VICARIOUS EXPERIENCE: A SOURCE OF SELF-EFFICACY FOR BIRTH

DISSERTATION

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By

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* * * * *

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ABSTRACT

Vicarious experiences constitute a source of information regarding self-efficacy for the task of giving birth. What influence does the vicarious experience of witnessing birth have on the childbirth self-efficacy of pregnant women anticipating their first birth? Both qualitative and quantitative methods were used in this nonexperimental study that compared pregnant, nulliparous women who had a prior live modeling vicarious birth experience with women who had not had this experience on self-efficacy percepts for labor and birth. Selected antepartal, intrapartal, and postpartal variables were examined.

One hundred fifty-nine women recruited from six nurse-midwifery practices participated in the study. Major quantitative findings included (a) no group differences in mean self-efficacy expectancy scores between women who had a prior live modeling vicarious experience and those who had not, (b) no relationship between the value of the live modeling vicarious birth experience and social comparison to the birth model to self-efficacy, (c) generalized childbirth expectations explained 25% of the variance in childbirth self-efficacy, and (d) a woman's satisfaction with her birth experience and the attribution of labor and birth performance to the woman's own efforts explained 23% of the variance in self-efficacy for a future labor and birth.

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Thematic analysis was used to examine the conversations of eight women about their witnessed birth experiences. Identified qualitative themes were (a) witnessed birth—embedded in relationship, (b) witnessed birth—giving witness to giving birth, (c) anticipating birth—planning for the unknowable, (d) anticipating birth—social influences, and (e) a special category of birth observer—women health-care workers. Implications for the application of self-efficacy theory to the area of childbirth, for clinical practice, and for future research are discussed.

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Dedication

I would like to dedicate this dissertation to:

My family for their never-ending love and support—my husband, Alan McEvoy; my children, Kyle and Katy McEvoy; my parents, Lloyd and Carol Farley; and my sister, Becky Doherty.

The women who entrust their care to midwives and the babies who we are privileged to welcome into this world.

The midwives who so inspired me by their excellence and enthusiasm to take this path.

"If I have seen further, it is by standing on the shoulders of giants."

Sir Isaac Newton

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The midwives who allowed me to come to their practices and worked with me to complete this project.

The women who so graciously gave of their time and their experiences so that we might better understand.

Lynn Blunier for giving me the gift of time when I needed it most and for lovingly caring for my children.

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CHAPTER 1

VICARIOUS EXPERIENCE: A SOURCE OF SELF-EFFICACY IN BIRTH

Introduction

Birth is a psychophysiological event embedded in social processes. For most of the 4 million American women who give birth every year (Horton, 1995), this event is normal and healthy. Giving birth is an important developmental milestone in a woman's life with sequelae for mother, child, and family that extend beyond the birth event itself. The birth of a child, particularly the first child, is a marker event in a life history. Time is measured before children or after children. Women carry vivid memories of their birth experiences throughout their lives (Simkin, 1991, 1992, 1996). For many first-time mothers, the act of giving birth represents the first tangible act of mothering.

Most often, labor and birth are cause for celebration—a baby will be born! Yet, labor and birth are inherently stressful processes to both mother and fetus. This stress serves an adaptive function for both mother and baby when maintained at moderate levels. For example, catecholamines promote absorption of the amniotic liquid in the newborn's lungs and assist the newborn in temperature maintenance through mobilization of glucose stores (Gabbe, Niebyl, & Simpson, 1991). Birth is an arduous event that requires of women physical and emotional stamina—it requires the ability to

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perform certain tasks, such as relaxation, breathing, and expulsive effort, under continually intensifying conditions of uterine contractions, pelvic pain, and pelvic pressure.

It is "common wisdom" among those who assist women through the travails of labor and birth that confidence is an important asset to the birthing process. A confident woman, one who has faith in her ability to prevail no matter what circumstances she is given, will call forth the coping behaviors and emotional stamina that will see her to a successful outcome. But what is known about critical life experiences that enhance or diminish the development of confidence for labor and birth in women?

Formal childbirth education classes have been found to be related to higher confidence levels in pregnant women (Crowe & VonBaeyer, 1989; Walker & Erdman, 1984). Childbirth classes alter perceived confidence in women through teaching effective strategies for dealing with the stressful task, such as breathing and relaxation techniques and pain management strategies. Aside from this, however, there have been no systematic studies examining life experiences that enhance or diminish a woman's confidence for labor and birth. Hampering knowledge development in this area has been the lack of a theoretical perspective from which to explore the development of confidence as a factor affecting the birth experience.

The studies of Lowe (1991a, 1991b) and Manning and Wright (1983) have conceptualized confidence as self-efficacy, a component of social cognitive theory. Efficacy beliefs are an important mediator of human behavior. Self-efficacy is a dynamic cognitive process that is an individual's evaluation of her own capabilities to cope with a

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stressful situation and perform required behaviors (Bandura, 1977a, 1995, 1997). It is important to note that self-efficacy beliefs can be modified. Consistent with self-efficacy theory, the four sources of self-efficacy information are performance accomplishment, vicarious experience, verbal persuasion, and visceral arousal. Performance accomplishment—in this area of inquiry, the prior experience of labor and birth—is the most influential source of efficacy information because this previous birth provides the parturient with authentic evidence of her abilities (Bandura, 1997). In nulliparous pregnant women (women who had not previously given birth), performance accomplishment is eliminated as a source of self-efficacy information. For these women, vicarious experiences theoretically would be the most powerful predictors of self-efficacy.

Bandura's social learning account of the value of vicarious experiences in human learning has received substantial empirical and theoretical support (Bandura, 1995, 1997; Lawrance & McLeroy, 1986; O'Leary, 1992). Observing others performing a stressful task provides the observer with information regarding specific coping skills and the belief that "if others can do this, perhaps I can, too." Live modeling vicarious experiences are those in which the observer is present during task performance—for example, attendance at another woman's labor and birth. Symbolic modeling vicarious experiences are symbolic representations of the performance—for example, through videotapes of labor and birth shown in childbirth classes or through verbal accounts of friends and families' labor and birth stories.

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Until recently, live modeling vicarious birth experiences have been restricted for women, because most American births occur in the hospital where policies have limited the presence of family and friends. Due in part to consumer pressures, however, hospital policies are slowly changing to allow the laboring woman more choice in who may attend her birth. While the number of women who have witnessed a birth prior to their own childbirth experience is still relatively small, that number gradually is growing. Symbolic modeling vicarious experiences, however, are abundant, and American women will have encountered numerous birth films, books, and stories of others' birth experiences prior to their own childbirth experience.

The purpose of this nonexperimental comparative study was to examine the effects of a live modeling vicarious birth experience on the self-efficacy percepts for labor and birth of pregnant, nulliparous women. This group of women was compared on selected variables to a group of pregnant, nulliparous women who have only been exposed to symbolic modeling vicarious birth experiences. The extent to which the live modeling vicarious birth experience is a source of confidence for labor and birth was explored. Additionally, selected antecedent and intervening variables and the effects of performance accomplishment were examined. Both quantitative and qualitative methods were used to answer the following research hypotheses and questions.

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Research Hypotheses

Hr_1: There will be a difference in self-efficacy for labor and birth between pregnant, nulliparous women exposed to a live modeling vicarious experience and those exposed only to symbolic modeling vicarious experiences.

Hr_2: There will be positive relationships between self-efficacy for labor and birth and the value attached to the live modeling vicarious experience and social comparison to the birth model.

Research Questions

1. What are the relationships between selected antecedent and intervening variables (e.g., fear of labor and birth, preparation for childbirth, childbirth expectations) and self-efficacy for labor and birth in women exposed to a live modeling vicarious experience, and for those exposed only to symbolic modeling vicarious experiences?

2. What are the relationships between selected performance accomplishment marker variables (e.g., postpartum perceptions of the birth experience, length of labor, use of anesthesia and/or analgesia, route of birth, and infant Apgar score) and self-efficacy for labor and birth for subsequent pregnancies in women exposed to a live modeling vicarious experience and those exposed only to symbolic modeling vicarious experiences?

3. What is the meaning of the live modeling vicarious experiences to nulliparous, pregnant women?

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Definitions of Terms

Childbirth expectations – beliefs held by the parturient regarding her impending childbirth experience. This is operationalized as the score on the Childbirth Expectation Questionnaire (CEQ) (Gupton, Beaton, Sloan, & Bramadat, 1991).

Fear of childbirth – the physiological arousal state and psychological processes elicited in anticipation of the possibility of impending danger associated with labor and birth. This is operationalized as the score on the Childbirth Attitudes Questionnaire (CAQ) (Harman, 1988).

Importance to performance during labor and birth – to whom or what the woman attributes her performance during labor and birth. This is operationalized as a rank order score on the Importance Questionnaire (developed by the researcher for this project).

Infant Apgar score – a standardized evaluation of the newborn infant for heart rate, respiratory effort, color, overall muscle tone, and reflex irritabiiity. Apgar scores are assigned at 1 minute and 5 minutes of age. This is operationalized as the Apgar score as recorded in the labor and delivery chart.

Length of labor – the time lapsed from the onset of regular uterine contractions to the expulsion of the products of conception. Labor is divided into three discrete phases. The first stage of labor is from the onset of regular uterine contractions to full cervical dilatation (10 centimeters). The second stage of labor is from full cervical dilatation to the complete expulsion of the infant. The third stage of labor is from the complete expulsion of the infant to the complete expulsion of the placenta. This is operationalized as the length of labor as recorded in the labor and delivery chart.

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Live modeling vicarious birth experience – labor and birth performed by a live human model in the presence of the woman who observes the performance. This is operationalized as a participant's report of prior attendance at another woman's labor and birth.

Outcome expectancy – the belief that a given behavior will produce a certain outcome. This is operationalized as a score on the Outcome Expectancy Scale of the Childbirth Self-Efficacy Inventory (CBSEI) (Lowe, 1993).

Route of birth – the mechanism by which birth is accomplished. The most common route of birth is spontaneous vaginal birth. Other routes of birth include the operative births—forceps, vacuum assisted, or Cesarean section (as reported by the midwife). This is operationalized as the route of birth as recorded in the labor and delivery chart.

Satisfaction with birth – the birth as experienced through the senses and as understood by the parturient to be a positive experience. This is operationalized as the score on the Perceptions of Birth Scale (POBS) (Marut & Mercer, 1979).

Self-efficacy – a dynamic cognitive process involving the individual's beliefs regarding her own capabilities to undertake a stressful task—in this case, labor and birth—and perform required behaviors (Bandura, 1977a). This is operationalized as the score on the Self-Efficacy Expectancy Scale of the Childbirth Self-Efficacy Inventory (CBSEI) (Lowe, 1993).

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Social comparison – the woman's perceived social comparison with the birth model. This is operationalized as the score on the Social Comparison Visual Analogue Scale (SC-VAS, developed by the researcher for this project).

Symbolic modeling vicarious birth experience – labor and birth represented through symbolic media, such as the written or spoken word, pictures, or videotape, to which the woman is exposed. This is operationalized as the score on the Childbirth Preparation Scale (CPS) (Beaton, 1986).

Use of pain relief techniques, including analgesia and/or anesthesia – the use of any pharmaceutical or nonpharmaceutical technique or coping strategy for the elimination or relief of pain. This is operationalized as the use of pain relief techniques, including analgesia and/or anesthesia used during labor and birth as recorded in the labor and delivery chart.

Value attached to the live modeling vicarious experience – the perceived value of the experience of having been present at another woman's labor to the subject. This is operationalized as the score on the Live Modeling Birth Experience Visual Analogue Scale (LMBE-VAS, developed by the researcher for this project).

Significance

Confidence, conceptualized as self-efficacy, is postulated to mediate health in two important ways. The first way is the use of health-promoting behaviors. Achieving personal health goals takes the adoption of new behavior patterns, their generalized use under different circumstances, and persistent use over time (Bandura, 1995, 1997).

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First-time laboring women will find themselves trying out new behaviors in dealing with their labors, will find increasingly intensifying conditions, and will need to persist in the use of coping skills over the length of labor. The second way confidence mediates its effects on health is through the activation of the physiologic stress response (Bandura, 1995, 1997). Exposure to stressors, coupled with the perceived ability to control them, is associated with little or no adverse physiologic change (Bandura, Taylor, Williams, Mefford, & Barcas, 1985). Exposure to stressors without such confidence activates neuroendocrine, catecholamine, and opioid systems and impairs immune functioning. The effects of excessive catecholamine production, particularly epinephrine, on the laboring woman include dysfunctional uterine contractions, prolonged labor, decreased uteroplacental blood flow, increased anxiety, and increased pain (Simkin, 1986a, 1986b).

Pain in labor is a phenomenon toward which many antepartal and intrapartal interventions are directed (Lowe, 1991a). Fear of labor pain can affect a nulliparous woman's confidence as she prepares to give birth. Because of the dynamics of the physiology of labor, pharmacological interventions for pain are associated with increased risk for adverse effects on mother and fetus, and for interference with the process of labor, including increased incidence of operative delivery. Because a National Health Promotion and Disease Prevention Objective is a reduction of the primary Cesarean section rate to 12% annually (Department of Health & Human Services, 1991), it is appropriate to study psychophysiological relationships that are postulated to mediate the stress response and perceptions of pain. This may then reduce the need for medical intervention and iatrogenic sequelae in healthy, childbearing women. At the mid-course

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review of the Healthy People 2000 goals, there has been only 20% improvement toward the targeted Cesarean section rate (Department of Health & Human Services, 1996).

The self-efficacy theory offers specific strategies to enhance self-efficacy percepts for labor and birth through an understanding of the contributions of the various sources of self-efficacy information. With such an understanding, health-care providers can better assist a woman to prepare for and enter labor with the belief that "she can do it!" This state of high self-efficacy may moderate the psychological stress of labor and birth, thus producing a sense of mastery in the parturient. Further, a woman who has confidently faced and successfully mastered the stressors inherent in labor and birth may more confidently take on the role of mother (Mercer, Ferketich, May, & DeJoseph, 1986). Maternal confidence has been related to care-giving and attachment behaviors with the infant, thus affecting the infant's emotional and physical well-being (Koniak-Griffin, 1993), which in turn has the potential to affect the whole family.

Both psychological and physiological health outcomes for mother and baby are linked to prenatal processes. Health promotion is a preventive aspect of prenatal care and includes interventions to reduce psychosocial and physiological risk (Public Health Service, 1989). It is essential that scientists seek to fully understand the mind-body connections implicated in the development of confidence or self-efficacy for labor and birth. From this understanding, effective assessment and intervention strategies can be developed.

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Philosophical Approach

Birth, a psychophysiological event embedded in social processes, is a powerful and fundamental event in the life history of a woman. Many profound changes occur within the individual woman and within her family structure during the childbearing process. These changes call for an approach to care that is concerned with more than just screening for pathology. These changes call for an approach to care that is based on a relationship of trust and mutual respect between care providers and the women they serve, and a provision of services that addresses psychological, social, and spiritual needs, in addition to biological needs—an approach to care that is reflected in the Midwifery Model of Care (Rooks, 1997).

Midwives are educated to recognize medical risks and emergent problems in childbearing women. Depending on the condition and its severity, a midwife will independently manage the situation, collaborate with a physician consultant, or refer the woman for care to the appropriate health professional (Varney, 1997). But beyond meeting her physical needs, the midwife will work with a woman in the context of a developing relationship to support her to "achieve her own goals and hopes for her pregnancy, birth and baby, and for her role as mother" (Rooks, 1997, p. 2). Midwives seek not only safe passage for both mother and baby, but also the promotion of psychological health and resiliency that will assist a woman in facing the challenges of the long process of nurturing her newborn child to maturity.

This study is grounded in the tenets of the Midwifery Model of Care (Rooks 1997). Far too little research attention has been given to the interface of the mind and

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the body in the area of pregnancy, labor, and birth. This study builds on the previous work of Bandura (1977b, 1997), Lowe (1991a, 1991b), and Manning and Wright (1983). This study seeks to move an understanding of the mind-body connections in the context of pregnancy, labor, and birth away from mere philosophical discourse and place it squarely within the realm of scientific inquiry.

Presentation

The option of presenting several dissertation chapters as manuscripts was chosen to further the process of publication after completion of the dissertation. Because of this choice of presentation, there is some redundancy among chapters. With the approval of the committee, the presentation is as follows:

Chapter #1 traditional introduction

Chapter #2 manuscript presentation of the theoretical framework and literature review

Chapter #3 traditional methodology section

Chapter #4 manuscript presentation of the qualitative results

Chapter #5 manuscript presentation of the quantitative results

Chapter #6 triangulation of results and summary

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CHAPTER 2

ENHANCING CHILDBIRTH CONFIDENCE AS A FACET OF THE ART OF MIDWIFERY: A REVIEW

This chapter is presented in manuscript form; it will be submitted to the Journal of Nurse-Midwifery. The intended audience is midwives; therefore, the language is directed toward this group of professionals.

Abstract

Midwives seek not only safe passage during labor and birth for both mother and baby but also the promotion of psychological health and resiliency that will assist a woman as she faces the challenges of the long process of nurturing her newborn child to maturity. Confidence is an important aspect of psychological health. This paper presents a review of confidence for labor and birth, conceptualized as self-efficacy. Sources of confidence for labor and birth are explored, the relationship of confidence to behavior and outcomes is examined, and strategies for enhancing childbirth confidence are offered.

MeSH Headings

self-efficacy; confidence; childbirth; midwifery; pregnancy

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Significance

It is common wisdom among those who assist women through the trials and travails of labor and birth that confidence is an important asset to the birthing process (Chester, 1997). Birth is an arduous event that requires of women physical and emotional strength and the ability to perform certain behaviors—such as relaxation, breathing, and expulsive effort—under continually intensifying conditions of uterine contractions, pelvic pain, and pelvic pressure. A confident woman—one who has faith in her ability to prevail no matter what circumstances she is given—will call forth the coping behaviors and the emotional stamina that will see her through the stress of labor and birth to the wondrous first moments of holding her newborn. Midwives explicitly "value the art of encouraging the open expression of...strength [developed during pregnancy] so women can birth unhindered and confident in their abilities" (MANA Statement of Values and Ethics, as cited in Chester, 1997, p. 281).

The medicalization of childbirth has had unfortunate consequences on the development of childbirth confidence in the current generation of childbearing women. The pervasiveness of technology in the prenatal office and in the hospital has fostered increasing alienation from women's experiences of maternity as a natural, intimate creative act and has increased women's dependence on medical experts and prenatal diagnostic techniques to validate that their bodies are functioning normally (Sandelowski, 1988). The estrangement of women from childbirth began in the 1920s when the birthplace moved from home to hospital (Wertz & Wertz, 1977). The centuries old

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practice of passing knowledge about childbirth from mother to daughter continues, but this knowledge now reflects the birth experiences of the past generation of mothers—forced separation from loved ones during labor and birth, drugs that robbed women of the conscious experience of their birth, and surrender of the authority and power of birth to the medical establishment. The collective history of these types of birth experiences undermines the confidence of the current generation of childbearing women and erodes trust in the process of birth. Given today's highly regulated hospital birth environment, rapid technological developments, and dominant medical model of birth, is it any wonder that many American women have lost touch with their natural abilities to nurture and bring forth new life?

