unborn child based on the temporal pattern created by the meaning of the high-risk pregnancy. Rubin (1975) describes a third maternal task of *binding-in* to the infant, incorporating the fetus into the woman's entire self system which includes body image, self-image, and ideal image. The rate and extent to

which the woman binds-in to the fetus is determined for the most part by the nature of her fears, her motivation, and her wishes regarding herself and the fetus. During the first trimester binding-in is minimal, however, after quickening the pace increases as the theoretical child is transformed into a real, living child. Rubin acknowledges the variability in binding-in which is congruent with the findings from this study.

Leifer (1977) found the most significant developmental task of pregnancy to be the acceptance and emotional incorporation of the fetus. Her findings suggest that during pregnancy maternal feelings develop along a continuum. While there is little apparent attachment to the fetus during the first trimester, the woman develops a deep sense of closeness to her fetus with the advent of quickening. While she realizes that the fetus is a separate organism, she is also aware of the fetus as part of herself. The results of her study led Leifer to conclude that the extent of affective involvement of a woman with her fetus by the third trimester is an accurate predictor of maternal feelings for the child after birth. Her conclusions support the work of Bibring, Dwyer, Huntington, Valenstein (1961) and Rubin (1975) who regard the successful attitudinal incorporation of the fetus as a maturational accomplishment.

Progress toward connecting can exist quite independent from the physiological development of the fetus and the pregnancy. This was demonstrated in the *slow to progress pattern,* where informants resisted

developing an emotional or social relationship with their child until it was born. Further, there is variability in progress toward connecting, arising from the temporal pattern created by the woman. For example, some of the informants were at risk for premature labour. They divided their gestation not in trimesters as health professionals have, but rather in two phases. The phase of previability in which chances of life and health are nonexistent, and the phase of viability in which the chances of life and health are dramatically increased but not certain, as the infant may still require life support assistance. The exact timing in gestational weeks of the phase of viability varied for the informants from 20 to 28 gestational weeks.

Clearly it is evident that each high-risk pregnant woman must be considered unique in determining her involvement based on the meaning of the high-risk complication, thereby producing her own temporal pattern. For example, if the temporal pattern of the pregnancy is based on the time before amniocentesis and the time after amniocentesis, then the question to ask is, "What is the significance of the unborn child's movement within this context?", rather than the preconceived notion that quickening is a precursor to the development of maternal affiliation (Leifer, 1977) or binding-in (Rubin, 1975).

Holding Back. Holding back from connecting was a strategy employed to guard self in case something was wrong with the baby. Anderson (1990) and Hense (1989) using grounded theory methodology with two different

samples of high-risk pregnant women, reported that women delay or resist attaching to the unborn child. Anderson's longitudinal study sampled women who were undergoing fetal genetic diagnosis. An asset of Anderson's study is that the interviews were conducted at 12, 18 and 22 gestational weeks, a time in pregnancy that has been given little attention. In Hense's cross-sectional study women were interviewed in the second and third trimesters of a subsequent pregnancy following a stillbirth. A limitation of this design is that the informants were interviewed only once in the pregnancy, thereby missing the developmental process occurring through the pregnancy.

Anderson (1990) described a process of delayed attachment to the baby until the results of the amniocentesis were known. A turning point at 16 gestational weeks was seeing the baby on ultrasound which was done in concert with the amniocentesis. Informants were described as hopeful and started to wear maternity clothes. After the amniocentesis results were reported normal at 22 gestational weeks, Anderson stated that women *catch-up* with the normal developmental tasks of pregnancy. The process of guarding can be applied to Anderson's findings, as women raised their guard when the pregnancy was diagnosed because of fear of an abnormal baby and then lowered their guard in association with the reassurance from the ultrasound and began to move toward connecting. The women were still uncertain about the amniocentesis results, but were now reported as having

hope. The findings from Anderson's study suggest that the women were able to move beyond the uncertainty after being advised of the normal amniocentesis results and thus carried on with the developmental tasks of a normal or uncomplicated pregnancy.