The art of midwifery is in transformation. A woman comes to a midwife for care, and the two enter into a relationship that will transform them both. Certain aspects of this midwifery art are not easily articulated or reduced to numeric representations; however, it is a mistake to think that these aspects are not able to be studied in a scientific manner. Science informs the art; art gives human form to the science (Peplau, 1988). The concept of confidence is an important one for midwives to explore both scientifically and through personal reflection. What does science tell us about confidence for childbirth? How do I, as a midwife, best use my gifts and skills toward enhancing childbirth confidence in the women I serve? Examination of confidence for labor and birth fostered in the midwifery model of care may yield insights and suggest methods to assist the parturient woman in reclaiming the body wisdom, the sense of strength, and the power of creation that dwells within her.

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The Mind-Body Connection

Midwives have never embraced the Cartesian notion of the separation of mind and body. Those who are privileged to be with woman as she develops through pregnancy and prepares for giving birth know that there is no such separation. "As a woman lives, so shall she give birth" (Peterson, 1984, p. 3). And yet how does a product of the mind, such as a thought or belief, translate into a physical effect? Confidence is postulated to mediate health in two important ways—ways in which the mind sets the stage for the body's response. The first way is through the use of health-promoting behaviors (Bandura, 1995, 1997). Achieving personal health goals takes the adoption of new behavior patterns, their generalized use under different circumstances, and persistent use over time. Laboring women will find themselves trying out new behaviors in dealing with their labor, will find increasingly intensifying conditions, and will need to persist in the use of coping skills over the length of labor.

The second way confidence mediates its effects on health is through the activation of the physiologic stress response. Exposure to stressors with the perceived ability to control them is associated with little or no adverse physiologic change. Exposure to stressors without such confidence activates neuroendocrine, catecholamine, and opioid systems and impairs immune functioning (Bandura et al., 1985). The effects of excessive catecholamine production on the laboring woman include dysfunctional uterine contractions, prolonged labor, decreased uteroplacental blood flow, increased anxiety, and increased pain (Simkin, 1986a, 1986b).

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Pain in labor is a phenomenon toward which many antepartal and intrapartal interventions are directed (Lowe, 1991a). Pain during labor and birth is the result of a complex and subjective interaction of multiple physiologic and psychosocial factors on a woman's individual interpretation of labor stimuli (Lowe, 1996). Because of the dynamics of the physiology of labor, pharmacological interventions for pain are associated with increased risk for adverse effects on mother and fetus and for interference with the process of labor, including an increased incidence of operative delivery. Because a National Health Promotion and Disease Prevention Objective is a reduction of the primary Cesarean section rate to 12% annually (Department of Health & Human Services, 1991), it is appropriate to study psychophysiological relationships that are postulated to mediate the stress response and perceptions of pain. This may then reduce the need for medical intervention and iatrogenic sequelae in healthy, childbearing women. At the mid-course review of the Healthy People 2000 goals (Department of Health & Human Services, 1996), there has been only 20% improvement toward the targeted Cesarean section rate. It is unlikely that further improvement toward this goal will occur without serious research attention given to the interface of the mind and the body in the area of pregnancy, labor, and birth.

Self-Efficacy: A Theoretical Framework for Confidence

Confidence for labor and birth can best be conceptualized as self-efficacy (Lowe, 1991b). Self-efficacy is a dynamic cognitive process that is an individual's evaluation of her own capabilities to cope with a stressful situation and perform required behaviors

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(Bandura, 1977a). Two components of self-efficacy are outcome expectancies and self-efficacy expectancies. The belief that a given behavior will produce a certain outcome is the outcome expectancy and the antecedent to choosing to perform a difficult task. Outcome expectancies can be influenced by hope, wishful thinking, belief in the potency of the procedure, and trust in the therapist [or midwife] (Bandura, 1977a).

An individual can believe that a particular course of action will produce a desired outcome but may question whether she has the ability or resources to perform those actions. Outcome expectancies alone will not lead to a given behavior. In other words, believing that something can be done does not automatically translate into the belief that 'I can do it, too.'

Self-efficacy expectancy is the belief that the individual herself can successfully complete the behavior required to produce the outcome (Figure 1). Self-efficacy expectancies vary along three dimensions that have implications for both behavioral performance and measurement (Bandura, 1977a). The first dimension–magnitude–refers to the relative difficulty of a component behavior of a specific task compared to others in a hierarchy. For example, the task of coping with labor is composed of component behaviors, a few of which are the ability to relax, to use breathing techniques during contractions, and to maintain control. A woman may believe that breathing techniques will be the easiest behavior for her to perform, maintaining control will be moderately difficult for her, and relaxing will be the most difficult for her.

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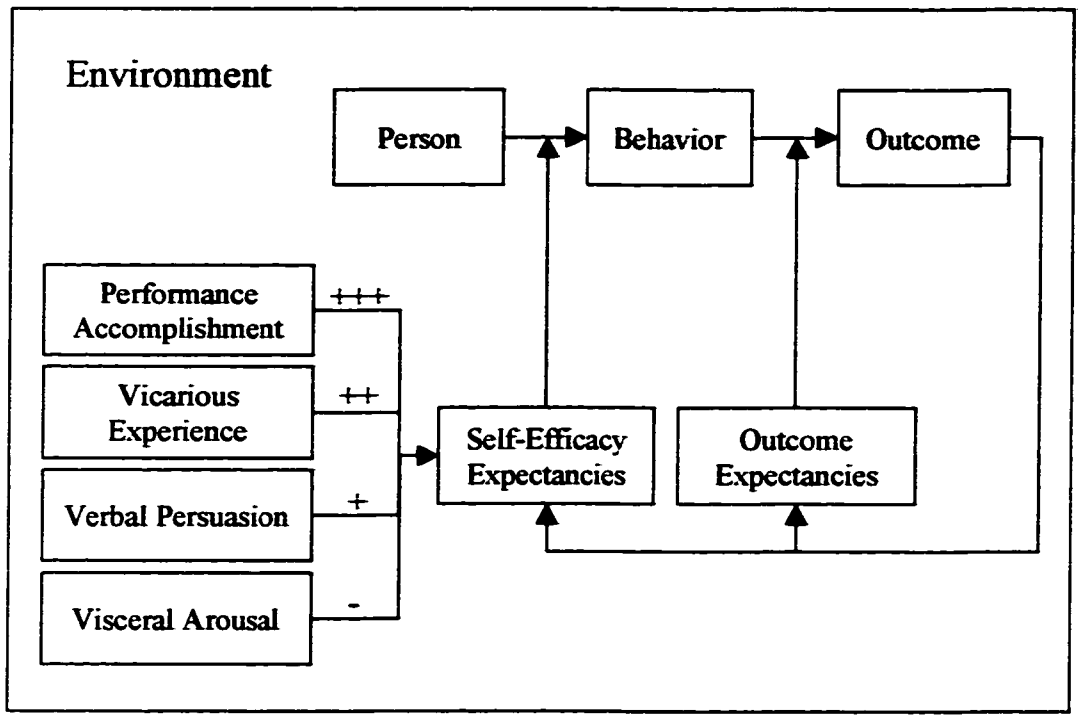

Figure 1. Conceptual Map of Reciprocal Components of Self-Efficacy
Adapted from Bandura, 1997

Strength is the second dimension of self-efficacy expectancy and is the degree of certainty a woman has in her ability to perform the required task. Strength also refers to the ability to maintain expectations during disconfirming experiences. An example of this would be the endurance of a woman's belief in her ability to cope with the pain of labor during the height of a uterine contraction. This is the test of the belief in the stressful situation; this is where beliefs mediate behavior. A woman without strong beliefs in her own abilities is more likely to abandon her efforts to persist in the use of nonpharmaceutical pain relief techniques during active labor.

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The third dimension of self-efficacy expectancies is generality, which is "the applicability of efficacy experiences to other contexts" (Lust, Celuch, & Showers, 1993, p. 1427). There is some evidence that self-efficacy for related or similar tasks may be transferable. For example, "prior experience with non-gynecological pain may modulate pain during labor through psychological mechanisms, such as increased coping skills" (Lowe, 1991a, p. 195). Of these three hypothesized dimensions of self-efficacy, generality is typically not measured because the predictive value of self-efficacy is at the level of the particular task (Bandura, 1977a). In other words, one can be a generally confident person but have little or no confidence to accomplish certain specific tasks. Therefore, the measurement of confidence or self-efficacy should be specific to the behavior of interest—in this instance, coping with labor and birth.

Sources of Self-Efficacy

There are four sources of self-efficacy information that affect an individual's self-efficacy expectancies (Bandura, 1977a) (Appendix A). The first and most potent source of self-efficacy information is performance accomplishment. Simply put, if a person has performed the task successfully in the past, she is more likely to believe she can do it again. Therefore, a woman's previous experiences with childbirth have a powerful influence on her beliefs that she can cope with labor again. Performance accomplishments are the most reliable source of self-efficacy expectations because they are based on the individual's own personal experiences of mastery or failure for the given task. Midwives are very familiar with the power of performance accomplishment in

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shaping a woman's confidence for childbirth—witness the psychological healing work needed with women who have had a prior "nightmare" birth experience.

The second source of self-efficacy information is vicarious experience. If a person is exposed to others' successful achievement of a particular task, then she is more likely to think "I can do that, too," particularly if she identifies with the model. Vicarious experiences can be categorized into live modeling versus symbolic modeling vicarious experiences. Live modeling experiences are those experiences in which the individual is a direct observer, i.e., physically present at the model's performance of the task. Women who have been present at the birth of a friend or family member (live modeling vicarious experience) would presumably have a strong identification with the laboring woman, either due to social similarities, affectional ties or, most likely, both. This, combined with the sensations, behaviors, emotions, and physiological arousal generated by the unfolding drama of labor and birth, would make a live modeling vicarious experience theoretically a more potent influence on a woman's self-efficacy beliefs (Craig, 1968); however, this type of vicarious experience in our culture is less available to most women than are symbolic modeling vicarious experiences.

Symbolic modeling vicarious experiences are representations of the task in symbolic form, e.g., through the written word, pictures, videos, verbal accounts. Because symbolic modeling vicarious experiences are more plentiful in our culture, they could be assumed to have a pervasive effect on American women and their beliefs about their birth capabilities. Unlike drugs or physical manipulations, symbolic experiences cannot contribute so directly to the physiological process of labor and birth. Symbolic

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experiences exert their effects through elicitation of images in the parturient's mind, interpreted through the shared meanings and associations of the symbolically enacted task (Bates & Turner, 1985). These, when invoked, promote certain behaviors or emotional states that may affect the physiology of labor and birth. Playing with dolls as young girls, sharing dreams about becoming a mother, hearing women's birth stories, attending childbirth classes, and watching birth films all are examples of symbolic modeling vicarious experiences. Worthy of special mention here is the influence of the media, in particular, the ubiquitous television set. Labors depicted on television are necessarily condensed, over-dramatized events. The woman is shown as fine one moment, writhes in agonizing pain in the next moment, and has a baby in her arms in the next moment. Nothing could be further from the truth for the vast majority of women. Labor is long, arduous, and tedious. These unrealistic depictions impart an erroneous view of the realities of birth and, as such, are a disservice to women.

Verbal persuasion is the third source of self-efficacy information. This is the encouragement or discouragement received from others related to the individual's ability to perform the task at hand. "Yes, you can do it!" can positively impact a person's perception of her ability. The nonverbal cues given by the persuasive others may or may not be consistent with the verbal messages given and can therefore enhance or dilute the effectiveness of this source of self-efficacy information. Self-efficacy expectancies based on verbal persuasion are likely to be weak and short-lived because expectations are created without an underlying authentic experiential base to support them (Bandura, 1977a). Effective verbal persuasion can be rendered only by those who make the

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commitment to be "with woman" throughout her labor, as these signs of discouragement must be recognized and addressed immediately as they occur. The short-lived positive effects of verbal persuasion—"You can do this, you are doing this!"—may need to be repeated many times to combat the undermining physical sensations of transitional labor.

Visceral arousal is the fourth and final source of self-efficacy information. Visceral arousal is the physiological response produced by autonomic arousal that may occur while anticipating or experiencing a stressful situation (Bandura, 1977a). These internal cues are often seen by the individual as signs of impending failure. As such, this arousal state may be detrimental to performance. Common physical signs and symptoms during labor include rapid heart rate, panic, nausea, flushing, fatigue, and pain (Lowe, 1991b). These physiological cues may serve to undermine self-efficacy and impair performance. Midwives often assist the laboring woman to reinterpret these potentially discouraging signs and symptoms as normal, encouraging signs of progress. Again, this assistance can only be rendered by those who make the commitment to be "with woman" throughout her labor, as these discouraging physical signs and symptoms must be addressed and reinterpreted as they occur—"This is normal; this is progress; it won't be long now."

Self-efficacy is a major determinant of whether an individual will even attempt to deal with a difficult situation (Bandura, 1977a). Yet it is doubtful that women are consciously agreeing to undertake the stressful tasks of labor and birth when involved in the act of conception, particularly given that many pregnancies are unintended. While labor and birth are part and parcel of bringing a child into the world, it is the touchstone

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of the ultimate outcome, a healthy newborn baby, that for most women, is the reason for bearing the stress and pain of labor and birth (Kelpin, 1984).

Once the stressful task is undertaken, an individual's self-efficacy expectancies will influence the amount of effort and degree of persistence she will apply to the task. While self-efficacy beliefs are functionally related to behavior, there are many factors that influence the strength of this relationship. The following variables are thought to affect the relationship between self-efficacy beliefs and performance (Bandura, 1982):

- faulty self-knowledge;
- misjudgment of task requirements;
- unforeseen situational constraints on action;
- disincentives to act upon one's self-efficacy beliefs;
- inadequate or incorrect assessments of personal ability; and
- new experiences that can prompt reappraisals of self-efficacy in the time prior to action. (p. 197)

Labor and birth represent unique applications of self-efficacy theory. Unlike many other stressful events, labor cannot be avoided or stopped, once begun. And the course of labor for any given woman is fundamentally an unknown (Lowe, 1991b). Additionally, there is no single externally defined right way to give birth. Performance during labor and birth will be judged by the woman herself against her own expectations of her ideal performance during labor and birth.

Literature Review

Self-efficacy has been examined in relation to a wide and varied range of behaviors—from smoking cessation to diet control to career choice to starting a lawnmower! A literature search was accomplished by searching in the databases of

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Medline, CINAHL, and PsycFirst. An Internet search of the term "self-efficacy" revealed 9,458 references. The interested reader is referred instead to two books that summarize the theory and many of the lines of research in the area of self-efficacy. These are Self-Efficacy in Changing Societies and Self-Efficacy: The Exercise of Control, both by Albert Bandura (1995, 1997), the author of self-efficacy theory (see References).

A revision of the keyword to "self-efficacy for childbirth" revealed a more reasonable 13 articles from CINAHL, 4 articles from Medline (all redundant with the CINAHL search), and 1 article from PsycFirst. The interested reader is referred to the study by Manning and Wright (1983) and the series of studies by Lowe (1987, 1989, 1991a, 1991b, 1993) as the foundational studies applying self-efficacy theory to the area of childbirth (see bibliography for complete references).

Self-Efficacy for Labor and Birth.

Manning and Wright (1983) examined self-efficacy expectancies, outcome expectancies, and persistence of pain control in childbirth, the latter defined as the time between labor onset and the time medication was received for pain relief only, i.e., no other medical indication for its use, such as forceps or Cesarean section. They found that self-efficacy expectancies predicted persistence in pain control without medication better than did outcome expectancies or importance of a medication-free birth to the woman. They also stated that self-efficacy expectancies were better predictors than seven other "predictor" variables, although two of those variables could not be used as

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predictor variables. Length of labor and route of birth are only known after birth has been accomplished and, as such, are ineffectual for prediction in the clinical setting. The other alternative predictor variables that were found to be ineffective in predicting persistence in pain control without medication were locus of control, social desirability of a medication-free labor and birth, past use of pain medication, pain control technique training, and pain control technique practice.

Confidence for labor and birth has substantial empirical support as a mediating variable in the pain experience of childbirth (Crowe & VonBaeyer, 1989; Lowe, 1987, 1989). These studies suggest an inverse relationship between confidence and pain. Lowe (1987, 1989) examined the predictive value of a number of variables—childbirth preparation, state anxiety, parity, confidence, fear of pain, and fear for self and baby—in explaining variance in childbirth pain. She found that confidence to cope with labor and birth explained more than 30% of the variance in childbirth pain. Lowe (1991b) believed that maternal confidence conceptualized as self-efficacy provided a useful theoretical framework for further study. Because this theory outlines the conceptual basis of the development of confidence in women, it provides the basis from which to design effective measurement strategies and interventions to modify self-efficacy beliefs. As a result of her program of research, she developed the CBSEI (Lowe, 1993), an instrument designed to measure both outcome expectancies and self-efficacy expectancies for labor and birth.

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Measurement of Self-Efficacy.

Prior to the development of the CBSEI, the concept of confidence or self-efficacy was measured with visual analogue scales or single-item ordinal scales (Crowe & VonBaeyer, 1989; Walker & Erdman, 1984). While reflecting the measurement theory of the particular scale, these tools lack a guiding theory regarding the construct of interest. The CBSEI is consistent with the principles of self-efficacy theory and was developed through a multi-stage process. The CBSEI (Lowe, 1993) is a self-report, 62-item instrument measuring outcome expectancies and self-efficacy expectancies for labor and birth. There are four summative subscales in the CBSEI—outcome expectancies and self-efficacy expectancies for the active phase of labor, and outcome expectancies and self-efficacy expectancies for the second stage of labor—and two summative scales—total outcome expectancies and total self-efficacy expectancies.

The CBSEI was psychometrically evaluated through a study of 351 pregnant women (Lowe, 1993). A factor analytic study supported the use of each of the four scales as single-factor scores. Criterion-related validity was supported by the demonstration of a priori hypothesized relationships. Reliability of the CBSEI was assessed through internal consistency estimates (Cronbach's alpha – range of .86 - .95) and through test-retest correlations (range of .46 - .76). The CBSEI has a reading level of grade 8 on the SMOG readability index and grade 7 on the FOG readability index (Lowe, 1993).

The CBSEI has since been used in a number of other studies investigating childbirth self-efficacy (Broussard, 1995; Dilks & Beal, 1997; Drummond & Rickwood,

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1997; Farley, 1999). Drummond & Rickwood (1997) examined the reliability and validity of the CBSEI in a sample of 100 Australian women. High internal consistency of the CBSEI was demonstrated in this sample. A factor analysis was conducted on the 62-item CBSEI to determine whether the original factor structure of this instrument held for Australian women. The researchers' conclusion that the factor structure was altered in this sample must be examined further. Lowe (1993) analyzed each CBSEI subscale separately, because of the redundancy in the items among the subscales. Including all 62 items in the factor analysis alters the theoretical dimensions of the CBSEI to discriminate differences in self-efficacy over time in labor. Furthermore, a sample size of at least 300 is recommended for factor analysis (Tabachnik & Fidell, 1996).

In a qualitative study of pregnant women planning home births, the CBSEI was used to ascertain the confidence level of the 10 respondents (Broussard, 1995). The researcher hypothesized that the level of self-efficacy would be high because choosing home birth presumably requires a great deal of reliance on self and belief in one's own abilities. However, nine of the ten women had low self-efficacy scores. The researcher concluded that the CBSEI was not a valid tool in this sample of women whose spiritual-religious/holistic world view was the cognitive matrix through which they appraised and integrated self-efficacy information for childbirth (Broussard, 1995). It is problematic to make any conclusions about a tool intended for large samples in a study of 10 women.