Hense (1989) described resisting attaching occurring as a result of fearing recurrence of another loss (informants had experienced one stillbirth prior to the current pregnancy). Several characteristics were ascribed to resisting attaching: (a) keeping the pregnancy a secret, (b) not getting close to the unborn child, (c) describing the child as not real, and (d) not preparing the child's room. These characteristics were identical to the descriptors given by the informants in this study. The theory of guarding developed in this study can also be applied to Hense's findings. Hense described the women in her study as being very protective of the unborn child, fearing that the prior loss was associated with something they had done. This corresponds with the strategy of guarding the baby by doing everything right. Hense's findings differed from Bodnar (1985) who also studied third trimester women with a history of an involuntary fetal death experience. Resisting attachment was not associated with the timing of the prior loss (Hense), whereas Bodnar reported a delay in development of attaching behaviour until the gestational age at which the prior loss occurred was past. Two of the informants in this study had experienced prior first trimester loss and they did not enter into the guarding process until they

knew that there was indeed a baby to guard, therefore, time of previous loss was not important, rather being pregnant with baby (as evidenced by ultrasound) was the critical factor that permitted the women to invest in and commit to the pregnancy.

One informant pregnant with twins talked about holding back from connecting in relation to one twin because of fears about its well-being, this twin was described as the weaker, sicker twin. The idea of differentiating twins is discussed by Anderson and Anderson (1990). They used a constant comparative method of analysis of qualitative data to evolve a substantive theory of mother-twin attachment. Although the data was collected postbirth, the strategies of differentiation and polarization may in fact be a process occurring in the prebirth period in order to begin relating to the twins as distinct individuals.

Although the informants held back from connecting because they needed to guard self, they also expressed guilt because they were not *bonded* or *attached* to the child within. The notion of guilt is addressed by Swigart (1991) as she argues that the myth of the *bad* mother needs to be dispelled. The *good* mother is described as selflessly devoted to her child's well-being, and the bad mother is responsible for her child's emotional problems and unhappiness. Although Swigart's research addresses the mother-child relationship postbirth, findings from this study would suggest that there is also a myth of the bad pregnant mother, who does not love or

feel close to her unborn child. It is only through exploring women's true feelings toward their unborn children that we can dispel this myth and learn more about the *grey* area between the extremes of good and bad. The women in this study did have feelings toward their unborn children, they just held back from developing an emotional and social relationship until it felt safe to begin to move toward connecting.

Women not only held back emotionally, they also held back socially by not getting to know the child within. Both Bergum (1989, 1990) and Stainton, (1985a, 1990) in their research describe how pregnant women come to know their individual child. Bergum (1990) describes this as a developing process whereas Stainton (1990) describes awareness of the unborn child as coexisting levels of knowledge. This may be due to the fact that Stainton's (1985a, 1990) research involved interviews at only one time in pregnancy, the third trimester, whereas Bergum's (1989, 1990) interviews were conducted over the course of pregnancy. The findings in this study reinforce the developmental process in relating (Bergum, 1990) and are in agreement with Stainton's (1985a, 1990) finding that there is a variation in the style of relating. Another commonality with Stainton's (1990) research is that the women chose their level of involvement based on feeling more at ease about having a good outcome (healthy baby).

Holding back from connecting could be characterized as reaching Level 2, described by Stainton (1990) as an awareness of the unborn child's

presence, for some that occurred with seeing the baby on ultrasound, but for the majority, feeling the baby move made them aware of its presence. For the informants in the slow to progress pattern, there was a sense of unreality and separateness from the child within which conforms with Bergum's (1990) description of *This is my body: This is my baby*.

Moving Toward. A significant positive turning point, the timing of which varied, allowed informants to feel safe enough to move toward connecting. Now informants were able to bind-in (Rubin, 1975) or establish an emotional affiliation (Leifer, 1977). They described the emotional component of their connecting as feeling close or loving toward their unborn child.

Informants were now able to establish a social relationship. Informants moved through the coexisting levels (Stainton, 1990) and themes of knowing (Bergum, 1990) to describe their child as a part of self with his or her unique behaviours. The child was no longer an *it* or *the baby* but rather an individual with an identity of its own. The informants who progressed toward connecting during pregnancy talked about their child's behaviour, which corresponds with Stainton's category of temperament (1985b) and Level 3, awareness of specific behaviours of the unborn child (1990).