The effects of religious or spiritual beliefs on self-efficacy for labor and birth, however, is an interesting one to consider. Indeed, the CBSEI contains no items referring to faith-based coping strategies. In a study by this author, a significant minority

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of women made reference to their beliefs in God or a higher power as either a cognitive coping strategy they used or as a meaningful contributor to their behavioral performance in labor and birth or both (Farley, 1999). One could speculate that religious or spiritual beliefs may enhance or diminish self-efficacy beliefs, depending on whether a fatalistic attitude ("It is in God's hands") or a proactive stance ("God gives me strength") is adopted. The area of religious or spiritual beliefs and their influence on women during childbirth is an area that deserves further exploration.

Development of Self-Efficacy for Childbirth.

How does confidence for labor and birth develop in women? A woman enters pregnancy as an individual with a history, a personality, and a psychological profile—a certain way of viewing and interacting with her world. Given a wealth of life experiences that are informative sources to a woman's abilities to give birth, it is doubtful that the development of self-efficacy for labor and birth begins with the onset of pregnancy. Rather, the many and varied life experiences that provide self-efficacy information for women are reassessed at this time. Psychological attributes and mastery of developmental tasks of pregnancy may alter self-efficacy beliefs through influences on a woman's cognitive processing abilities (Bandura, 1995, 1997).

Increased knowledge has been found to be related to increased confidence. Studies have found a significant positive relationship between preparation for childbirth and confidence for labor and birth (Crowe & VonBaeyer, 1989; Walker & Erdman, 1984). After women had childbirth classes, confidence was positively related to

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knowledge of practical skills, such as breathing and relaxation techniques and pain management strategies (Walker & Erdman, 1984). As the self-efficacy theory suggests, the vicarious symbolic modeling that occurs in childbirth classes alters perceived confidence through teaching effective strategies for dealing with the stressful task (Bandura, 1977a).

Vicarious experiences constitute a source of information regarding self-efficacy for the task of giving birth. What influence does the life experience of witnessing birth have on the childbirth self-efficacy of pregnant women anticipating their first birth? A nonexperimental study by this author (Farley, 1999) compared pregnant, nulliparous women who had a prior live modeling vicarious birth experience with women who had not had this experience on the self-efficacy percepts for labor and birth. In this sample, 28.3% of the women were offered the opportunity to attend a birth. A live birth was witnessed by 25.8% of these women. No group differences in mean self-efficacy expectancy scores (saw birth, $\underline{x} = 212.1$; did not see birth, $\underline{x} = 202.0$; $\underline{p} = .131$) and no relationship between the value of the live modeling vicarious birth experience ($\underline{r} = -.035$; $\underline{p} = .41$) and social comparison to the birth model ($\underline{r} = .059$; $\underline{p} = .36$) to self-efficacy were found in this study. While the experience of witnessing birth was recognized as a valuable life experience for these women, it had no influence on self-efficacy in this sample, as measured by the study instruments. Information from the vicarious experience is integrated with other sources of self-efficacy information that influences judgments of personal abilities (Bandura, 1995, 1997). Studies examining other sources of self-efficacy information and the integration of these sources of information into a

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belief system are warranted. This study demonstrated that generalized childbirth expectations explained 25% of the variance in childbirth self-efficacy for a currently anticipated birth. A woman's satisfaction with her birth experience and the attribution of labor and birth performance to the woman's own efforts explained 23% of the variance in self-efficacy for a future labor and birth.

Correlates of Self-Efficacy.

Self-efficacy or confidence is positively related to generalized expectations of the childbirth experience and positive expectations are often rewarded with positive experiences (Beaton & Gupton, 1990; Green, Coupland, & Kitzinger, 1990). A woman who has confidently faced labor and birth perceives the birth experience more positively, begins her role as mother with more positive feelings, and exhibits more nurturant and attachment behaviors in her early interactions with her infant (Mercer, 1985). This sets a very positive stage for the beginnings of the new family.

Fear arousal is inversely related to self-efficacy (Bandura, 1980). Fear of childbirth has been found to increase with advancing pregnancy (Areskog, Kjessler & Uddenberg, 1982). Fear will induce a physiological stress response. Self-efficacy has been found to be a cognitive mediator to physiological stress reactions (Bandura et al., 1985). Subjects with high self-efficacy were found to have low levels of catecholamines during a stressful task, while those with moderate to low self-efficacy demonstrated a substantial rise in plasma catecholamines. Subjects that judged themselves completely inefficacious declined to do the stressful task, with a resultant drop in catecholamines.

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Labor and birth are stressful tasks that the pregnant woman cannot decline to do in most cases. Importantly, the low to moderate self-efficacious subjects were later given modeled experiences that led to strengthening of self-efficacy percepts. These subjects with recently increased self-efficacy then performed the stressful task, exhibiting a similar catecholamine response to the subjects with high self-efficacy. This suggests that self-efficacy can be modified through interventions with a resultant alteration of the physiological stress response.

Moderate levels of catecholamines are thought to serve an adaptive function for the laboring woman and her fetus/neonate. Norepinephrine increases with the physical activity of labor, while epinephrine increases with the psychological stress of labor (Jones & Greiss, 1982; Simkin, 1986a, 1986b). The effects of norepinephrine are excitatory with respect to uterine contractions, while the effects of epinephrine are inhibitory, followed by a rebound excitatory effect upon withdrawal in some cases (Zuspan, Cibils, & Pose, 1962). These results appear confusing and contradictory; however, when interpreted in the context of the childbirth environment and the perception of a threat, these findings have obvious evolutionary advantages. If a threat is perceived at the beginning of labor, there is an advantage in postponing the birth and being poised to "fight or flight." If, on the other hand, labor has reached the point of no return, it is an advantage to give birth as quickly as possible in what has been termed a fetal ejection reflex (Odent, 1991) and to be prepared to defend both self and baby. The stress of normal labor and vaginal birth appears to promote adaptation to extrauterine life for the fetus through the promotion of the absorption of the amniotic liquid in the lungs and

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through assistance in temperature maintenance through mobilization of glucose stores (Lagercrantz & Slotkin, 1985).

Excessive catecholamine production in labor results in several deleterious physiological effects for both mother and fetus, such as dysfunctional labor and neonatal hypothermia. What constitutes "normal" catecholamine levels in uncomplicated labor and birth is under debate. While the answer to this question remains elusive, there is agreement among those providing care to the laboring woman and her fetus that this care should be directed toward stress reduction and pain management. The enhancement of self-efficacy percepts in childbearing women is one strategy that may buffer the physiologic stress response without incurring the potential of iatrogenic sequelae of more interventive techniques. Additionally, it may offer long-term beneficial effects on maternal psychological functioning.

Because self-efficacy judgments influence the selection of personal choices and the amount and persistence of effort expended to reach a desired goal, the relationship of self-efficacy to birth choices begs scrutiny. Two important birth choices have been examined in relation to self-efficacy—the choice of attempting a vaginal birth after a Cesarean birth and the choice of epidural for pain relief (Capik, 1998; Dilks & Beal, 1997; Stern, 1997). Multiparous women choosing elective repeat Cesarean births had lower self-efficacy scores than did either primiparas or multiparas choosing vaginal births after Cesarean birth (Dilks & Beal, 1997). This supports the relationship expected from application of self-efficacy theory. Women with low self-efficacy will not even attempt the stressful task of vaginal birth after a Cesarean birth.

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Two studies examined the relationship of maternal confidence for childbirth and the use of epidural anesthesia for pain management during labor (Capik, 1998; Stern, 1997). Both studies found no significant differences in self-efficacy between those women using epidural and those women not using epidural. These findings did not support the researchers' hypothesized relationships. A significant number of American women desire epidural anesthesia for labor and birth, with epidural use by 29% of laboring women and growing (Graninger & McCool, 1998). The self-efficacy beliefs for these women may still be high for their ability to cope with labor, with use of epidural anesthesia as a coping strategy. It is important to investigate the relationship of a woman's own choices, plans, and expectations for her birth with her perceived ability to execute the required behaviors to achieve those goals.

Time has been identified as an important variable to consider in understanding the relationships and relative importance of outcome expectations and self-efficacy expectations (Sexton, Tuckman, & Crehan, 1992). "Most investigations devoted to the study of efficacy and expectation have involved single-trial efficacy judgments in static environments" (Sexton et al., 1992, p. 330). These researchers examined the differences in relationships between self-efficacy expectations and outcome expectations identified through cross-sectional measures (at a single point in time) compared to longitudinal measures (over multiple trials). Their results suggest that, while self-efficacy expectations were initially important in new behavioral tasks, these expectations became an indirect influence on behavior over time. Expectations and behavior are dynamically related, and a holistic view of these relationships takes time of measurement and changes

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during task performance into consideration. These findings suggest that it may be easier to influence the beliefs of nulliparous, pregnant women—before performance accomplishment comes into play. Additionally, future research would do well to take into account the relationship of time in labor to self-efficacy judgments, because the length of labor is measured in long hours of hard physical and psychological work.

Implications for Research

The area of inquiry of self-efficacy for labor and birth and related phenomena opens a wide and potentially prolific program of research. The following research questions and ideas are generated from this review of relevant literature regarding self-efficacy for labor and birth.

1. Many psychological instruments used in this line of research were generated from the medical model of birth that put the doctor as the head of the team, with both the nurse and the laboring women as supporting members of that team. The midwife was essentially invisible. Midwives practice woman-centered care, putting the laboring women at the head of her system of support. Measurement strategies of childbirth in midwifery client populations need to reflect this world view. Further work in this area with a midwifery client population requires a refining of the tools used, using psychometric theory to guide the refinement process.

2. While selected physiological birth outcomes, such as length of labor and route of birth, were examined in the literature, the processes of the relationship between self-efficacy and physiology require further examination. Laboratory studies exploring

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the stress response of pregnant women to a range of positive and negative birth images are indicated. Examining the psychophysiologic correlates of childbirth self-efficacy prenatally and intrapartally is necessary to expand our understanding of the mind-body interactions during labor and birth.

3. Are women receiving midwifery care more confident than those receiving physician care? Are there initial differences in these two groups of women, or does the provider's practice style affect confidence? How do midwives enhance confidence in the context of developing relationships with women? A concept analysis should be conducted concerning the "midwifery model of care." An ethnographic study of how this model of care is lived out in the diverse practices of midwives is another important research undertaking.

4. Further exploration of how confidence for labor and birth develops in women is warranted, looking at specific sources of information specified by self-efficacy theory. For example, how pervasive are the negative media images of labor and birth? Are they counterbalanced by positive images?

5. Intervention studies should look at current practices by health-care providers and women to see what works and what does not in relation to self-efficacy. For example, do birth plans enhance confidence in childbearing women? How do women's use of spiritually- or religiously-based coping strategies for labor and birth mediate self-efficacy for childbirth? In addition, certain populations of women should be targeted for research attention. Are there true labor phobics? How does fear of childbirth interact with self-efficacy for childbirth?

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These and many other important research questions await the diligent efforts of midwife scientists. Midwives must be willing to examine cherished practices and beliefs through the dispassionate and objective eyes of a scientist. Building a body of research evidence around aspects of the art of midwifery allows clear articulation of the processes through which midwives achieve their outstanding results.

A full understanding of the development of confidence for labor and birth requires a comprehensive theory that offers the conceptual linkages for the origins of personal efficacy beliefs, their structure and function, the processes through which they produce diverse effects, and their ability to be modified (Bandura, 1997). The self-efficacy theory provides explanatory power for all of these issues.

Implications for Practice

Birth, a psychophysiological event embedded in social processes, is a powerful and fundamental event in the life history of a woman. Many profound changes occur within the individual woman and within her family structure during the childbearing process. These changes call for an approach to care that is concerned with more than just screening for pathology—an approach that is based on (a) a relationship of trust and mutual respect between care providers and the women they serve and (b) provision of services that addresses psychological, social, and spiritual needs, in addition to biological needs. This approach to care is reflected in the Midwifery Model of Care (Rooks, 1997).

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Midwives are educated to support and protect a woman's ability to nurture and bring forth new life. In addition, midwives are quick to recognize medical risks and emergent problems in childbearing women. Depending on the condition and its severity, a midwife will independently manage the situation, collaborate with a physician consultant, or refer the woman for care to the appropriate health professional (Varney, 1997). But beyond meeting the woman's physical needs, the midwife will work in the context of a developing relationship to support her to "achieve her own goals and hopes for her pregnancy, birth and baby, and for her role as mother" (Rooks, 1997, p. 2). Midwives seek not only safe passage for both mother and baby but also the promotion of psychological health and resiliency that will assist a woman in facing the challenges of the long process of nurturing her newborn child to maturity.

Enhancing childbirth confidence is a facet of the art of midwifery, one that is highly valued by practitioners of midwifery (Appendix B, summarized by the researcher for this project). Midwives need to assess a woman's expectations for her labor and birth experience and a woman's beliefs in her own abilities ... and intervene when indicated through the vehicle of an ongoing, therapeutic relationship. Midwives need to assist the woman in understanding that, in childbirth, a wide range of responses to varying circumstances can be considered a successful mastery experience. And, finally, midwives need to foster the belief in the woman that she brought about the successful mastery of her childbirth experience through her own efforts. Herein lies true empowerment—and the best that midwifery has to offer to women and their families.

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CHAPTER 3

METHODOLOGY

Research Methods

Both qualitative and quantitative methods were used in this nonexperimental, comparative study to (a) describe vicarious experiences as a source of self-efficacy for birth and (b) examine the relationships of live modeling vicarious experiences and selected antecedent and intervening variables to self-efficacy for birth. The quantitative portion provided objective measures of the phenomenon of live modeling vicarious experience as a source of self-efficacy for labor and birth, while the qualitative portion used language as data to uncover the meaning of this phenomenon from the participant's point of view.

Research Design

Quantitative Data.

The nonexperimental, comparative research design is used when subjects have self-selected an experience that is difficult or impossible for the researcher to manipulate. In this study, the experience of interest was a previous live modeling vicarious

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experience of labor and birth—a situational experience that subjects in Group 1 have encountered at some point in their lives. The following research design was used:

Group 1	X	O_1 birth O_3
Group 2		O_2 birth O_4

Group 1 was composed of women who have had the prior experience of being present at the labor and birth of another woman. Group 2 was composed of women who have not had this experience.

This research design is characterized by minimal control. From this type of design, one can expose the research hypothesis to disconfirmation (Campbell & Stanley, 1963). Selection and mortality are considered the major threats to validity in this type of design.

Qualitative Data.

Qualitative methods were particularly well suited to answer Research Question #3, "What is the meaning of the live modeling vicarious experiences to nulliparous, pregnant women?" Thematic analysis was used to examine the respondents' conversations about their witnessed birth experiences. Thematic analysis was chosen to identify patterns of living and behavior from the discussions of this life event, because little is known about the phenomenon of witnessing birth and its influence as a social learning experience for women who have not yet given birth. The goals of this research were to explore the important aspects of this life experience and to understand its

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meaning as it was expressed by women who were anticipating their first labors and births.

Participants

A sample of convenience was recruited and enrolled from women receiving care through six nurse-midwifery practices in Ohio. Women who met the following criteria were approached for inclusion in the study: (a) 19 years of age or older at EDD (Estimated Due Date); (b) nulliparous, (c) at low obstetrical risk; (d) anticipate a vaginal birth; (e) able to read and write English; (f) in the third trimester of pregnancy; and (g) give written informed consent. These criteria were chosen to restrict the sample to healthy, nulliparous pregnant women and to measure self-efficacy for labor and birth when the task of coping with labor and birth was imminent. Nulliparity controls for the effects of performance accomplishment as a source of self-efficacy in this sample of women.

Sample Size and Description

Quantitative Sample.

A sample size of 154 was sought based on the "N versus V" (number of observations versus number of variables) rule (Knapp, 1996; Munro & Page, 1993). Of the 186 women approached for inclusion in the study, only 7 declined to participate. Reasons for declining included "not interested in research," "no time to complete these forms," and "too much stress in my life already." Of the 179 women who agreed to

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participate, 20 women never completed the prenatal or postpartum forms. But because their midwives completed the Labor and Birth Data Forms, there are some data on these women. These nonresponders had a higher rate of reported intrapartal complications (as reported by their midwives), but there was no difference in the route of birth between the two groups. Complete data sets were obtained from 146 of a total sample of 159 women. Varying sample sizes for the different analyses reflect partial and missing data. Sample sizes for the different data collection points are prenatal data (N = 159), labor and birth data (n = 155), and postpartum data (n = 152).

Women completed the prenatal forms between gestational weeks 32-40 ($\bar{X}$ = 36.5 weeks) (Table 1). The mean age of the sample was 25.4 (range = 18-39), and the mean years of education were 14.6 years (range = 8-24).

	Range	Mean	Standard Deviation
Age (years)	18-39	25.4	5.8
Estimated Gestational Age (weeks)	32-40	36.5	1.4
Education (years)	8-24	14.6	3.3

N = 159

Table 1. Prenatal Demographic Data

Participant race/ethnicity was reported as Caucasian, 89.3%; Hispanic, 2.5%; African American, 3.8%; Asian American, 1.2%; Native American, 0.6%; and other, 2.5% (Table 2). Those reporting other were biracial, and one participant wrote human race. Marital status was listed as single, 30.6%; married, 66.9%; separated, 0.6%; and

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divorced, 1.9%. One participant clarified her single status with this statement, "Although I am legally single, I am in a polygamous marriage. There are four of us in the household." Range of income was from <$15,000 to >$75,000 annually. Most women were employed full time (43.8%). Other women were employed part time (16.9%), were full-time students (3.7%), were unemployed (28.8%), or were other (6.8%). Those women listing other reported being on maternity leave, being on a medical leave, being both a student and employed, or seasonally employed.

	n		n
Race/ethnicity		**Income**	
Caucasian	140	<$15,000	31
African-American	6	$15,001-$20,000	11
Hispanic	4	$20,001-$30,000	20
Asian	3	$30,001-$40,000	31
Native American	1	$40,001-$50,000	22
Other	5	$50,001-$75,000	28
		>$75,000	10
Marital status			
single	49		
married	107	**Planned pregnancy**	
divorced	3	no	70
separated	1	yes	88
Employment status			
unemployed	46	**Prior pregnancies**	
student	4	elective abortion	15
part-time	27	spontaneous abortion	18
full-time	70	ectopic pregnancy	0

N = 159

Table 2. Prenatal Demographic Data

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Pregnancies were planned for 55.7% of these women; 44.3% had unplanned pregnancies. This was the first labor and birth for all women but not necessarily the first pregnancy. Some women had a history of spontaneous abortion (11.5%), and some had a history of elective abortion (10.1%), but there were no previous ectopic pregnancies in this sample. The women were asked if they had any problems in pregnancies; 59.6% reported no problems at all, while 40.4% reported problems, ranging from the mild physiologic adjustments to pregnancy (fatigue, nausea, dependent edema, and backache) to episodic illnesses (gastrointestinal flu, urinary tract infection, and asthma) and to pregnancy-related conditions (gestational diabetes, preterm labor, and mild pregnancy induced hypertension) (Table 3).