The findings in this study reinforce Stainton's (1985a, 1985b) research, which found that parents vary in the amount and type of interactive behaviours with their unborn child. Two of the eight informants,

described communication as two-way which corresponds with Level 4, awareness of the infant's interactive ability (Stainton, 1990). For the majority of informants, communication was one-way, described as both *inner* and *direct* talk.

Propositional Statements

The following eight propositional statements were derived from the findings of this study:

1. Ultrasound has a great impact on feeling reassured in the first and second trimesters of a high-risk pregnancy.

2. Fetal movement has a great impact on feeling reassured in the third trimester of a high-risk pregnancy.

3. The more uncertain the high-risk pregnant woman feels, the more emphasis is placed on fetal movement.

4. Until high-risk pregnant women are assured that they are pregnant with baby, they will not raise their guard and employ strategies to protect the baby.

5. When uncertainty is perceived as a threat, high-risk pregnant women choose to hold back from developing an emotional and social connection with their unborn child.

6. When uncertainty is perceived as hopeful, high-risk pregnant women move toward developing an emotional and social connection with their unborn child.

7. When a pregnancy goes off course, that is, a complication ensues, then high-risk pregnant women may again enter the guarding process depending on their perception of uncertainty.

8. The experience of infertility increases the need to guard self when pregnant.

Implications of the Findings

Practice

A woman with a normal or uncomplicated pregnancy may have minor psychological or physiological problems but her life is not generally consumed with giving them much notice nor do they interrupt her daily activities to any considerable extent. In contrast, a woman with a high-risk pregnancy can be besieged with problems and fears beyond the average. Although labelled *high-risk* the women in this study did not define themselves as such, rather they felt *at-risk* for possible complications and guarded accordingly. It is important for nurses to ask women the meaning of the pregnancy risk to them, as this determines the need to guard self and baby. Guarding is an individualized process defined by uncertainty which

must be recognized and appropriate questions asked to elicit the subjective meaning of the high-risk pregnancy, in order to provide individualized, holistic care.

The findings from this study demonstrate that the task of developing an emotional affiliation with the unborn child may be delayed and even postponed until women feel it is safe to move toward connecting. Movement toward connecting did not occur until after the birth for some informants, and it seemed there was no untoward effects on the postbirth mother-child relationship. Clearly, health professionals must recognize the unique mother-child relationship not only postbirth but prebirth as well. The need to guard self by holding back from an emotional and social relationship, is not abnormal, instead it is a healthy means of coping with an uncertain pregnancy.

No research exists that lends support to the notion that prebirth involvement influences the postbirth relationship. Therefore, nurses should not employ strategies to involve the high-risk woman with her unborn child, rather the uniqueness of the relationship and the coping strategies utilized must be assessed and respected. To encourage women to talk to their babies, or to advise them of the sex of their child, or to invite them to view the ultrasound would only create distress and further guilt if women are choosing to hold back from connecting because of the threat of loss or harm.

Nurses need to stop looking at time lines in pregnancy. A pregnancy classified as high risk should be reconceptualized as a developmental process not demarcated by trimesters, with specific successive tasks to be accomplished in each trimester, but as a fluid process with the accomplishment of tasks occurring as the pregnant woman is ready. High-risk pregnant women should not be assessed on normative criteria, rather assessments should be individually based. By respecting the uniqueness and variability of the mother-child relationship nurses can help to dispel the myth of the bad mother which appears to begin in pregnancy.

Health care professionals (doctors, nurses, midwives) can learn a lot about the unborn child's well-being by asking the pregnant woman. In this study, high-risk pregnant women monitored the fetal movement as a means of reassurance, and accumulated a wealth of knowledge about their child. The focus of medical and nursing care is often on preventing or taking care of the medical condition, with the fetus as separate from the woman. The objectification of the pregnancy, alienates a woman, whereas the high-risk pregnant woman has a unique knowledge of her body and the life of her unborn child. Thus, nurses and doctors must listen to the subjective experience, rather than just listening to the objective means of observation.

For practitioners employed in infertility clinics, the findings from this study suggest that pregnancy after infertility can be very threatening for

some women. It should not be assumed that pregnant women with a history of infertility must be *thrilled* when in reality they may be *scared*.

It is important for nurses to assess the make-up of the woman's support system, particularly as she experiences not only a sense of differentness, but the husband may not always be willing or able to get involved. If there is a lack of support then individual assistance should be given to enhance the chances of having a positive pregnancy outcome. There are two suggestions for providing both informational and emotional support that arose from the findings of this study. First, to develop prenatal classes for high-risk pregnant women. Not all the informants in this study attended prenatal classes because of the uncertainty over outcome and type of delivery. Prenatal classes specifically geared to this group would not only provide information but more importantly support with *similar* others rather than *different* others.

A second suggestion, is to employ a nurse-midwife in the high-risk obstetrical clinic. The midwife could provide emotional and informational support. The doctor's appointment was very important to the women in this study in terms of feeling reassured. Women reported looking forward to their appointment even though they waited on average half an hour for a five to ten minute appointment. Although they all described the doctor as willing to address their questions, the question arises as to "whether a nurse-midwife would be better suited in that role?" The physician could

then devote himself or herself to the medical management of the high-risk complication and the nurse-midwife could respond to the psychosocial impact of the high-risk complication superimposed upon the changes and adaptations characteristic of a normal or uncomplicated pregnancy. It is sincerely hoped that this study and its ramifications will provide insight to those health care professionals upon whom the high-risk pregnant woman's medical care depends.

Research

The theoretical formulation developed in this study depicting the process of guarding is not an end product, rather an evolving theory that can be developed as more data is obtained and new ideas discovered. As Glaser (1978) so aptly states "it makes him [the researcher] humble to the fact that no matter how far one goes in generating theory, it appears as merely *openers* to what one sees that could lay beyond" (p. 6).

The informants in this study did not experience a complication rather their pregnancy progressed normally under a veil of uncertainty. To further validate and develop the theoretical model of guarding, it would be of value to sample different groups of high-risk pregnant women. For example, women whose pregnancies were high-risk because of fetal complications, or women whose pregnancies did go off course, that is, a complication ensued at some point in time possibly requiring hospitalization. It would also be

worthwhile to study a group of women who enter their pregnancy with no risk, classified as *normal*, and then become high-risk. Sampling different groups would validate or refute the suggestion that the guarding process is cyclic in nature, and would enhance the understanding of the unique patterns of movement through the guarding process.

The findings from this study suggest that guarding begins in the first trimester of pregnancy often with the diagnosis of pregnancy. Women recalled retrospectively how they guarded early in their pregnancy. Therefore, a longitudinal research study commencing in the first trimester, would provide a more accurate prospective description of guarding through the entire pregnancy, which would further develop the substantive theory of guarding.

It has been argued that ethical decision making for nursing should not be deductively based on bioethical rules and principles (Bergum, 1990; Fry, 1989; Held, 1988) where the models of contract relations and individual rights takes precedence. Rather nursing ethics should be inductively based on caring for others, within the context of relationships. Bergum (1990) argues that a morality based on a relational or caring ethic can be uncovered by exploring the woman-fetus experience, as it lays the foundation for the strongest relationship between human beings. This study sheds light on the process of connecting between a woman and her unborn child within the situational context of a high-risk pregnancy. Findings from this study

enhance our understanding of the woman-fetus experience, which in further research, can be used toward developing a theory of nursing ethics based on relationships, with caring as a fundamental value, as suggested by Bergum (1990).

As is evident, this study is only a beginning, further research is required in order to gain a complete understanding of the process of connecting in a high-risk pregnancy. However, a number of propositional statements have been derived from this investigation. It is hoped that the findings of this study will provide a sound basis for further research.

Discussion of Research Method

How women develop a relationship with their unborn child when the pregnancy is high-risk was explored and formulated in a longitudinal field study based on the constant comparative method of data analysis. The study was conducted with women in their second and third trimesters of pregnancy and it is recommended in future research to include the first trimester to enhance understanding of the guarding process. This method presents the theory of guarding as a process which evolves over time. The theory is substantive because the Basic Social Psychological Process of guarding was studied under one particular situational context. Though grounded in the substantive data, the process of guarding is only one

explanation of how women develop a prebirth relationship. Obviously there are other theoretical explanations that may well have evolved, depending on the theoretical perspective of the researcher.