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Types of Problems Reported	n
Common discomforts (nausea & vomiting, edema, backache)	24
Common viral infections (gastroenteritis, "cold")	9
Anemia	7
Asthma	4
Elevated blood pressure	4
Urinary Tract Infection	4
Gestational Diabetes	2
Group Beta Strep	2
Preterm Labor	2
Pyelonephritis	2
Vaginal infection	2
Anti-Kell titers	1
Appendicitis & surgery during pregnancy	1
Cholecystitis & surgery during pregnancy	1
Kidney stones	1
Miscarried a twin	1
Panic disorder	1
Victim of abuse	1

N = 159 Subjects could report more than one problem.
Problems During Pregnancy n = 63
No problems During pregnancy n = 92

Table 3. Types of Prenatal Problems Reported

A few women experienced unusual alterations in health. One woman had an emergency appendectomy at 5 months gestation. Two women were hospitalized with asthma complicated by upper respiratory infection. One woman reported a panic disorder with three panic episodes. Another woman was identified as having vaginal Group Beta Streptococcus, a bacteria that is a normal vaginal resident in one out of three pregnant women but can cause infection in the newborn. Medical practice at the time of the study was to treat the woman with intravenous antibiotics in labor as a preventive measure. She reported, "I was told that I have Group B Streptococcus and it has been bothering me. It really discouraged me. I'm very scared for my child! The nurse who

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told me couldn't answer all my questions. And it seemed like she wasn't telling me everything she should've. This has changed my whole outlook on a lot of things."

In this study, the experience of interest was a previous live modeling vicarious birth experience. The experience presented itself as a natural life event in the history of the participant. There were no limits placed on the timing of its occurrence for this study. Women were present at the live modeling vicarious birth experience from 15 years to a few months prior to participating in this study. Of the 159 women, 28.3% of these women had the opportunity to attend a birth. Three women did not arrive in time to witness the birth event. A live birth was witnessed by 25.8% (n = 41) women. Two of these women returned unusable CBSEI1 forms (>10% of the data were missing); therefore, only 319 women were included in the analyses. Most of the witnessed births occurred in the hospital setting (76.2%) with the physician as primary birth attendant (59.5%), although eight women saw home births (19.1%), and two women saw a birth in a birth center (4.7%). Other primary birth attendants observed by the participants include Certified Nurse-Midwives (21.4%), Direct Entry Midwives (7.1%), and Registered Nurses (9.5%). One woman observed her father as the primary birth attendant to her mother.

The relationships of the study participants to the laboring women they observed were as follows: 19.1% (n = 8) were friends, 14.2% (n = 6) were daughters, 23.8% (n = 10) were sisters, and 23.8% (n = 10) were health-care providers. The category of other was chosen by 19.1% (n = 8) and included the following relationships: acquaintance, cousin, and sister-in-law. All women characterized their roles at the birth

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as observers. In addition, 38.1% provided labor support, 7.1% acted as photographer, and 16.7% rendered health-care services to the laboring women. Health-care providers had more frequent access to birth than did other participants. The average number of births viewed by the 41 women was 3.9 (range = 1-55); however, this number is skewed by the number of births witnessed by health-care professionals. An average of 10.3 births was seen by health-care providers, while an average of 1.9 births was seen by all other participants. Most of the participants observed a vaginal birth (88.1%). One woman reported viewing a Cesarean birth, two observed a forceps-assisted birth, and two observed a vacuum-assisted birth. It should be noted that women were asked to fill out this form with their most memorable birth in mind. It is known that many of the women who saw more than one birth also observed more than one route of birth.

Study participants ($\underline{n} = 154$) gave birth between 35-42 weeks gestation ($\overline{X} = 39.6$ weeks). Intrapartal features of the sample included the following mean length of labor: first stage = 11 hours 19 minutes; second stage = 1 hour 17 minutes; and third stage = 9 minutes (Table 4). Birth was accomplished via the following routes: vaginal birth, 76%; vacuum-assisted birth, 4%; forceps, 3%; and Cesarean birth, 17%.

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Weeks gestation at birth	range of 35 - 42	(x = 39.7; SD = 1.4)
Infant Apgar at 1 minute	range of 1 - 9	(x = 7.8; SD = 1.4)
Infant Apgar at 5 minutes	range of 7 - 10	(x = 8.8; SD = .83)
Length of Labor (in hours & minutes)		
1st stage	range of 1:26 - 39:4	(x = 11:19; SD = 6:48)
2nd stage	range of 0:05 - 4:59	(x = 1:17; SD = 1:03)
3rd stage	range of 0:01 - 0:46	(x = 0:09; SD = 0:07)
Route of birth		
Vaginal	117	(76%)
Cesarean	26	(17%)
Forceps	5	(3%)
Vacuum	6	(4%)
Intrapartal Problems		
No problems during labor & birth	59	(38%)
Problems during labor & birth	95	(62%)
Types of problems reported (some reported more than one problem)		
FHT abnormalities		23
Premature rupture of membranes		21
Dysfunctional labor		11
Cord around neck		10
Failure to progress		10
Postdates		8
Meconium stained fluid		8
Postpartum hemorrhage		7
Persistent posterior presentation		7
Pregnancy induced hypertension		5
Failure to descend		5
Oligohydramnios		4
Extreme reaction to labor pain		4
Maternal exhaustion		3
Breech		3
Maternal fever		3
Shoulder dystocia		3
Herpes lesion		3
Induction/augmentation rate		23%

n = 146

Table 4. Intrapartal Features of the Sample

No untoward intrapartal events occurred for 38% of these women. Midwives reported complications or variations in the labor and birth process for the remaining 62%

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of women. This reflects, in part, the midwifery sensibility toward birth. Details of birth are important to midwives, and minor variations from an idealized birth are the focus of many a midwifery discussion. These midwives may have been comfortable sharing this level of detail with this researcher, a well-known midwife in the area for 18 years. Most intrapartal variations reported were not complications by any stretch of the imagination. For example, a first degree laceration, an easily reduced cord around the neck, and a Jacuzzi tub unavailable for water birth were reported by the midwives. One midwife described the following variation from normal: "She stayed at 3 centimeters without progress for over 8 hours of what she felt was intense laboring with music in her ears and her eyes closed. Well, when she put her conscious self into the labor process, she began to dilate."

Serious complications were also reported, such as thick meconium-stained amniotic fluid with late decelerations in fetal heart rate patterns, an outbreak of genital herpes, and pregnancy-induced hypertension. Whether the intrapartal variations were of minor or major significance to maternal-fetal health, infants were vigorous at birth as reflected by their Apgar scores. Mean infant Apgar scores were 7.8 at 1 minute (with a range of 1-9) and 8.9 at 5 minutes (with a range of 7-9).

These women used a wide variety of pain relief techniques with the support of their midwives. All women used more than one technique for pain relief during the course of their labors. Nonpharmaceutical pain relief techniques included labor support person (90%), breathing techniques (83%), relaxation (78%), walking during labor (57%), massage (51%), hydrotherapy during labor (51%), and other (38%). Other pain

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relief strategies included the use of the birthing ball, music, visualization, heat, back counter pressure, assuming a variety of postures, ice pack, prayer, having many family members present, and staying at home. Narcotic drugs were used by 49% of the women, and the first dose was received at a mean cervical dilatation of 4 centimeters. Narcotics used were standard obstetric doses of Stadol, Fentanyl, Nubain, Demerol, and Morphine Sulfate. Epidural anesthesia was used by 32% of the women and was placed at a mean cervical dilatation of 3.7 centimeters (range of 0-10; SD = 2.5).

Qualitative Sample.

Eight nulliparous pregnant women who previously had witnessed a live birth were recruited to participate in the qualitative portion of this study. Purposive sampling was conducted from the larger quantitative sample. These women were chosen for the broad representation of birth experiences they witnessed and for their ability to articulate these experiences. The goal was to hear women's reflections on the witnessed birth event when the task of coping with their own labor and birth was imminent, and when this past life event might take on more significance to current feelings and beliefs. All women who were asked to participate agreed to do so. A ninth woman was asked to participate and agreed to do so, but she gave birth before a mutually convenient time for the interview could be arranged.

Respondents were interviewed between gestational weeks 36-39. Seven women were Caucasian; one was Asian-American. Two women were single, six were married, and all had involved and supportive male partners. Respondents ranged in age from 21

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to 35 years and had 12 to 19 years of education. Income of the respondents ranged from less than $15,000 to $40,000 annually. Three women were on maternity leave from their full-time jobs, two were unemployed, one had part-time employment, and two women were full-time students. One of the students also held a part-time job. Three characterized their pregnancies as unplanned, while five women had planned to become pregnant. Three women reported no problems during their pregnancies. For the five other respondents, reported problems ranged from mild (morning sickness, dizziness, and fatigue) to moderate (diet-controlled gestational diabetes and a slight blood pressure elevation) to acute (one respondent had an emergency appendectomy at five months of pregnancy).

Respondents ranged in age from 6 to 31 years at the time of witnessing birth. Respondents witnessed birth as recently as three months prior to the interview. The maximum time since viewing birth was 18 years for the respondent who witnessed birth at the age of 6 years. Four of the women had seen one live birth, two women had seen two births, one woman had seen three births, and one—a student nurse-midwife—had seen about 55 live births. All respondents had seen at least one vaginal birth. Three of the respondents who had seen more than one live birth also saw a Cesarean birth, and one had seen a vacuum-assisted birth. Most witnessed births occurred in the hospital setting, although two women saw home births, and one woman saw a birth in a birth center. The relationships of the birth witnesses to the laboring women were as follows: two were friends, two were daughters, one was a sister, one was an acquaintance, and two were health-care providers. All women characterized their roles at the birth as

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observer. In addition, three provided some labor support, one acted as photographer, and two rendered health care services to the laboring women.

Procedure

Prenatal Data Collection.

Quantitative Data. Written consent was obtained from the six participating midwifery practices to contact their clients to invite them to participate in this study. The researcher or research assistant went to the practice and obtained the next month's list of women at term. The due date list was screened for nulliparous women, which generally accounted for 1/4 to 1/3 of the women on the list. These charts were screened for eligibility. The addresses and phone numbers of the women were obtained. Women were called by the researcher or research assistant, an explanation of the study was given, and an invitation to participate was extended.

After verbal consent was obtained, the prenatal package of tools and a written consent form was mailed to have its arrival coincide with the woman's 36th week of pregnancy. A self-addressed stamped envelope was included for convenience. Because some due dates were later found to be in error and altered, the range of estimated gestational weeks (EGA) at data collection time #1 was earlier than intended (range in weeks EGA was 32-40). The earliest weeks' gestation were still in the middle of the third trimester of pregnancy, when the task of coping with labor and birth was imminent; therefore, these women were included.

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In addition to a demographic data form, the following quantitative instruments were mailed to both groups of women: (a) the Childbirth Self-Efficacy Inventory 1 (CBSEI1), (b) the Preparation for Childbirth Scale (PCS), (c) the Childbirth Attitudes Questionnaire (CAQ), (d) the Childbirth Expectations Questionnaire (CEQ), and (e) the Rosenberg Self-Esteem Scale (RSES). Women who had the experience of witnessing a live birth were given additional forms, asking for demographic data regarding the birth model and the live modeling birth experience, as well as (a) the Live Modeling Birth Experience Visual Analogue Scale (LMBE-VAS) and (b) the Social Comparison Visual Analogue Scale (SC-VAS). These latter two scales were developed by the researcher for this project.

Qualitative Data. Verbal consent was obtained by phone, and a mutually convenient time and place for the interview were arranged. Some women were interviewed in their homes, some women were interviewed at their midwife's office, and some women were interviewed at a university setting. Upon arrival at the interview site, respondents were helped to feel comfortable, and written consent to participate was obtained. The audiotape recorder was placed in an unobtrusive manner and turned on. The researcher then framed the lines of inquiry with the opening statement, "Thank you for agreeing to participate in my research project. Pregnant women have a variety of experiences that influence how they think and feel about their upcoming labor and birth. You have had the very unique experience of witnessing another woman labor and give birth. Please tell me the story of how you came to be present at this woman's labor and birth, what that experience was like, and how you believe this experience has influenced

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your feelings and beliefs about your own upcoming labor and birth." In some instances, respondents were encouraged to expand on a particular dimension of their viewed birth experience through the use of general probes and specific questions; however, the respondent was given the opportunity to tell her own story in her own way. The interviewer was always cognizant of the need to follow the informant's concerns and viewpoints. As themes and categories were identified during data collection, lines of inquiry were altered to more fully reflect the phenomenon as expressed by the respondents (Chenitz & Swanson, 1986).

Birth Data Collection.

At the same time the prenatal packets were mailed to the women, Labor and Birth Data Forms were mailed to their midwifes for inclusion in their charts. It was expected that the midwifes would fill out the form shortly after the birth. Return envelopes and postage were provided. The form requested the following data: (a) weeks gestation at birth; (b) length of labor; (c) use of pain relief strategies, including analgesia and/or anesthesia; (d) route of birth; (e) intrapartal complications; and (f) infant Apgar score.

Postpartum Data Collection.

At three weeks postpartum, women from both groups were mailed a postpartum package of data with an enclosed stamped return package. A small incentive was sent to the women to encourage their full participation. Included were a tea bag of raspberry

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herbal tea, several chocolates, and a key chain or refrigerator magnet to hold a picture of their baby. Women were encouraged to take a moment to relax with tea and chocolates while reflecting on their birth experiences. The following instruments were included: (a) the Importance Questionnaire (IQ, developed by the researcher for this project), (b) the Perceptions of Birth Scale (POBS) (Marut & Mercer, 1979), and (c) the Childbirth Self-Efficacy Inventory 2 (CBSEI2) (Lowe, 1993).

Two additional attempts were made to obtain completed postpartum forms. A follow-up reminder letter was mailed two weeks after the initial package was mailed. Two weeks later, a second package of tools and incentives was sent. Women completed forms between 3 - 20 weeks postpartum ($\overline{X}$ = 4.9 weeks postpartum).

Instrumentation

Prenatal Data.

Demographic Data Form. This self-administered questionnaire asked standard demographic data (age, education, income, race, marital status, employment status) and information about the pregnancy (planned pregnancy, prior elective or spontaneous abortions, prior ectopic pregnancy, health status during pregnancy, estimated due date). The participants were also asked if they had ever had the opportunity to attend another woman's birth and, if so, had they actually witnessed the birth.

Weeks Gestation Prenatally. The weeks gestation prenatally were determined through using the date the prenatal forms were filled out and the EDD on the gestational wheel.

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Childbirth Self-Efficacy Inventory 1. The CBSEI (Lowe, 1993) is a self-report, 62-item instrument measuring outcome expectancies and self-efficacy expectancies for labor and birth. There are four summative subscales in the CBSEI—outcome expectancies and self-efficacy expectancies for the active phase of labor (each section containing 15 items), and outcome expectancies and self-efficacy expectancies for the second stage of labor (each section containing 16 items)—and two summative scales—total outcome expectancies and total self-efficacy expectancies (each scale containing 32 items). The CBSEI is consistent with the principles of self-efficacy theory and was developed through a multi-stage process. The CBSEI was psychometrically evaluated through a study of 351 pregnant women (Lowe, 1993). A factor analytic study supported the use of each of the four scales as single factor scores. Criterion-related validity was supported by the demonstration of a priori hypothesized relationships. Reliability of the CBSEI was assessed through internal consistency estimates (Cronbach's alpha range was .86 - .95) and through test-retest correlations (Cronbach's alpha range was .46 - .76). The CBSEI has a reading level of grade 8 on the SMOG readability index and grade 7 on the FOG readability index (Lowe, 1993).

In this study, the construct validity of the CBSEI was supported by the increase in total self-efficacy expectancies after performance accomplishment (birth) (CBSEI1 $\overline{X}$=205; CBSEI2 $\overline{X}$=215; p = .042). Women with experience had authentic information about their own abilities to perform that behavior. Table 5 presents (a) the range of scores, mean, standard deviation, and Cronbach's alpha for each subscale and

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each total scale, and (b) a comparison with the findings of the nulliparous women in Lowe's (1993) sample.

	Range	Mean	Standard Deviation	Cronbach's alpha
Childbirth Self-Efficacy Inventory 1 (CBSEI1)				
Active labor outcome expectancies (Lowe	46-150 (74-150)*	118.1 (128.5)*	19.8 (14.3)*	.88
Active labor self-efficacy expectancies	27-150 (15-150)*	100.3 (101.1)*	25.0 (21.5)*	.93
Second stage labor outcome expectancies	36-160 (62-160)*	121.3 (130.0)*	25.9 (20.1)*	.93
Second stage labor self-efficacy expectancies	16-160 (16-160)*	104.2 (104.4)*	30.2 (26.4)*	.95
Total outcome expectancies	88-310 (156-310)*	239.7 (258.4)*	41.8 (31.6)*	.95
Total self-efficacy expectancies	50-310 (31-310)*	204.6 (205.5)*	53 (45.8)*	.97
Preparation for Childbirth Scale (PCS)	0.346-5.095	2.59	1.23	.49 (KR-20 reliability)
Childbirth Attitudes Questionnaire (CAQ)	18-47	29.7	6.2	.70
Childbirth Expectations Questionnaire (CEQ)	88-159	130	14.0	.82
Rosenberg Self-Esteem Scale (RSES)	10-40	31.8	5.0	.90
Live Modeling Birth Experience Visual Analogue Scale (LMBE-VAS)	0-100	71.4	30.5	
Social Comparison Visual Analogue Scale (SC-VAS)	0-100	46.1	34.2	

N = 159

* Lowe's 1993 results (n = 264 nulliparous, pregnant women)

Table 5. Descriptive Data on Prenatal Instruments

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Preparation for Childbirth Scale. The PCS is a checklist of 9 items considered to contribute positively toward a woman's preparation for coping with labor (Beaton, 1986). In most childbirth research, preparation is treated as a categorical variable with attendance at classes, such as Lamaze, as the referent. In contrast, the PCS provides a more comprehensive and theoretically sound appraisal of a woman's preparation for childbirth because multiple activities, including childbirth classes, comprise the scale. Respondents are asked to check those items that they had completed in preparation for birth or as part of their formal education. Each activity (item) checked has a weighted score value that is summed to produce the PCS total score, with a possible range of 0.0 to 5.095. The scale weights were determined using Thurstone's method of paired comparisons by a panel of 26 maternity nursing experts (Beaton, 1986). The validity of the PCS is supported by significant differences in scores between low-risk and hospitalized high-risk nulliparous pregnant women and by significant increases in scores across the three trimesters of pregnancy for low-risk nulliparas.

In this study, the Kuder-Richardson 20 reliability coefficient of the PCS was 0.49. This is a marginal reliability estimate, even for dichotomous item instruments. There were several problems found with this instrument in this population. For example, the PCS contains out-of-date assumptions that there are only two types of childbirth classes—Lamaze childbirth versus hospital classes. Trends in childbirth education at the time of the present study blur the distinction of these two types of classes and offer a range of other choices, all with their own biases in goals and methodologies of childbirth education. Some of the participants wrote in the kind of childbirth classes that they

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differentiated from Lamaze classes. These included "my midwives' classes" and "Bradley classes." Additionally, the PCS is lacking two important preparatory events as choices—a witnessed birth experience and spiritually- or religiously-based practices, such as prayer—that add to a woman's range of preparation and coping strategies. And finally, education in the health-care field is listed as a preparatory event for childbirth. It is doubtful that anyone undertakes such arduous and lengthy education for the purposes of preparing for childbirth. Rather, this kind of education provides information that is processed in relation to a socially prescribed formal role, attending to those contingencies that guide or affect role performance. Many of the cognitive elements of this role are incorporated into a way of being in the world that is not simply turned off when considering one's own life events.

Childbirth Attitudes Questionnaire. The CAQ is a 15-item, 4-point Likert scale adapted by Harman (1988) from a questionnaire developed by Areskog et al. (1982) designed to identify women with significant fear of childbirth. For 371 women in the third trimester of pregnancy (Lowe, 1993), the CAQ had a score range of 15 to 50 ($\overline{X} = 30.7$; $SD = 6.5$) and a Cronbach's alpha of 0.83. The validity of the CAQ was also supported by confirmation of predicted negative relationships between higher CAQ scores (more fear) and self-esteem ($r = -.38$; $p < .01$). Predicted positive relationships were found between the CAQ and learned helplessness ($r = .25$; $p < .01$) and chance locus of control ($r = .20$; $p < .01$).

In this study, the range of scores was 18 to 47 ($\overline{X} = 30$; $SD = 6$; Cronbach's alpha = 0.70). Three items had an item-total correlation of <0.30. These stems were

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#CAQ8, "I have a fear of being left alone in labor," #CAQ9, "I have a fear of having a Cesarean section," and #CAQ14, "I have fear of the hospital environment and not getting the kind of care I want." It is possible that the fear of childbirth is not a unidimensional construct in this population. In a midwifery client sample, the commitment of the midwife to be present throughout labor and birth, to act as a strong advocate for the laboring woman, and to use technology minimally may provide a buffer to these particular fears.

Childbirth Expectations Questionnaire. The CEQ consists of 35 items rated on Likert scales with scale points ranging from strongly disagree (1) to strongly agree (5). A stem statement of "With regard to my childbirth experience, I expect that," is followed by a brief descriptive statement of childbirth expectations. Four subscales reflect major areas of childbirth expectations: coping with pain (eleven items), support by partner/coach (seven items), nursing support (eight items), and interventions (nine items) (Beaton & Gupton, 1990; Gupton et al., 1991). A score can be obtained for each subscale. The total score is then obtained by adding the four subscale scores. A high score on the CEQ indicates positive expectations for the childbirth experience. It was expected that there would be high positive correlations between the coping with pain subscale of the CEQ and the CBSEI, because both measures look at expectations for the parturient's own behavior and abilities. The other three subscales (support by partner/coach, nursing support, and interventions) will measure the parturient's expectations for others attending her labor and birth, thus adding a unique contribution, apart from the CBSEI, to the examination of childbirth expectations.

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Content validity for the CEQ was supported through in-depth interviews conducted with eleven women in their third trimester and review of generated CEQ items by a panel of four content experts in maternal-infant nursing. A factor analytic study supported the use of each of the four scales as single factor scores. Reliability of the CEQ was assessed through internal consistency estimates of pain/coping subscale (.84), nursing support (.80), partner/coaching support (.72), intervention (.65), and the total scale (.82). The Kendall Tau B correlation coefficient was 0.67 for test-retest reliability (Gupton et al., 1991).

For this study, the CEQ was used as a unidimensional scale, although the reliabilities of the four subscales were explored. Obtained Cronbach's alpha reliability coefficients for the subscales were: pain/coping subscale with a range of 18-51 ($\overline{X} = 35$; $\underline{SD} = 7$; alpha = 0.87); nursing support with a range of 19-40 ($\overline{X} = 32$; $\underline{SD} = 5$; alpha = 0.84); partner/coaching support with a range of 16-35 ($\overline{X} = 31$; $\underline{SD} = 3$; alpha = 0.70); and intervention subscale with a range of 20-44 ($\overline{X} = 33$; $\underline{SD} = 5$; alpha = 0.77). The reliability of the total CEQ was 0.87 in this study (range = 88-159; $\overline{X} = 130$; $\underline{SD} = 14$).

Rosenberg Self-Esteem Scale. This well-known instrument is a Likert-type scale used to measure self-esteem as an aspect of personality (Dobson, Goudy, Keith, & Powers, 1979). It was used in this study as a measure to check for equality of groups on a psychological variable. It is treated as a unidimensional scale (Hensley & Roberts, 1976) with a possible range of 10-40, with higher scores indicating higher self-esteem.

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Items #1, #3, #4, #7, #10 are positively worded and scored as is, while Items #2, #5, #6, #8, #9 are worded negatively and reverse scored. The range of scores in this sample was 10-40 ($\overline{X}$ = 32; SD = 5; Cronbach's alpha = 0.90).

Birth Model Demographic Data Form. This self-administered questionnaire asked for selected data about the live modeling vicarious birth experience (e.g., number of witnessed births, relationship with the birth model, primary care provider at birth, role at birth, place of birth, and route of birth accomplished by the birth model).

Live Modeling Birth Experience Visual Analogue Scale. The value of the LMBE-VAS to the subject was measured by a visual analogue scale, developed by the researcher for this project. In this case, the end anchors were "The birth I attended was a very positive experience for me" to "The birth I attended was a very negative experience for me." The LMBE-VAS is a 100 millimeter horizontal line on a piece of paper. The score was obtained by measuring the distance in millimeters from one end of the scale to the subject's mark.

Because of the difficulty in specifying objective criteria for subjective abstract constructs and because single-item measures cannot be factor analyzed, the demonstration of construct validity remains tentative (Wewers & Lowe, 1990). The recommendation of Wewers and Lowe (1990) is to evaluate the properties of the VAS as it applies to the research question, setting, and population of interest and not to assume that demonstrated validity of the VAS under one circumstance will generalize to another circumstance. Measurement of internal consistency is prevented by the single-item format of the VAS. Additionally, a parallel form of the VAS would be difficult to

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construct. Because of "these constraints, evaluating the reliability of the VAS is one of the more troublesome areas for investigators choosing to use this method" (Wewers & Lowe, 1990, p. 234). The range of LMBE-VAS scores in this study was 0-100 ($\overline{X} = 71.4$; SD = 30.5).

Social Comparison Visual Analogue Scale. This SC-VAS used the end anchors of "I am exactly like the woman whose birth I attended" to "I am nothing like the woman whose birth I attended." The phenomenon of interest was how closely the subject compared herself to the birth model. Attribute similarity between the subject and the model generally increases the power of modeling influences, even when the personal characteristics may be spurious indicants of performance capabilities (developed by the researcher for this project). See the description of the LMBE-VAS (above) for a review of the measurement properties of a VAS. The range of SC-VAS scores in this study was 0-100 ($\overline{X} = 46.1$; $= 34.2$).

Labor and Birth Data.

Weeks Gestation at Birth. The weeks gestation at birth were determined through using the EDD and the date of birth on the gestational wheel.

Length of Labor. Labor is divided into three discrete phases. The first stage of labor is from the onset of regular uterine contractions to full cervical dilatation (10 centimeters). The second stage of labor is from full cervical dilatation to the complete expulsion of the infant. The third stage of labor is from the complete expulsion of the infant to the complete expulsion of the placenta. This information was obtained from the

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nurse-midwife at time of birth or through a chart review of the labor and delivery chart shortly after the birth. It was assumed that midwives made accurate clinical judgments using the standard clinical definitions of length of labor and birth and recorded this information accurately. This assumption was also made for the other labor and birth outcome data obtained from the chart—use of analgesia and/or anesthesia, route of birth, and infant Apgar score.

Use of Pain Relief Techniques, including Analgesia and/or Anesthesia. The use of any pharmaceutical or nonpharmaceutical technique or coping strategy for the elimination or relief of pain was defined as the use of pain relief techniques and was reported by the midwife.

Route of Birth. The route of birth was the mechanism by which birth was accomplished. The most common route of birth was spontaneous vaginal birth. Other routes of birth included the operative births—forceps, vacuum-assisted, or Cesarean section birth (as reported by the midwife).

Infant Apgar Score. The Infant Apgar score is a standardized evaluation of the newborn infant for heart rate, respiratory effort, color, overall muscle tone, and reflex irritability. Apgar scores are assigned to the neonate at 1 minute and at 5 minutes of age. This information was reported by the midwife.

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Postpartum Data.

Weeks Postpartum. The weeks postpartum were determined through using the date of birth and the date that the postpartum forms were filled out on the gestational wheel.

Importance Questionnaire. The IQ was developed by the researcher for this project as a rank order instrument to determine to whom or what the woman attributed her performance during labor and birth. If she attributed her performance to her own efforts, this theoretically would have a more powerful influence on her self-efficacy percepts than if she attributed her performance to other sources. The IQ was developed by the researcher for this project.

Perceptions of Birth Scale. The POBS measures maternal perceptions of the labor and birth experience for women having vaginal or unplanned Cesarean sections (Marut & Mercer, 1979). Twenty-nine original items are rated on a scale of 1 to 5, ranging from not at all to extremely. Higher scores reflected more positive feelings about the birth experience. The POBS is most often treated as a unidimensional scale, although a factor analysis by Fawcett and Knauth (1996) suggested five dimensions of a woman's perceptions of her childbirth experience: delivery experience, labor experience, delivery outcome, partner participation, and awareness. Four of the original items were dropped as a result of this exploratory factor analysis because required loading criteria were not met. Cronbach's alpha reliability coefficients for the five factors respectively and the total scale are 0.87, 0.79, 0.68, 0.62, 0.85, and 0.85 (Fawcett & Knauth, 1996).

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They recommended, however, that the POBS be treated as a total scale until documentation of adequate reliability for all subscales was established.

For this study, the POBS (Marut & Mercer, 1979) was used as a unidimensional scale, although the reliabilities of the five subscales were explored. Obtained Cronbach's alpha reliability coefficients for the subscales were: delivery experience, 0.85; labor experience, 0.81; delivery outcome, 0.67; partner participation, 0.66; and awareness, 0.53. Some of the subscales had too few items to justify their use. The delivery outcome, partner participation, and awareness subscales contained 4, 4, and 3 items, respectively. The reliability of the total POBS was 0.85 in this study.

This instrument was the most problematic tool used in this study. Some of the item stems in the Perceptions of Birth Scale (Marut & Mercer, 1979) were generated from the medical model of birth that puts the doctor as the head of the childbearing team, with both the nurse and the laboring women as members of that team. An example of such an item is "to what extent do you consider yourself to be a useful and cooperative member of the obstetric team?" Midwives practice woman-centered care and put the laboring women at the front and center of her system of support and also tend to avoid language inviting sports analogies, such as coaching and team. Furthermore, while this tool is theoretically for those women who had both a vaginal birth and an unanticipated Cesarean birth, it appears that in this sample of midwifery clients anticipating a vaginal birth, many women who had an unanticipated C-section were unable to complete certain items. Eight of the 31 women who had unanticipated Cesarean birth left blank a significant minority of the questions in the POBS and wrote out to the side N/A (not

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applicable) or some comment to that effect. The items that most of these women had difficulty with were: "Did your partner (or other person) review your labor experience with you?" and "Did you feel better after reviewing the labor and delivery experience?" The theoretical basis of the POBS (Marut & Mercer, 1979) requires scrutiny before it is applied to further midwifery client populations.

Childbirth Self-Efficacy Inventory 2. The CBSEI2 (Lowe, 1993) was slightly altered for postpartum administration. The stems began with "For my next labor and birth experience...." Theoretically, the differences in the scores obtained prenatally and those obtained postnatally reflect the influence of performance accomplishment, the actual labor, and birth experience that provides the parturient with the most authentic evidence of her abilities.

In this study, the construct validity of the CBSEI was supported by the decrease in total outcome expectancy scores (CBSEI1 $\overline{X} = 240$; CBSEI2 $\overline{X} = 232$) and the increase in total self-efficacy expectancies after performance accomplishment (birth) (CBSEI1 $\overline{X} = 205$; CBSEI2 $\overline{X} = 215$). Women with experience can more critically evaluate whether a given behavior will produce a given outcome. They also have authentic information about their own abilities to perform that behavior. Two items had an item-total correlation of <0.30. These items were outcome expectancies regarding the use of distraction techniques: "concentrate on an object in the room to distract myself" and "concentrate on thinking about the baby." This suggests that these women did not find distraction techniques to be very helpful to them in coping with their labors and that they no longer expected this outcome with the use of distraction techniques.

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This supports the prevailing ideas in childbirth education classes at the time of this study. Distraction techniques, once thought to minimize the pain experience of labor and birth, are not as emphasized as they have been in the past. The following range of scores, mean, standard deviation and Cronbach's alpha for each subscale and total scale of the CBSEI2 are reported in Table 6.

Importance Questionnaire Mean Rankings*	Mean	Range
My own efforts	2.18	1-6
Support person	2.35	1-6
Midwife's help	2.52	1-6
Other	3.77	1-6
Nurse's help	4.11	1-6
Pain medicine	4.36	1-6

	Range	Mean	Standard Deviation	Cronbach's alpha
Perceptions of Birth Scale (POBS)	45-121	90.8	13.2	.85
Childbirth Self-Efficacy Inventory 2 (CBSEI2)				
Active labor outcome expectancies 2	26-148	112.6	21.7	.87
Active labor self-efficacy expectancies 2	15-150	105.1	27.2	.93
Second stage labor outcome expectancies 2	35-160	119.7	25.7	.91
Second stage labor self-efficacy expectancies 2	16-160	109.7	30.9	.94
Total outcome expectancies 2	61-307	232.3	45.3	.94
Total self-efficacy expectancies 2	31-309	214.7	55.7	.96

n = 152

* Note that the smaller numbers indicate higher importance.

Table 6. Descriptive Data on Postpartum Instruments

Data Preparation, Reduction, and Analysis

Raw data were entered into the Statistical Package for the Social Sciences for the personal computer [SPSS-PC] (SPSS, 1997). Every tenth data set was checked for data

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entry errors, and noted errors were corrected. An error rate of .006 was found—approximately 2 errors in each data set of 324 variables.

A systematic but irregular error in data using the gestational wheel use was noted. Although only one particular gestational wheel was used and student midwives were knowledgeable about its use, it appeared that one or more research assistants were not calculating the antepartum and intrapartum gestational weeks and weeks postpartum correctly. Therefore, every data file was checked on these 3 variables and corrected as needed. Additionally, all Visual Analogue Scale measurements and entries were checked for accuracy and any noted errors were corrected.

Ranges and frequencies on each variable were run, and data found outside of the possible range of values were corrected. Finally, a random sample of 10% of the files was generated through SPSS, and these data files were checked for errors. The error rate was 0.0025. All noted errors were corrected. The final data entry error rate was less than 0.0025.

The amount and distribution of missing and partial data was examined. When only one or a few responses were missing from a multiple item tool (<10% of data), the missing variable(s) were estimated based on responses to similar stems. Those with large amounts of missing data (≥10%) were eliminated for certain analyses.

An important univariate outlier was noted in the number of births viewed. The number of births witnessed by health-care professionals in this sample skewed this a great deal, with one reporting 55 witnessed births. Two analyses were run on this to

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separate out the influence of professional access to witnessing birth from general population access to witnessing birth.

Demographic data were examined for patterns and were analyzed as covariates as indicated. Data from the major dependent variables were examined for skewness. Skewness was determined by examining the distribution of data in comparison to the normal distribution. Distributions for the variables were roughly normal upon inspection. While data transformations are recommended for failures of normality, linearity, and homoscedasticity and as a remedy for outliers, they are not universally recommended (Tabachnik & Fidell, 1996). Additionally, screening was conducted through the examination of the residuals in the hierarchical multiple regression analyses.

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CHAPTER 4

GIVING WITNESS TO GIVING BIRTH

This chapter is presented in manuscript form and addresses Research Question #3: What is the meaning of the live modeling vicarious experiences to nulliparous, pregnant women? This manuscript will be submitted to the Qualitative Health Journal.

Abstract

Birth is a powerful, unfolding drama that engages the privileged observer. Few who witness a woman as she labors to give birth are untouched by this miraculous event. Of particular interest to this investigation are the impressions formed from the past experience of witnessing a live birth by women who are now anticipating their first birth. What is the meaning of witnessing birth to pregnant, nulliparous women? Are their expectations and beliefs about birth shaped by this unique life event?

Historically, knowledge of birth was imparted through observation and social learning. The laboring woman was supported by female family members, female friends, and by a female midwife (Wertz & Wertz, 1977). Women would learn about the work and the strength required for labor and birth through attendance at friends' and neighbors' births. Vicarious learning through witnessing birth helped to prepare the

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younger women for their own future births. Additionally, multigravid women could impart their knowledge and experience of childbirth in an environment where this information would be valued. The women who aided the laboring woman often acted on the basis of reciprocity, with the expectation that when their "time" came, the women they had supported would return the favor (Wertz & Wertz, 1977). Prevailing Puritan conventions did not permit open discussion of human reproduction. It is quite possible that the primary education about childbirth colonial women received occurred at this social gathering of women for labor and birth.

Beginning in the early 1900s, opportunities for attendance at another woman's birth were curtailed sharply as America's birthplace moved from the home into the hospital environment. In 1900, only 5% of births occurred in the hospital, while 95% occurred in the home (Wertz & Wertz, 1977). By 1939, half of all women and 75% of urban women were giving birth in the hospital. The statistics on place of birth are now reversed as the century draws to a close. Approximately 99% of American births now occur in a hospital, while less than 1% occur out of the hospital setting.

Hospital policies severely restricted those who could be present at birth. Hospitals initially allowed no one to accompany the laboring woman into the labor wards. Such policies placed responsibility for assisting women in childbirth in the hands of medical specialists. These specialists usually did not impart their knowledge and experience of childbirth to lay persons.

Exclusionary policies eliminated family and friends, including future mothers, from being witness to live birth. During this time, the only women with access to

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witnessing birth were female hospital health-care workers in labor and delivery units and women providing home birth services and support. It can be assumed that this would constitute a very small percentage of women. It was not until the consumer choice movement that began in the 1960s with the advent of childbirth education classes and continues today that hospitals slowly began to relax their restrictions.

As hospital policies are being relaxed, the benefit of supportive others to the laboring woman is being recognized, benefits such as decreases in fear, pain, and anxiety (Enkin, Keirse & Chalmers, 1990). Additionally, women have been identified as the primary family decision makers regarding use of hospital services. Advertising campaigns now court childbearing women by offering a wide range of birth choices, paramount among which is the option to share the birth event with a range of people who are significant to the mother. As a result, women kin and friends are beginning to reclaim their historic role of offering supportive care to the laboring woman in today's hospital environment. In a study examining the influence of witnessing birth on the confidence for childbirth of pregnant, nulliparous women, 28.3% of the 159 women had an opportunity to attend a birth. Circumstances prevented the presence of 3 of the women in a timely manner. A live birth was witnessed by 25.8% ($\underline{n} = 41$) women in this sample. The number of women who have witnessed a birth prior to giving birth themselves is rising.