The grounded theory method of theoretical sampling resulted in an adequate and appropriate sample for the question under study. The sample was diverse in relation to the varied high-risk complications, their age, and the fact that they were living in both rural and urban areas. However, the sample was homogeneous in relation to cultural group, they were all Caucasian women, whose high-risk pregnancies were progressing normally. Further research is required to expand the theoretical model to include other cultural groups, and women whose pregnancies journey off-course, that is, a complication arises.

Although the goal of this study was not generalizability as previously discussed, nonetheless, the findings do have theoretical generalizability for the group studied. Theoretical generalizability is demonstrated when the theory has *fit* and *grab* (Glaser, 1978). Fit refers to the categories of the theory fitting the data. In other words, categories have been generated from the data, not merely borrowed, but have earned their way into the emerging theory. The constant comparative method of data analysis and ongoing coding ensures that the theory is grounded in the data.

The other characteristic that is representative of theoretical generalizability is grab. Grab refers to whether the theory is understandable.

Does it grab and capture the attention of people who have experience with high-risk pregnant women? A discussion of the findings with nurses who care for these women in the clinic and hospital setting, solicited the comments, "that's right, that is the way it really is." Affirmation and understanding also came from discussion with other childbearing women who have themselves either experienced a high-risk pregnancy or know of someone who has. It is right and that is the way it is because the facts are real and very much embedded in the *living* data.

Summary

This research focused on the pregnant woman's experience of developing a relationship with her unborn child when the pregnancy was high-risk. Medical science is making forward strides in the management and treatment of high-risk pregnancies, resulting in the medicalization of the pregnancy. The fetus is tre ted objectively as separate from the pregnant woman, with little attention given to the subjective experience of the high-risk pregnant women as she moves toward connecting with the unborn child.

While there is a considerable amount of documented literature in the area of pre- and postbirth attaching in a normal pregnancy, a review of the literature revealed no qualitative studies in the area of prebirth attaching in a

high-risk pregnancy. What little there is on the prebirth relationship in a high-risk pregnancy is either quantitative in methodology or experiential data. Generally, there is a void in the literature on the subjective experience of high-risk pregnant women. Yet 10 to 20% of all pregnancies are classified as high-risk. This study was necessary to contribute to an area of neglected inquiry.

The purpose in this study was to provide a theoretical formulation to explain the pregnant woman's experience of developing a relationship with her unborn child through the second and third trimesters of a high-risk pregnancy. The design chosen for analysis of this problem was a longitudinal field study, utilizing the constant comparative method of data analysis to evolve a substantive, grounded theory. The total sample was comprised of eight pregnant women with various high-risk conditions. The data was collected by interviews, 23 in total, over a seven month period.

The theoretical framework that emerged from the data in this study of how pregnant women develop a relationship with their child when the pregnancy is high-risk, was a process of *guarding*. Guarding is a protective process mobilized in response to perceived *uncertainty* that enables pregnant women to guard self and baby. When uncertainty is perceived as a threat with the potential of harm or loss to the unborn child, women raise their guard and employ the strategies of *doing things right* and *seeking reassurance* to guard the baby, while simultaneously guarding self by *holding*

back from developing an inner mother-child relationship (connecting). Positive turning points occurred at various times in the pregnancy or postpartum for some of the pregnant women such that the uncertainty was now reframed as positive. Feeling hopeful that everything would all right women now lowered their guard and *moved toward connecting* with the unborn/born child. Movement toward connecting varied, with women consciously determining their level of involvement.

The present research should heighten health care professional's awareness of the uniqueness and variability of the mother-child relationship in a high-risk pregnancy. The findings from this study suggest a reconceptualization of high-risk pregnancy as a developmental process, not demarcated by trimesters with specific tasks to accomplish in each trimester, but rather as a fluid process occurring as the pregnant woman constructs the meaning of time in relation to her pregnant self. Therefore, health care professionals need to recognize that the task of forming a social and emotional relationship with the unborn child may be delayed or even postponed until the woman feels it is safe to move toward connecting and this in fact may not be until after the birth.