Social childbirth in the 1990s, however, is not the same as social childbirth in the 1790s. Technology has done more than alter the medical tests and procedures done to laboring women. Communication technology has allowed a woman's social circle of

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friends and family to be contacted from the first contraction. In the excitement of the moment, there are times that these friends and family will arrive at the hospital before the laboring woman arrives! One commercial for cellular phones shows a father-to-be giving verbal "labor support" to his laboring partner over the phone from a remote location, presumably for hours. A live birth was seen by thousands of viewers in real time on the Internet; more will surely follow. The birth event is now a photo opportunity—cameras and video cameras are now standard equipment in the birthing suite. The birth video is shared within the social circle of the mother's friends and family. Birth has evolved from a gathering of women in solidarity, to a closed event controlled by the hospital, to an intimate "spectator sport" ("Bear down," 1999). It is becoming a communal event whereby the birth experience is shared among a wide circle of family and friends.

While many women giving birth in the hospital now have the option of choosing who and how many support people may attend their labor and birth, the open visiting policies have drawbacks. Some pregnant women are pressured to invite certain people in their social circle to attend the birth, despite misgivings on their part. Midwives attending women at home births, where there are no official visiting policies, have long recognized the need to keep the people present confined to those who will actually be helpful to the laboring woman. More people present can result in distraction—even family conflicts—that affect the laboring woman. These midwives understand that those support people not being helpful can sometimes direct the focus of attention to themselves and away from the laboring woman. In addition, the impressions that these

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support people take away from this experience are important. In considering whether or not to allow a young woman who has not yet given birth to be present at a home birth, one midwife gives the following advice, "This is okay, but you should keep in mind that you will be influencing her attitudes toward birth, so you should be very sure of both her and yourself" (Gaskin, 1978, p. 238).

The relationship between hospital caregivers and those support people present for labor and birth can be tenuous at times. Most caregivers have developed a relationship with the laboring woman during prenatal care or during childbirth classes and, to some degree, have discussed and refined their mutual expectations of each other. When support people arrive at the birth, they bring with them their own expectations, beliefs, and preferences that may conflict with the choices made by the laboring woman and her caregiver. Often these support people are meeting the caregiver for the first time during the woman's labor and birth.

The caregiver's priority at this time is providing care to the laboring woman, not assessing and addressing the views of those attending the birth. This, along with the established positive or dysfunctional patterns of relating among the laboring woman and her supportive others, can set the stage for misunderstandings.

There is a backlash movement at some hospitals against open visiting policies during labor and birth. Important to this investigation are the impressions about caregivers in this milieu that are formed by those female support people who have not yet given birth. If these women are permitted to be present yet experience a halfhearted

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or even hostile reception to the labor and birth room by caregivers, how does that affect their perceptions of the care they might receive at a future point in time?

There is a distinct advantage to learning through vicarious experiences rather than trial and error, particularly with reference to activities that are singular or uncommon events in a human life, such as giving birth to a baby. In addition to the exposure to skill subsets and coping strategies and to the comparative attainments of others, vicarious experiences constitute a source of information regarding personal efficacy beliefs—in this area of inquiry, confidence for the task of giving birth. What do women learn in the context of a life experience such as witnessing birth? What relevance to their own labor and birth do women ascribe to this experience? Does this experience inform beliefs and influence decisions when these women become pregnant and anticipate their own labor and birth?

Learning Through Witnessing

Much of a woman's knowledge about labor and birth today is gained through secondary sources, such as books, childbirth classes, and videotapes. Symbolic depictions of others' birth experiences, such as stories of friend's births and television portrayals of labor and birth, are pervasive and almost unavoidable in our culture today. Direct observation of another's birth experience presents a unique learning opportunity. The witnessing of birth by a woman is an observational or vicarious experience. Birth has its own special sights, sounds, smells, and sensations, thus creating a multisensory

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barrage of information for those present. Birth is not experienced directly but secondarily within a particular social context.

From her perceptions of the witnessed birth, the female observer gives meaning to this witnessed event and its relevance to her own life experience. The meaning of the experience is constructed by the individual, co-created by the external circumstances of the experience and the internal processing of the individual. Vicarious experiences are not inherently enlightening. According to Bandura (1997), four subprocesses are involved in learning through vicarious experiences: (a) attentional processes—the observer must attend to the required responses and the existing contingencies involved in the behavior; (b) retentional processes—this information is coded, organized, and stored for use with subsequent performance; (c) reproduction processes—the stored information must be retrieved and used as a guide with which to reproduce behaviors, and (d) motivational processes—the desire to achieve personal goals and to prevent untoward outcomes provides strong motivation for using strategies learned through observation.

Cognitive processing of information obtained through observation occurs partly through social comparison (Bandura, 1977a). Modeled behavior by similar others is a more powerful influence than by those who differ from us, even though external factors, such as age and race, may have nothing to do with performance capabilities (Bandura, 1997). The universal characteristic in childbearing is gender. To state the obvious, only women can give birth. This one defining characteristic may make all other superficial characteristics pale in comparison—women's shared ability to bring forth new life

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crosses all boundaries. It crosses economic lines, sociocultural lines, and religious lines; this has been so throughout time. For a woman to witness another woman give birth is to consider, however fleetingly, "There, too, go I."

Women who have been present at the birth of a friend or family member would presumably have a strong identification with the laboring woman, either because of relationship bonds, social similarities, or most likely both. This, combined with the sensations, behaviors, emotions, and physiological arousal generated by the drama of labor and birth, would make witnessing a live birth theoretically a powerful influence on a woman's feelings and beliefs about her own future labor and birth experience (Craig, 1968). The meaning given to life experiences, however, does not emerge from the void. Psychological reflection and making sense of an event, such as witnessing birth, begins with an articulation of the event in everyday language (Wertz, 1983).

Method

Qualitative methods were particularly well suited to answer the research question, "What is the meaning of a witnessed birth experience to nulliparous, pregnant women?" Thematic analysis was used to examine the respondents' conversations about their witnessed birth experiences. Thematic analysis was chosen to explore the aspects of this life experience identified as important by the women who lived it, as little is known about the phenomenon of witnessing birth and its influence as a social learning experience for women who have not yet given birth.

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Sample.

Eight nulliparous, pregnant women who previously had witnessed a live birth were recruited to participate in this study. Purposive sampling was conducted from a larger study investigating vicarious experience as a source of confidence, conceptualized as self-efficacy, for labor and birth. These women were chosen for the broad representation of birth experiences they witnessed and for their ability to articulate these experiences. Other inclusion criteria for the study were 19 years of age or older, at low obstetrical risk, anticipating a vaginal birth, at 36 gestational weeks or greater, and receiving care from midwives. These criteria were chosen to restrict the sample to healthy, nulliparous pregnant women. The goal was to hear women's reflections on the witnessed birth event when the task of coping with their own labor and birth was imminent and when this past life event might take on more significance to current feelings and beliefs. All women who were asked to participate agreed to do so. A ninth woman was asked to participate and agreed to do so, but she gave birth before a mutually convenient time for the interview could be arranged.

Respondents were interviewed between gestational weeks 36 to 39. Seven women were Caucasian; one was Asian-American. Two women were single, six were married, all had involved and supportive male partners. Respondents ranged in age from 21 to 35 years old and had between 12 to 19 years of education. Income of the respondents ranged from less than $15,000 to $40,000 annually. Three women were on maternity leave from their full-time jobs, two were unemployed, one had part-time employment, and two women were full-time students. One of the students also held a

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part-time job. Three characterized their pregnancies as unplanned, while five women had planned to become pregnant. Three women reported no problems during their pregnancies. For the five other respondents, reported problems ranged from mild (such as morning sickness, dizziness, and fatigue) to moderate (such as diet controlled gestational diabetes and a slight blood pressure elevation) to acute (one respondent had an emergency appendectomy at five months of pregnancy).

Respondents ranged in age from 6 to 31 years old at the time of witnessing birth. Respondents witnessed birth as recently as three months prior to the interview. The maximum time since viewing birth was 18 years for the respondent who witnessed birth at the tender age of six. Four of the women had seen one live birth, two women had seen two births, one woman had seen three births, and one—a student nurse-midwife—had seen about 55 live births. All respondents had seen at least one vaginal birth. Three of the respondents who had seen more than one live birth also saw a Cesarean birth, and one had seen a vacuum-assisted birth. Most witnessed births occurred in the hospital setting, although two women saw home births, and one woman saw a birth in a birth center. The relationships of the birth witnesses to the laboring women were as follows: two were friends, two were daughters, one was a sister, one was an acquaintance, and two were health-care providers. All women characterized their role at the birth as observer. In addition, three provided some labor support, one acted as photographer, and two rendered health-care services to the laboring women.

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Data Collection and Procedure.

Verbal consent for participation in the qualitative portion of a larger study investigating vicarious experience as a source of confidence was obtained by phone and a mutually convenient time and place for the interview was arranged. Some women were interviewed in their homes, some women were interviewed at their midwife's office, and some women were interviewed at a university setting. Upon arrival at the interview site, respondents were helped to feel comfortable and written consent to participate was obtained. The audio tape recorder was placed in an unobtrusive manner and turned on.

The researcher then framed the lines of inquiry with this opening statement: "Thank you for agreeing to participate in my research project. Pregnant women have a variety of experiences that influence how they think and feel about their upcoming labor and birth. You have had the unique experience of witnessing another woman labor and give birth. Please tell me the story of how you came to be present at this woman's labor and birth, what that experience was like, and how you believe this experience has influenced your feelings and beliefs about your own upcoming labor and birth." In some instances, respondents were encouraged to expand on a particular dimension of their viewed birth experience through the use of general probes and specific questions. However, the respondent was given the opportunity to tell her own story in her own way. The interviewer was always cognizant of the need to follow the informant's concerns and viewpoints. As themes and categories were identified during data collection, lines of inquiry were altered to more fully reflect the phenomenon as expressed by the respondents (Chenitz & Swanson, 1986).

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Data Preparation and Analysis.

The audiotaped interviews were transcribed verbatim and reviewed for accuracy. Copies of the transcripts were sent to the informants for review after they had given birth. They were given the opportunity to reflect on their words and clarify or expand their responses. QSR NUD*IST (an acronym for Qualitative Solutions and Research Non-numerical Unstructured Data Indexing, Searching, and Theorizing) software was used for the data management (Qualitative Solutions, 1997). The transcribed interviews, theoretical memos, and field notes were imported into this computer program to code data, to develop themes from the data, and to explore ideas about the themes. Initial coding was developed from direct quotes expressed by the respondents. Secondary coding was generated from the congruence of initial categories into sub-themes. Themes are not magically appearing essences but are useful focal points or commonalities of experience around which the researcher's interpretation occurs. The themes that emerged from the respondents' interviews were woven together into a larger, comprehensive story of their collective experience of witnessing birth (Aronson, 1994). A draft of the identified themes was sent to both the informants and their midwives to verify the authenticity of the developed themes (Sandelowski, 1986, 1991). All feedback from the women respondents and their midwives was carefully considered and incorporated into the following developed themes (Table 7).

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Witnessed Birth: Embedded in Relationship. The opportunity to witness a birth is embedded in a relationship with the laboring woman. Typically, this is an intimate social relationship, such as friend, sister, or daughter, and the opportunity to be present was offered as an invitation. The invitation was seen as an honor and a gift extended to the observer by the expectant woman. Others were present at birth through a formal social role, such as health-care worker or health-care student, and, less often, some viewed birth accidentally. The observer sought cues from the laboring woman and others in the room as to how to best be present—whether through observation only or through helpful activities.

Witnessed Birth: Giving Witness to Giving Birth. For these women who witnessed birth and who testified to its power in their lives, this witnessed birth was a beginning, an origin. Their witnessed birth became a foundation, a point of departure from which to compare and contrast the hopes and fears they held for their own anticipated birth. The actual story of the witnessed birth was brief—it began with the opportunity to be present at birth, it climaxed with the birth of the baby, and it was described primarily in terms of emotionally laden moments.

Anticipating Birth: Planning for the Unknowable. The women who witnessed birth all spoke of their plans, choices, hopes, fears, expectations, and coping strategies for their own anticipated births. Underlying their birth plans, however, was a strong element of uncertainty—the acknowledgment that all might not proceed as planned during labor and birth. How does one make plans under conditions of uncertainty? These women turned to approaches that have helped them in the past—seeking information, checking with credible authorities, garnering social support, reflecting on previous successful coping strategies, and using cognitive strategies, such a positive self-talk—to plan for their unknowable labor and birth.

Anticipating Birth: Social Influences. The most authentic, credible, and fundamental authority on birth is your own mother. She was obviously successful at birth, or you wouldn't be here! Mothers are both a genetic link and a psychological link to birth. Mothers came through as the single strongest social influence for these women—for better or worse. Media births were recognized as dramatic condensations of labor and birth but did have some subtle influences on how birth was perceived.

A Special Category of Birth Observer: Women Health-Care Workers. Women studying or employed in a health-care field are very likely to witness a birth as part of their education or professional duties. To witness birth as a female health-care provider was to take in the event at two levels—in relation to a socially prescribed formal role, attending to those contingencies that guide or affect role performance and in relation to a possibility, the possibility that what she was observing could also happen to her. One was a very objective stance to what is going on around her; the other stance was much more personal and subjective. The knowledge gained during a formal education in health care was a double-edged sword during pregnancy, at the same time inducing fear and confidence.

Table 7. Summary of Qualitative Themes

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Themes

Witnessed Birth: Embedded in Relationship.

The opportunity to observe a birth was embedded in a relationship with the laboring woman. Typically, this was an intimate social relationship, such as friend, sister, or daughter, and the opportunity to be present was offered as an invitation. The invitation was seen as an honor and a gift extended to the respondent by the expectant woman.

> [A friend] said 'I was wondering if you would like to be present at the birth.' I said 'Yes, I would love to.' I was kind of hoping she would ask, but of course, I wouldn't say that. So she asked me.

> [My sister] really wanted me to be there so that I could see her—you know, just in case I never got to see a birth. She thought that this would be probably her last one. She wanted me to see it so that whenever I had kids, you know... she just thinks it would help a lot for me to see that.

One of the respondents was six years old when she witnessed her mother give birth at home to her twin brothers. The opportunity for her observation of the birth rested primarily with her mother. Her mother set an emotional tone for this life experience for her child.

> There wasn't a specific process leading up to whether or not I would be at the birth. I think the whole experience, from my mother's point of view, it was just natural I would be there.

Not all present at birth were there by design. Accidental viewing of the birth was reported by two of the respondents. Note, however, that proximity to the birth as it occurred was embedded in the relationship of the accidental observer to the laboring woman.

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> [My sister] invited me but my other family was there too. My mother—she didn't want to see it at all and she just kind of accidentally walked in the room to check on my sister right as the baby was coming.
>
> The person who was giving birth was a 14-year-old girl, and she had found our family through our church. My mom was known as sort of a half-way house and people at the church knew of a family who were looking for a place for their 14-year-old daughter to live for the last month of her pregnancy, because she was going to give birth at a hospital near us. Her water broke in the middle of the night and I ended up being her companion. She was freaked out from the moment her water broke; she was terrified. I just stood by her side, assuming that I would be there until her mom came. Well, her mom came, and she decided she didn't want her mom to see her this way, and so she insisted that I be the one.

Preparation for viewing birth was minimal to nonexistent for the women respondents who witnessed birth as a teenager or an adult, but it was extensive for the women respondents who witnessed birth as young children. The women who witnessed birth as a teenager or an adult got most of their information about the upcoming birth through their pregnant friend. They believed their primary role was to support her and that she would tell them what to do as her needs became manifest. Preparation was not seen as a prerequisite to witness birth. The women who witnessed birth as a teenager or an adult relied on what they already knew about labor and birth—knowledge gained from friends, family, and media sources.

In contrast, the women who witnessed birth as young children were prepared carefully by their pregnant mothers in a manner that concentrated on the natural aspects of this experience, without making the birth event seem overly important. This was done to allow the child to feel able to leave the birth if the sights and sounds became uncomfortable or too intense. A respondent who was 12 when she viewed her mother

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giving birth to her younger sister said, "It was exciting, but it wasn't a big deal." The expectant mothers provided books and individual discussion with their daughters and other siblings that were to view the birth. Child birth observers were given explicit permission to leave the room during the birth, should it prove to be overwhelming for them. A support person specifically designated to be there for the child's sake and bags of food and games for the child were prepared in advance of the labor. Language used to explain physiological processes was recalled as being geared to the developmental level of the child. The respondent who saw the birth of her twin brothers at home remembered this special preparation:

> I had this little teddy bear. I took it every where with me. When my mom found out she was going to have twins, she got me another one so I had two bears.

In the context of a relationship to the woman prior to labor, the respondent's role was socially defined. The advent of labor altered the typical dynamics of interaction with her and brought other people, such as nurses and hospital personnel, into the mix. The women who witnessed birth sought cues from the laboring woman and others in the room regarding their role and how best to be present—whether through observation only or through helpful activities. At times, their role was uncertain and they felt at a loss for what to do. One informant spoke of "reading the room"—getting a sense of the emotional tone, of the focus of activity, and of what needed to be done. Both the laboring woman and the health-care providers generated the cues that guided the observer's level of participation. While the observers were present at birth through the

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expressed desire or consent of the laboring woman, health-care providers rendered a mixed welcome for birth observers.

> I think they [health-care providers] tolerated my presence. They really didn't even pay much attention to me except, 'here, you gotta wear this.'

Other respondents talked about health-care providers showing them certain aspects of what was happening. For example, one respondent was asked if she had ever seen stitching before and was invited to watch by the physician at her first witnessed birth. This same respondent was invited to examine the placenta, along with the midwife at her second witnessed birth. While occasionally the laboring woman or health-care provider would issue directions for the birth observer, such as "stay here with me" or "go get a washcloth," the role of birth observer was somewhat unclear for these women. The women who observed birth expressed occasional feelings of helplessness while watching. Being active helped to reduce this tension. This role contained aspects of purely observing, of "not getting in the way," and of carrying out activities supportive to the laboring woman and to her health-care providers.

Witnessed Birth: Giving Witness to Giving Birth.

To give witness is to see or to know by personal presence, to bear testimony, to attest, to testify, to affirm, or to declare solemnly for the purpose of proving some fact. To give birth is the act or process of bearing or bringing forth a child. To give witness to a woman giving birth is an active process of imbuing this observed event with meaning. Birth is also a beginning, an origin. For women who witnessed birth and who

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testified to its power in their lives, this witnessed birth was a beginning, an origin. Their witnessed birth became a foundation, a point of departure from which to compare and contrast the hopes and fears they held for their own anticipated birth. The actual story of the witnessed birth was brief—it began with the opportunity to be present at birth, it climaxed with the birth of the baby, and it was described primarily in terms of emotionally laden moments.

> I think just seeing a birth is a very emotional thing. It's just when you're in the room you just get this really strong feeling, whether you are a part of it or not.

While the lengthy and tedious nature of labor and birth was acknowledged in these stories, what was related as important were critical moments imbued with emotion. A wide range of emotional responses were invoked in the women respondents during the witnessed birth experience. Positive adjectives used to describe their responses included beautiful, intense, incredible, amazing, neat, touching, awesome, exciting, stunning, thrilling, and mesmerizing. Negative adjectives used to describe their responses included scary, worrisome, sad, and nerve-wracking. These emotional moments were significant at the time of viewing and sometimes took on new meaning in light of their own anticipated birth.

> I have no doubt that this [the witnessed birth] was the most powerful and hopeful thing to prepare me for my own birth.