Suggestions for further research to expand and verify the theoretical model developed in this study are twofold. One, is to conduct a longitudinal field study commencing in the first trimester of pregnancy. Two, is to use

different samples of high-risk pregnant women, to further understanding of the process of connecting.

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APPENDIX A

Letter of Support

University of Alberta
Edmonton
Canada T6G 2R7

Department of
Obstetrics and Gynaecology
1D1 Walter C Mackenzie Health Sciences Centre
Telephone (403) 492-8632

March 16, 1990

Faculty of Nursing
Ethics Committee
3-118 C.S.B.

This will confirm my support to Karen McGeary for the manuscript recently submitted concerning her study for the "Mother/Child Relationship in a High Risk Pregnancy". Karen will be collaborating with me with regard to identifying pregnancies in which she wishes to study.

Sincerely,

D.K. Still, M.D.
Associate Professor

DKS/lcm

APPENDIX B

High-Risk Scoring System

PRE-PREGNANCY - PART A		SCORE
Age ≤ 17 at delivery	1	
Age ≥ 35 at delivery	1	
Obesity (≥ 91 kg)	1	
Height (≤ 152 cm)	1	
Smoker - anytime during pregnancy	1	
DIABETES		
Controlled by diet only	1	
Insulin used	3	
Retinopathy documented	3	
HEART DISEASE		
Asymptomatic (no affect on daily living)	1	
Symptomatic (affects daily living)	3	
HYPERTENSION		
140/90 or greater	2	
Hypertensive Drugs	3	
CHRONIC RENAL DISEASE DOCUMENTED	2	
OTHER medical disorders, eg. epilepsy	1	
severe asthma, lupus, Crohn's disease		
Subtotal "A"		

PAST OBSTETRICAL HISTORY - PART B		SCORE
Neonatal death	3	
Stillbirth	3	
Abortion between 12 to 20 weeks		
and under 500 grams birth weight	1	
Delivery at 20 - <37	1	
Cesarean Section	2	
Small for dates	1	
Large for dates	1	
RH ISOIMMUNIZATION - Unaffected infant	1	
- Affected infant	3	
Major cong. anomaly eg. Downs, Heart	1	
CNS defects		
Subtotal "B"		

PROBLEMS IN CURRENT PREGNANCY - PART C

SCORE		1st Visit
2	Diagnosis of large for dates	
3	Diagnosis of small for dates	
2	Polyhydramnios or oligohydramnios	
3	Multiple pregnancy	
3	Malpresentations	
2	Membranes ruptured before 37 weeks	
1	Bleeding 0-20 weeks	
3	Bleeding 20-40 weeks	
2	Pregnancy Induced Hypertension	
1	Proteinuria > 1 +	
1	Gestational diabetes documented	
3	Blood antibodies (Rh, Anti C,	
	Anti K, etc)	
1	Anaemia (< 100 g per L)	
1	Pregnancy ≥ 42 weeks	
1	Poor weight gain (26 - 36 weeks < 1/2	
	Kg/week) OR weight loss	
	Subtotal "C"	

*Total Score:

A+B+C Initial Visit _____

*Low Risk = 0 - 2
High Risk = 3 - 6
EXTREME Risk = ≥ 7

Based on criteria established by the Reproductive Care Committee of the Alberta Medical Association.

APPENDIX C

Information Letter to Potential Subjects

RESEARCH STUDY TITLE: The Developing Mother-Child Relationship in a High-Risk Pregnancy

NAME OF RESEARCHER: Karen McGeary, RN
Master in Nursing Candidate
Faculty of Nursing
University of Alberta
Phone: 430-6733

ARE YOU BETWEEN 4 AND 5 MONTHS PREGNANT? ARE YOU INTERESTED IN VOLUNTEERING TO PARTICIPATE IN A RESEARCH STUDY?

The purpose of this study is to learn about the pregnant woman's experience with her unborn child in getting to know one another. I would like to talk to you about the study to find out if you might be interested in being in this study.

Pregnant women who agree to be a part of this study will be asked to talk about their experience in getting to know their unborn child and it will be like an informal discussion. Discussions will take place four times in the pregnancy for about an hour each time. The first discussion will take place during the 5th month of this pregnancy, and then at 7 months, 9 months, and 2 weeks after delivery. The discussions will take place in your home (or another suitable location) at a time convenient to you.

I will phone you in about one week's time to find out if you are interested in knowing more about this study. My phoning you to further explain the study does not mean that you agree to be in the study. After I have explained the study to you, you can decide if you would like to be a part of this study.

APPENDIX D

Demographic Data Sheet

In order to help me understand my findings I would like you to provide me with some personal information. If there are questions you do not want to answer, please let me know. All information will be handled in a confidential manner and although the information will be included in the final report, it will be done so that you will not be identified.

How old are you? _____
What is your marital status? _____
What is your ethnic background? _____
What is or was your occupation? _____
If unemployed: Is your unemployment intentional? _____

_____

What was the highest education you obtained?

___ grade school
___ junior high school
___ high school
___ post secondary school
___ university - how many years ____
highest degree _____

In which of the following categories does your family income fall?

___ less than $5,000
___ $5,000 to $10,000
___ $10,000 to $20,000
___ $20,000 to $50,000
___ more than $50,000

What are the first names and date of birth of each child in your family?

Name Date of Birth

_____

Did you have any complications with your past pregnancies? If so, please elaborate.

_____

_____

What is the due date for this baby? _____

When was your last menstrual period? _____

How many weeks pregnant are you now? _____

APPENDIX E

Sample Interview Guide

1. Tell me about what has been going on in this pregnancy.

2. What does it mean to you to be told that your pregnancy is high-risk?

3. How have your expectations of this pregnancy changed because of the high-risk label?

4. How might you have felt differently if your pregnancy had no-risk?

5. Tell me about you and your baby.
   Probe: contact with

6. What things do you feel are influencing how you relate to your baby?

Probes will be used:

Examples: .... and then?
Could you tell me more about that? Why?

As will generality statements:

Examples: Some people feel the unborn child has a unique personality.
What do you think about this idea?

APPENDIX F

Informed Consent

RESEARCH STUDY TITLE: The Developing Mother-Child Relationship in a High-Risk Pregnancy

NAME OF RESEARCHER:
Karen McGeary, RN
Master in Nursing Candidate
Faculty of Nursing
University of Alberta
Phone: 430-6733

ADVISOR:
Dr. V. Bergum
Associate Professor
Faculty of Nursing
University of Alberta
Phone: 492-6676

PURPOSE OF THE STUDY:

To learn about the pregnant woman's experience with the unborn child in getting to know one another when the pregnancy is diagnosed as high-risk.

PROCEDURES AND RISKS:

Pregnant women diagnosed as high-risk will be asked if they want to be a part of this study.

All pregnant women in this study will be asked to talk about their experience in getting to know their unborn child and it will be like an informal discussion. Discussions will take place 4 or more times in the pregnancy for about 1 hour each time. The total time involved in the study will be about 4 hours. The first discussion will take place during the 5th month of this pregnancy, and then at 7 months, 9 months, and 2 weeks after delivery. The discussions will take place in the pregnant woman's home at a time convenient to her. If a place other than the home is better, then a different location will be arranged. The discussions will be tape recorded and a written record made.

There are no known health risks resulting from participating in the study. This study will provide information which will be useful in the future to nurses working with childbearing families.

VOLUNTARY PARTICIPATION:

I want you to know that you do not have to be in this study. If you decide to be in the study, you can drop out at any time that you want to, just let me know. Your care will not change whether or not you are in this study.

CONFIDENTIALITY:

Your name and what you say will be kept confidential. Any articles or talks about this study will not describe you. A number will be assigned to the written record rather than your name. Your name, code number, and data will be kept in a locked drawer. Your name and address will be destroyed at the end of the study. The written records will be kept in a locked location. I will be happy to answer any questions now. If you have any questions later, you can contact me or Dr. Bergum. Results of the study will be available by contacting the researcher.

PARTICIPANT'S STATEMENT:

I, _____, have read this information and agree to be in the study called "The Developing Mother-Child Relationship in a High-Risk Pregnancy". I have received a copy of this consent form.

_____ _____

(signature of participant) (date)

_____ _____

(signature of researcher) (date)