One respondent expressed fear as she watched her sister cope with her labor. She was scared because "there was nothing I could do for her." She reported some confusion as birth became imminent, watching the thick hair and wrinkled scalp of the

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baby during crowning. As she understood what she was seeing, she lost her fear and became captivated and engrossed. This sense of powerlessness to assist the laboring woman in a meaningful way was expressed by several respondents, but it seemed to be helpful as preparation for the internal and physical work required of the laboring woman. No one else can do it for her, she and she alone does this difficult and painful work. This stark and powerful observation led to introspection in the women respondents as they wondered how they would cope during their impending labor and birth.

The emotional tone of the birth environment was noted by these women. One respondent expressed it this way, "I think atmosphere counts." References to the environmental tone included relaxed, natural, calming, serene, cold, sterile, hurried, tense, and "icky." The home birth as a birth environment was experienced as a quiet, relaxed, intimate, and natural setting for the women who witnessed birth at home. One respondent, who observed one hospital birth and one home birth and who chose a hospital birth for herself, believed that seeing a home birth made her consider "how much simpler it is in some ways to have your baby at home." The emotional tone of the hospital environment was largely influenced by two factors—unfolding labor complications and the bedside manner of the care providers. Labor complications brought more care providers into the room, and the atmosphere quickly became tense and tentative as concerns mounted regarding the health and safety of mother and baby. One respondent was angry about what she perceived to be dishonest responses from care providers about what was going on. She did not want information to be "sugar-coated" but rather forthright and honest.

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> They weren't telling her [laboring friend] anything. They were acting like they have to get something done now. It makes you nervous—you want to know why are you doing this so quick, what's going on, I don't understand this.

Even in the absence of labor complications, some care providers were brusque and businesslike and generated long-term negative memories for their treatment of both the laboring woman and her supportive others in these women respondents. A significant number of care providers was seen as warm and welcoming toward the laboring woman and her entourage; however, the negative experiences with care providers were remembered with particular vehemence.

Vivid moments of the birth were recalled with great clarity. Even with all the information available about birth in our culture, some natural events were surprising to these women.

> I was surprised by how long the head was out, just the head. I didn't know it could happen like that.

> I thought, is it [the baby] supposed to be so blue?

Memories of the newly born baby were also undimmed. Celebrating the baby's safe arrival, counting of the fingers and toes, and noting the newborn's response to mother's soothing voice were among the activities described. Events during the labor itself got short shrift in the descriptions by these birth witnesses. The laboring woman's ability to cope with her situation, procedures done to her, and the use (or not) of pain medications were recalled. But given that labor is measured in hours, while birth is measured in minutes, the lengthy events of labor seem to fade in memory compared to the drama of the birth itself.

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Anticipating Birth: Planning for the Unknowable.

Logic would dictate that planning for the unknowable is tentative at best. The course of labor and birth for any given woman is fundamentally an unknown (Lowe, 1991b). And yet planning for labor and birth is done by women and encouraged by health-care providers (Carty & Tier, 1989; Simkin & Reinke, 1980). Childbirth educators and those who work with women prenatally will often promote the development of a written birth plan. The Internet provides access to birth plans that can be customized by choosing options from a menu with the click of a mouse, fostering a view of birth as driven by consumer choice in much the same way we shop for options on an automobile. How can we ask "What do you want?" from a menu of labor and birth procedures when these procedures may be optional, may be contraindicated, or may be essential, depending on the health status and circumstances at the time a woman begins labor? The problem with planning for birth is that there are not simply two contingencies—normal or abnormal—vaginal or Cesarean birth. Rather, there are multiple possibilities of unforeseen situations that may alter birth plans slightly or drastically, calling into play one or many of the labor and birth procedures that had previously been chosen or rejected. The unknowable can be frightening.

> All these different problems, like one in so many thousands of births, you're bound to have something go wrong. So that was kind of scary, you just never know, you're taking a gamble.

The women who witnessed birth all spoke of their plans, choices, hopes, fears, expectations, and coping strategies for their own anticipated births. Underlying their

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birth plans, however, was a strong element of uncertainty—the acknowledgment that all might not proceed as planned during labor and birth. How does one make plans under conditions of uncertainty? Uncertainty "occurs in situations where the decision maker is unable to assign definite values to objects and events or is unable to accurately predict outcomes" (Mishel & Braden, 1988, p. 99). Clearly, uncertainty is part and parcel of the anticipation and the experience of labor and birth. These women turned to approaches that helped them in the past—seeking information, checking with credible authorities, garnering social support, reflecting on previous successful coping strategies, and using cognitive strategies, such as positive self-talk—to plan for their unknowable labor and birth.

The witnessed birth was a significant source of information for these women. They were able to see another woman's birth choices and coping strategies and determine whether or not these were consonant with their own choices, whether or not these were coping strategies that they would be able to use. Sometimes the witnessed birth provided a demonstration of what they feared the most or what they would never choose for themselves. One respondent gave credit to both the witnessed birth and the book Birth Without Violence by Frederick LeBoyer (1995) as the basis for her birth choices. The witnessed birth, which she characterized as "brutal" and "callous," was all that she did not want, while the book was all that she hoped her birth would be. In an effort to avoid similar brutal and callous treatment at the hands of virtual strangers in the hospital, she planned a home birth.

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Plans for birth were made in the larger context of the woman's life, including current stressors that affected the thoughts and emotions behind the plans. Current work and financial concerns were not mentioned by most respondents as important to the upcoming birth; however, two respondents did make special mention of these issues. One woman had just started her elective maternity leave at 35 weeks of pregnancy and was thankful for the chance to relax and focus on her pregnancy prior to the baby's arrival. Her 10-hour work days left her little precious time for herself. Another woman with serious financial worries was concerned that ...

> if we don't settle our money crisis, it will subconsciously not let me progress in labor. I know that any kind of fears about not being ready for the baby can affect you.

Mind-body connections were made by the women respondents from their own bodily experiences. The ability to achieve pregnancy was seen as an affirming sign that the body was working properly. Two respondents did not recognize their pregnant state until well into the second trimester. One woman expressed her embarrassment at this but also looked at it in a positive light. She had thought she was in tune with her body and was chagrinned to find out she had not diagnosed her own pregnancy, but she also took comfort in her body knowing how to proceed with the growth and development of a baby without her conscious thought. Early and late pregnancy discomforts, such as sleep disturbances, nausea and vomiting, and backache, were seen as preparation for the eventual sacrifices inherent in becoming a mother. "You'd better get used to it" was the advice of one respondent. One woman who confessed to being a hypochondriac in her youth was delighted to have a real reason for her current aches and pains.

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Visceral responses were not typically generated when thinking about the upcoming labor and birth, although on occasion, some women would note the physical sensations of excitement or fear. The sense of the mind affecting the body was reflected in a comment by one respondent who wondered what her attitude would be like at the time she actually began labor. She thought that this might affect whether she would be up to the challenges of labor or whether she would be "behind to begin with and never be able to catch up and deal with it [labor]."

Prior pain experiences were informative to these women anticipating labor and birth for the up close and personal struggle with pain it provided and for the coping strategies learned through these experiences. Health alterations that these women experienced and described as painful included strep throat, irritable bowel, migraines, severe menstrual cramps, a broken leg, laser surgery of the cervix, and a ruptured lumbar disc. The coping methods these women used to deal with the past pain experiences included cognitive strategies, such as positive self-talk, heat, hydrotherapy, over-the-counter and prescription medications, controlled verbalization of pain, and the comfort of a loved one. One respondent reported reflecting at length on what women who had experienced birth had told her about childbirth pain. Two women in this sample believed that they had never had a significant pain experience. Of special note here is the recent trend among youth of tattoos and body piercings. Three respondents expressed that these totally optional yet socially desirable fads were very painful, but the knowledge of certain pain did not dissuade them from getting the tattoo or piercing.

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> You prepare yourself to accept the pain, if there is any. I kind of went into a meditative state.

It is interesting to compare this type of anticipation of pain experience to that of labor and birth. It is doubtful that women are consciously agreeing to undertake the pain of labor and birth when involved in the act of conception, particularly given that a large number of pregnancies are unintended. While labor and birth are part and parcel of bringing a child into the world, it is the outcome—a healthy newborn baby—that is the touchstone for most women anticipating labor and birth. According to Kelpin (1984), "the way we bear the [birthing] pain depends on our relationship to the experience of the pain itself and to the reason for the pain—the birth of a child" (p. 97).

Anticipation of pain was a significant feature of the anticipation of birth, but the pain was discussed in context—in the context of "not knowing" what it would be like, in the context of a process that would result in a baby. These women were investigating and generating coping strategies to deal with the pain during their upcoming labor and birth. Desire to avoid or seek pain medications was moderated by the witnessed birth to a degree. One respondent saw her sister undergo placement of epidural anesthesia three times before it was effective in providing her with pain relief. Another respondent watched as pain medication helped calm her "disconnected" friend. Watching the results of the various pharmaceutical pain relief techniques used in the births they had witnessed was very instructive to these women.

The witnessed birth was one source of knowledge about the effectiveness of certain coping strategies, but the respondents all had other "tricks to pull out of the bag,"

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as one woman put it. Some of these strategies were typical of most respondents, such as attending childbirth classes, reading books, viewing films, practicing relaxation and breathing techniques, and talking to friends, family, and care providers about birth. Some of the prenatal health promotion recommendations were also viewed as important to dealing with labor—regular exercise to keep the muscles in good condition for coping with labor and pushing, and diet and weight control to keep the baby's size in a reasonable range for ease of pushing. Developing trust with the care provider and developing specific contingency plans were other strategies that occurred in the prenatal care setting. One respondent was going to cue her husband and her midwife with "that look" as a signal that the room was too noisy and support people should be asked to leave. The most unique strategy described to prepare for labor was posing nude for a university art class. The respondent was a tall, striking woman with long, flowing hair, and it was easy to imagine that she would be sought after by artists trying to capture the fecund form. She expressed the following:

> What a beautiful way to lose my last few inhibitions. I figured that if I could strip for a class of strangers, then I should have no trouble grunting and pushing naked in front of strangers [referring to health-care personnel in the birth environment] for the birth.

Many of the strategies discussed were cognitive strategies or "mind games" as one respondent characterized them. These were certain ways of thinking about the pain that were expected to assist in coping with the pain. Common threads among these ways of thinking were to focus on the baby and look forward to the end of the process, reflect on one's own inner unique strengths, choose not to think about the pain, choose to think

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about the pain but acknowledge that women have dealt with this pain throughout time, and keep open to unforeseen situations so that, if plans are altered, "you don't have to beat yourself up about it." One respondent thought that she would work herself into a full dread of the pain and that reality could not possibly be as bad as her imagination. She called this reverse psychology, an interesting strategy considering that she knew she was deliberately trying to fool herself. Another woman with intense apprehensions about Cesarean section would tune out any information about this procedure. She called this "planned ignorance" and thought it would be more helpful to her to not know about Cesarean birth. If this option became a consideration for her, she thought she would then have no choice but to proceed on provider advice, a "go with the flow" mental strategy for a potential dreaded event. One respondent was not afraid of the pain as much as making clouded decisions made under the influence of pain—"What I fear most is not being able to make my best judgment."

Choices around labor and birth care were made by respondents with consideration of options, individual preferences, influences on baby's health, and finances. Knowledge of childbirth options was aggressively sought by several respondents, and these women were surprised to find more options than were traditionally presented in standard childbirth classes. For example, one respondent was surprised to find that types of breathing techniques taught as preparation for labor and birth varied a great deal and that some authorities put little faith in one technique over another. She had only been taught one breathing technique in her class.

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Among the early decisions pregnant women make are choice of care provider and place of birth. Most care providers render care in specific environments, usually affiliating with only one birth place, so for most women, choosing a care provider meant choosing a birth place. While all the women in this sample did choose midwives as care providers, it was clear that there were several considerations taken into account when making this choice. The range of provider characteristics considered included female or male, midwife or doctor, large or small practice, and friendly or unfriendly practice climate. The choice of provider and birth place were both influenced by the witnessed birth experience. Respondents saw provider-patient interactions and environmental effects and drew conclusions from their observations that informed their current choices. For most choices, the respondents desired an active role in decision making and did not want to relinquish this control to a health-care provider.

> I know very clearly what I want and what I don't want, and I feel very confident in my ability to state that and that makes me feel more prepared.

While few women actually choose to give birth at home, most of the respondents did consider the option of home birth. One woman who had seen both a home birth and a hospital birth considered home birth, but her feelings toward her temporary apartment surroundings were one influence against choosing home birth. She thought that it would be a "rented" birth, not a true "home" birth. In other words, her feelings toward her current living space did not engender the desire for such an intimate act as giving birth to take place there.

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There were expressions of direct influence of the witnessed birth on current decisions about labor and birth options. One woman's role as a birth witness directly influenced the decision of who would be present at her birth. Her helplessness to aid the laboring woman led to her decision to have only her male partner present, because "there was nothing anybody could do" for her. The women who had viewed birth as young children reflected positively on the experience and would choose to allow a sibling at a birth, should this opportunity present itself in the future. Both women felt the preparation for viewing was important to children. Other choices these women considered for themselves were no intravenous fluids in labor, hydrotherapy in labor or for birth, preferring an intact perineum or natural tear over an episiotomy, and no separation from baby.

The element of uncertainty pervaded births plans. These respondents found comfort in developing a sense of trust in their care providers and in a sense of faith on a spiritual plane. One respondent made her peace with the uncertainty of planning for the unknowable this way:

> You just have to leave it to the universe, because it could happen in any order, or not at all, or totally different than what you expect. And I just have to release that [expectations] and trust that I can breathe through it all.

Anticipating Birth: Social Influences.

The most authentic, credible, and fundamental authority on birth is your own mother. She was obviously successful at birth or you wouldn't be here! Mothers are both a genetic link and a psychological link to birth. They pass on the genes for

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structure and function of the body, and they pass on their stories—of your own entry into the world, of their other reproductive successes or failures, and of their knowledge and opinions. Mothers set the stage for their daughters' beliefs about birthing through their good or poor mothering abilities and through the way in which they live in the world. According to these respondents, mothers were the single strongest social influence for women anticipating labor and birth—for better or worse. Mothers had more influence than husbands, friends, strangers, or care providers.

Mothers of the respondents influenced their daughter's birth beliefs and choices both directly and indirectly. The most direct influence was provided by mothers who spoke out about their daughters' birth choices. For example, two mothers spoke out against their daughters' consideration of a home birth. Mothers were also role models for their daughters, indirectly through sharing their birth stories or directly for the two respondents who, as children, witnessed their mothers give birth. There was recognition among the respondents that their mothers faced different choices in a different birth climate than did they. One respondent said her mother could not recall much about her labor but believed that she was heavily sedated, strapped into stirrups, and woke up at birth with a nurse pushing hard on her belly and a doctor making the episiotomy incision. Her mother expressed feelings of rage and powerlessness about this experience. Two of the respondents' mothers were viewed by their daughters as women who fought the system to get the birth choices they wanted. For example, one of the mothers was actively campaigning with the local hospital administration for the right to have the support people of the woman's choosing, including siblings, at the birth in the 1970s.

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This same respondent went on to contrast her in-laws' experiences and views of birth and infant feeding, which were very orthodox, to those of her mother and her grandmother, which were much more unconventional for their time. She said:

> It's like two different worlds. It's like not even the same thing is happening to these women.

Other social relationship influences did not come through as powerfully as the influence of the mother. Sisters also had a strong influence on some of the respondents but were not consistently mentioned as were mothers. Male partners, fathers, in-laws, brothers, friends, strangers, and care providers were all mentioned by respondents, but their appearance and contributions in the interview conversations tended to be brief and minimal. The social influence of the laboring woman in the witnessed birth was significant. Not only was she a live birth model, but, because the witnessed birth was typically embedded in a longstanding relationship, there was the opportunity for sharing and a review of the witnessed birth experience as the respondent approached her own due date.

Advice was freely dispensed by social others. One of the most consistently discussed issues was the pain of childbirth and the value of using various pain relief modalities. Discussion of pain by social others often conflicted with the respondents' own personal choices regarding their anticipated labor and birth. While unmedicated childbirth appeared to be a widely acknowledged ideal, it was also believed to be an unattainable ideal for a significant number of social others. This sometimes raised doubt

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in the respondents regarding their own abilities to cope without some kind of medication. One respondent found that ...

> a lot of people are supportive of not using any pain medication, but not a lot of people have actually done it.

She said that most of the acquaintances she talked to used an epidural for pain relief. One woman was surprised by the emphasis on pain in the social setting of her childbirth class. From her readings, she was prepared for a perspective that would not deny the pain but at the same time would not make it loom so large in the labor experience. The teaching she encountered is in concert with the prevailing ideas in childbirth education classes today in not denying or minimizing the pain experience of labor and birth.

Respondents heard stories of birth from a variety of sources—mothers, sisters, friends, childbirth classmates, and strangers in various settings. The primal birth story was that of one's own birth into the world and was seen as important and possibly predictive of how they too would give birth by some of the respondents. This story was most often relayed by the respondents' mothers, an established credible source of birth information, who also shared the birth stories of siblings. For some respondents, these family birth stories were shared for the first time with the diagnosis of this pregnancy; for others, the birth stories were retold and details were embellished. One respondent reported noticing Braxton-Hicks contractions whenever she walked into a grocery store. Later in the interview, she recounted her mother's birth story of a sibling's birth in which her mother had started labor in a grocery store. She made a link of her contractions and

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her mother's story and wondered if this reflected a powerful psychological connection between her mother and herself.

Birth stories were characterized as more negative than positive in many instances. These women used the cognitive strategies of filtering out negative stories and focusing on positive stories to help them keep a positive perspective on their upcoming labor and birth. While some of the birth "horror" stories recounted gave examples of poor neonatal outcomes, one common feature to the horror stories was traumatic "ripping" of the perineum during birth. This fueled a strong desire by the respondents to either preserve the perineum during birth or, less often, to ask for a cut to avoid an uncontrolled "rip." Occasionally, strangers in public setting would come up to the respondents and spontaneously share a birth story. As one respondent said, "they just feel they need to tell you their story." This was seen as a positive event by one respondent who felt more connected to the universal nature of birthing through these shared stories. While negative birth stories had the effect of raising doubts in these women regarding their ability to handle the labor and birth, all stories were valued as a source of information about the wide range of possibilities in birth experiences.

Media births—births portrayed in news, television, or film—were recognized as dramatic and unrealistic condensations of labor and birth. They were generally characterized as negative influences on how birth was perceived. Women respondents were more attentive to the media around pregnancy and birth during their pregnancies, but all believed they could objectively evaluate the sources and any relevance to their own situation. Having witnessed a live birth fostered a feeling of being able to judge a

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media birth from a reality perspective. One respondent commented that she could better interpret birth portrayals because she has had a basis from which to compare-her viewed birth experience.

The perceptions of some aspects of pregnancy, labor, and birth were thought to be influenced by the pervasive dramatizations of birth in the media. One respondent believed that a passive view of receiving health care was presented.

> As soon as there is any kind of different sensation in your body, they show that you lay down, you put your feet up and call the doctor. It's a lot more passive. It's not an active way of dealing with your body.

Another respondent had second thoughts about her choice of birth site, one and a half hours from her home, and attributed her uneasiness to the media's edited versions of labor and birth.

> It took me a full two-thirds of my birth classes to get those TV images out of my head. For one thing, I was convinced that your water always broke first, that labor is instantly painful, contractions start coming quickly, and then you have the baby.

Filmed versions of real or dramatized birth seen included television, movies, news or documentary sources, and class films. The most common films seen were those shown in childbirth classes, although one respondent had a vivid memory of a birth film shown in a high school health class. She believed it was presented as a scare tactic in the hopes of preventing teen pregnancies, but she was also concerned that it imparted a very negative view of birth. Having watched her sister being born at the age of 12, this respondent knew that birth could be a very different experience from that shown on the film. Another source of filmed birth was that of friends' and family members' home

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videotapes of their births. One respondent saw a friend's home birth on a videotape. The respondent trusted this videotape more than other birth films because she knew that there was no acting or editing in this videotaped birth. It is interesting to speculate about the influence of this source of birth information for women, as videotaping birth is not uncommon in the birth place today.

A Special Category of Birth Observer: Women Health-Care Workers

A category of socially accepted virtual strangers is part of most births in America—health-care workers. A significant percentage of the health-care work force is female. Women studying or employed in a health-care field are very likely to witness a birth as part of their educational or professional duties. This sample included two women in the health-care field—one a student nurse and the other a student nurse-midwife, both nearing completion of their studies at the time of their interviews. To witness birth as a female health-care provider is to take in the event at two levels. It is processed in relation to a socially prescribed formal role, attending to those contingencies that guide or affect role performance, and it is processed in relation to a possibility, the possibility that what she is observing could also happen to her. One is a very objective stance to what is going on around her; the other stance is much more personal and subjective.

The knowledge gained during a formal education in health care was a double-edged sword during pregnancy, at the same time inducing fear and confidence.

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> You know, each new thing that we learned that could go wrong, I was thinking 'Oh, my gosh, that could happen to me.'

The fear was induced through the knowledge of the whole range of what could go wrong in pregnancy and childbirth, and the knowledge that these conditions were attached to real women, not textbook statistics. Knowledge of probabilities seemed to temper the intellectual assessment of its occurrence for this labor and birth, but it did not seem to temper the fear, because quoted odds for a particular condition of 10,000 to 1 still include the possibility of being that one. Told that she had developed gestational diabetes during her pregnancy, one informant rushed home to look up this complication in her nursing texts. The exhaustive list of maternal and fetal/newborn complications was fear-producing for her, but she took some comfort in also reading about the steps she could take to alter her diet to prevent these complications. Knowledge of options enhanced feelings of control and reduced anxiety.

Confidence for labor and birth was a byproduct of formal education in the health-care field. The recognition that labor and birth are stressful impending tasks for these women generated reflection on the successful completion of prior stressful tasks.

> If I got through nursing school, I could do anything.

Education was a transformative experience itself and was found to be beneficial in a number of ways for the upcoming labor and birth.

> It's my education integrated into my personality. It's like one thing now, so I think it's a definite plus.

Informal networks and connections allowed these women to get "back door" information about their own midwives and their ways of practicing. They compared

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what they had seen and learned to what they were experiencing and what they were anticipating. They knew first hand what it is like to provide good care and hoped that they would be on the receiving end of this kind of care during their labor and birth—from their midwives and others who would be involved with them. The ability to differentiate good care from bad care was expected to fuel requests and demands. For example, they learned to ask what medicine was being put in an IV or to ask for another nurse if the one assigned was "mean." These women still attended childbirth classes, although they did not believe that they learned any new information. They attended for their partners' sake, to encourage their partners' learning and participation in the labor and birth process.

Indelible educational and professional experiences cannot simply be turned off when contemplating one's own pending labor and birth. There was the sense that these women would process their labor and birth experiences as care providers as well as women giving birth. During formal education, a repertoire of skills, including cognitive skills, are developed that become a strategy for use, even when not enacting the professional role. For example, one informant expressed that she would watch the fetal heart rate carefully, and, if the heart rate was low, this would induce her to push harder. She also thought she might need more reassurance that things were going well. She might over-interpret the signs and symptoms of her own labor, and this might bring to the forefront of her consciousness all the complications that are possible. One respondent was asked by her friends whether her education made her more nervous.

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> I'm not really more nervous. I think I just know what to expect. And I guess I still think I'm going to have a fairly normal labor and delivery. But in the back of my mind, I know there is a possibility that it may not turn out the way I want it to.

She goes on to balance this acknowledged element of uncertainty with what, for her, is the most certain of outcomes.

> I've seen it happen, I've seen it every single time. At the end there is a beautiful baby.

The birth that the student midwife chose to discuss when asked to relate her most memorable witnessed birth illustrates her "midwifery moment"—that moment in her development when she really felt like a midwife for the first time. There can be no doubt that this moment is essential to who she is—she has seen over 60 births and this birth stands out among them all. She sensed that the laboring women bonded with her and trusted her. The student midwife applied her book knowledge of how to turn a fetus in a posterior position to this woman, and it worked! This birth and this moment become even more important in the larger social arena of birth care today, where midwives of all kinds are seen as on the fringe, not part of the norm. As a midwife in today's culture, you become both a valued and a questionable resource. Valued because you know "somethin' 'bout birthin' babies" (paraphrase of Butterfly McQueen's famous line in Gone with the Wind) (Selznick, 1939), and questionable because you are not mainstream medicine. This student midwife had two sisters-in-law who had both histories of pregnancy complications and a decided preference for the medical model of care. In this social context, she believed that both her personal and professional choices were being scrutinized.

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> You know, I feel like everything will turn out okay. I feel like I can get through this naturally and prove to my sisters-in-law that it can happen. You don't have to have an electronic fetal monitor hooked up to you. You can get into the tub. You can do all these great things.

Being an authoritative witness to a woman's birth as a health-care provider provided a new way of connecting with women. The student nurse was present for the birth of a casual acquaintance, entirely by chance. She subsequently has had more contact with this woman and reported reviewing the woman's birth with her, giving this woman praise and reassurance regarding her performance during the labor and birth.

> I got to know her more after the birth because it kind of brings you together.

Being at birth does indeed bring women together. Reviewing the birth after observing it is important for both the caregiver witness and the new mother (Simkin, 1991, 1992, 1996). Missing pieces and differing perspectives of the birth event are better understood when this kind of discussion occurs.

Discussion

Asking these women for their stories of witnessing birth also obligates us to listen. Their stories include a temporal ordering of events and an effort to imbue those events with meaning. The narrative is not necessarily a one-on-one correspondence to real life events but rather a reconstruction of those events by the narrator. The objective of narrative explanation is not to foretell, but to tell and retell; to provide insight that is only possible when looking back (Sandelowski, 1991).

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What understanding and insight can be gained from these women's stories? There are echoes of the historical form of social childbirth ringing in today's birth environment. In historical context, the invitation to be present at birth may have been construed as a social obligation or duty. For these women, the invitation to be present at a birth was offered as a gift. The acceptance of the offer was also a gift. The women who came to birth were willing to give of their time and of themselves to assist the laboring woman during an important transitional event in her life. In exchange, these women participated in a unique and sacred event in a family history and were able to gain first-hand knowledge of birth that informed their current birth choices. Witnessing birth is a singular and separate life experience. During pregnancy this event became intertwined with other phenomenon, such as preparation for childbirth, expectations for childbirth, and fears of labor and birth. The influence of such a life experience on a woman's hopes and fears for labor and birth must be understood in the context of other multiple and complex influences in a woman's life.

Care providers to childbearing families must be sensitive to their interactions with women and their families. Flip remarks and cool receptions to support people are remembered long after the offending care provider has forgotten them. Hospital marketing efforts are undermined when promises of welcome to a laboring woman's supportive others do not materialize. It is important to be responsive to the support person's need for guidance in their role as birth observer. Care providers can give this gentle guidance. It would do well to prepare adult support people to the same extent that children birth observers are prepared. Being at birth creates integral impressions for

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women of all ages. Older women at birth have relived or healed their birth experiences through attendance at their daughters' births. Women who have yet to give birth are worthy of our special attention when present at a birth.

The texture of social childbirth changes in small increments, day-by-day. As a new millennium begins, it is a good time to reflect on social childbirth. Women give birth in the context of a particular sociocultural moment in time. A shift in social childbirth is slowly taking shape—from strict and rigid medical control to a softening of this rigidity and control as medicine responds to various social pressures itself. As a shift occurs, opportunities open for other ways of being at birth to take hold and evolve. It is important that care providers continue to give witness to those who give birth and to those who witness birth, and to acknowledge and honor the stories they hear about this powerful and transformative life event.

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CHAPTER 5

THE INFLUENCE OF WITNESSING BIRTH ON THE CHILDBIRTH SELF-EFFICACY OF PREGNANT, NULLIPAROUS WOMEN

This chapter is presented in manuscript form; it will be submitted to Research in Nursing and Health. The study examined the following research hypotheses and questions:

Hr_1: There will be a difference in self-efficacy for labor and birth between pregnant, nulliparous women exposed to a live modeling vicarious experience and those exposed only to symbolic modeling vicarious experiences.

Hr_2: There will be positive relationships between self-efficacy for labor and birth and the value attached to the live modeling vicarious experience and social comparison to the birth model.

1. What are the relationships between selected antecedent and intervening variables (e.g., fear of labor and birth, preparation for childbirth, childbirth expectations) and self-efficacy for labor and birth in women exposed to a live modeling vicarious experience, and for those exposed only to symbolic modeling vicarious experiences?

2. What are the relationships between selected performance accomplishment marker variables (e.g., postpartum perceptions of the birth experience, length of labor,

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use of anesthesia and/or analgesia, route of birth, and infant Apgar score) and self-efficacy for labor and birth for subsequent pregnancies in women exposed to a live modeling vicarious experience and those exposed only to symbolic modeling vicarious experiences?

3. What is the meaning of the live modeling vicarious experiences to nulliparous, pregnant women?

Abstract

Vicarious experiences constitute a source of information regarding self-efficacy for the task of giving birth. What influence does the vicarious experience of witnessing birth have on the childbirth self-efficacy of pregnant women anticipating their first birth? This nonexperimental study compared pregnant, nulliparous women who had a prior live modeling vicarious birth experience with women who had not had this experience on self-efficacy percepts for labor and birth. Selected antepartal, intrapartal, and postpartal variables were examined. One hundred fifty-nine women recruited from six nurse-midwifery practices participated in the study. Major findings included (a) no group differences in mean self-efficacy expectancy scores, (b) no relationship between the value of the live modeling vicarious birth experience and social comparison to the birth model to self-efficacy, (c) generalized childbirth expectations explained 25% of the variance in childbirth self-efficacy, and (d) a woman's satisfaction with her birth experience and the attribution of labor and birth performance to the woman's own efforts explained 23% of

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the variance in self-efficacy for a future labor and birth. Implications for the application of self-efficacy theory to the area of childbirth and for future research are discussed.

MeSH Headings

self-efficacy; childbirth; vicarious experience; comparative study

Introduction

There is a distinct advantage to learning through vicarious experiences rather than through trial and error, particularly with reference to activities that are singular or uncommon events in a human life, such as giving birth to a baby. In addition to the exposure to skill subsets and coping strategies and to accomplishments of others, vicarious experiences of labor and birth constitute a source of information regarding personal confidence or efficacy beliefs for labor and birth. Birth is a powerful, unfolding drama that engages the privileged observer. Few who witness a woman as she labors to give birth are untouched by this miraculous event. This study examined the influence of witnessing birth on the childbirth self-efficacy of pregnant, nulliparous women.

Significance

Birth is a psychophysiological event embedded in social processes. For most of the 4 million American women who give birth every year (Horton, 1995), this event is normal and healthy. Giving birth is an important developmental milestone in a woman's life with sequelae for mother, child, and family that extend beyond the birth event itself.

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The birth of a child, particularly the first child, is a marker event in a life history. Time is measured before children or after children. Women carry vivid memories of their birth experiences throughout their lives (Simkin, 1991, 1992, 1996). For many first-time mothers, the act of giving birth represents the first tangible act of mothering.

Most often, labor and birth are cause for celebration—a baby will be born! Yet, labor and birth are inherently stressful processes to both mother and fetus. This stress serves an adaptive function for both mother and baby when maintained at moderate levels. For example, catecholamines promote absorption of the amniotic liquid in the newborn's lungs and assist the newborn in temperature maintenance through mobilization of glucose stores (Gabbe et al., 1991). Birth is an arduous event that requires of women physical and emotional stamina—it requires the ability to perform certain tasks, such as relaxation, breathing, and expulsive effort, under continually intensifying conditions of uterine contractions, pelvic pain, and pelvic pressure.

It is "common wisdom" among those who assist women through the travails of labor and birth that confidence is an important asset to the birthing process. A confident woman, one who has faith in her ability to prevail no matter what circumstances she is given, will call forth the coping behaviors and emotional stamina that will see her to a successful outcome. But what is known about critical life experiences that enhance or diminish the development of confidence for labor and birth in women?

Formal childbirth education classes have been found to be related to higher confidence levels in pregnant women in several studies (Crowe & VonBaeyer, 1989; Walker & Erdman, 1984). Childbirth classes alter perceived confidence in women

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through teaching effective strategies for dealing with the stressful task, such as breathing and relaxation techniques and pain management strategies. Aside from this, however, there have been no systematic studies examining life experiences that enhance or diminish a woman's confidence for labor and birth. Hampering knowledge development in this area has been the lack of a theoretical perspective from which to explore the development of confidence as a factor affecting the birth experience.

Theoretical Framework

The studies of Lowe (1991a, 1991b) and Manning and Wright (1983) have conceptualized confidence as self-efficacy, a component of social cognitive theory. Efficacy beliefs are an important mediator of human behavior. Self-efficacy is a dynamic cognitive process that is an individual's evaluation of her own capabilities to cope with a stressful situation and perform required behaviors (Bandura, 1977a, 1997b, 1995, 1997). It is important to note that self-efficacy beliefs can be modified. Consistent with self-efficacy theory, the four sources of self-efficacy information are performance accomplishment, vicarious experience, verbal persuasion, and visceral arousal. Performance accomplishment—in this area of inquiry, the prior experience of labor and birth—is the most influential source of efficacy information because this previous birth provides the parturient with the most authentic evidence of her abilities (Bandura, 1997). In nulliparous pregnant women (women who had not previously given birth), performance accomplishment is eliminated as a source of self-efficacy information. For

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these women, vicarious experiences theoretically would be the most powerful predictors of self-efficacy.

Bandura's social learning account of the value of vicarious experiences in human learning has received substantial empirical and theoretical support (Bandura, 1995, 1997; Lawrance & McLeroy, 1986; O'Leary, 1992). Observing others performing a stressful task provides the observer with information regarding specific coping skills and the belief that "if others can do this, perhaps I can, too." Live modeling vicarious experiences are those in which the observer is present during task performance—for example, attendance at another woman's labor and birth. Symbolic modeling vicarious experiences are symbolic representations of the performance—for example, through videotapes of labor and birth shown in childbirth classes or through verbal accounts of friends and families' labor and birth stories.

Vicarious experiences are not inherently enlightening. According to Bandura (1997), four subprocesses are involved in learning through vicarious experiences: (a) attentional processes—the observer must attend to the required responses and the existing contingencies involved in the behavior; (b) retentional processes—this information is coded, organized, and stored for use with subsequent performance; (c) reproduction processes—the stored information must be retrieved and used as a guide with which to reproduce behaviors, and (d) motivational processes—the desire to achieve personal goals and to prevent untoward outcomes provides strong motivation for using strategies learned through observation.

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Cognitive processing of information obtained through observation occurs partly through social comparison (Bandura, 1977a). Modeled behavior by similar others is a more powerful influence than by those who differ from us, even though external factors, such as age and race, may have nothing to do with performance capabilities (Bandura, 1997). The universal characteristic in childbearing is gender. To state the obvious, only women can give birth. This one defining characteristic may make all other superficial characteristics pale in comparison—women's shared ability to bring forth new life crosses all boundaries. It crosses economic lines, sociocultural lines, and religious lines; this has been so throughout time. For a woman to witness another woman give birth is to consider, however fleetingly, "There, too, go I."

Until recently, live modeling vicarious birth experiences have been restricted for women, because most American births occur in the hospital where policies have limited the presence of family and friends. Due in part to consumer pressures, however, hospital policies are slowly changing to allow the laboring woman more choice in who may attend her birth. While the number of women who have witnessed a birth prior to their own childbirth experience is still relatively small, that number gradually is growing. Symbolic modeling vicarious experiences, however, are abundant, and American women will have encountered numerous birth films, books, and stories of others' birth experiences prior to their own childbirth experience.

The purpose of this nonexperimental comparative study is to examine the effects of a live modeling vicarious birth experience on the self-efficacy percepts for labor and birth of pregnant, nulliparous women. This group of women is compared on selected

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variables to a group of pregnant, nulliparous women who have only been exposed to symbolic modeling vicarious birth experiences. The extent to which the live modeling vicarious birth experience is a source of confidence for labor and birth is explored. Additionally, selected antecedent and intervening variables and the effects of performance accomplishment are examined.

Related Constructs

Childbirth Preparation.

Increased knowledge has been found to be related to increased confidence. Studies have found a significant positive relationship between preparation for childbirth and confidence for labor and birth (Crowe & VonBaeyer, 1989; Walker & Erdman, 1984). After childbirth classes, confidence was positively related to knowledge of practical skills, such as breathing and relaxation techniques and pain management strategies (Walker & Erdman, 1984). As self-efficacy theory suggests, the vicarious symbolic modeling that occurs in childbirth classes alters perceived confidence through teaching effective strategies for dealing with the stressful task (Walker & Erdman, 1984).

Childbirth Expectations.

There is empirical support for the view that higher expectations for childbirth are generally rewarded with a more positive childbirth experience (Green et al., 1990; Hodnett & Osborne, 1989; Khazoyan & Anderson, 1994). Women were able to enumerate a lengthy list of treatments and procedures they expected to have done during

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labor and birth (Beaton & Gupton, 1990). They wanted to be consulted about the procedures, even though they expected to have interventions done despite their wishes. While most women hoped to have a "drug free" labor, they expected to they might "need something," particularly if faced with a long labor (Beaton & Gupton, 1990).

In a prospective study examining expectations and psychological outcomes of the childbirth experience, women who expected labor to be painful were more likely to find that it was. Women who preferred to cope without drugs were more likely to do so; women who expected that breathing and relaxation exercises would be useful were more likely to find that this was so, and both groups of women had higher satisfaction scores (Green et al., 1990). High-risk pregnant women expected more medical intervention and anticipated more difficulty coping with pain than did their low-risk counterparts (Heaman, Beaton, Gupton, & Sloan, 1992).

To the expectant mother, effective coping with labor and birth—medicated or unmedicated—connotes a desire to retain a positive self-image, integrity, and some degree of autonomy in decisions affecting her and her baby (Maloney, 1985). The sense of personal control was found to be important in several studies. High expectations of personal control and continuous professional labor support were related to more positive childbirth outcomes in a clinical trial examining the effects of midwifery care (Hodnett & Osborne, 1989). In another study (Green et al., 1990), expectations of being in control prenatally—both self-control and control of interventions being done—were positively associated with the postnatal perception of achieving that control during childbirth and with higher satisfaction scores and higher emotional well-being scores (Green et al.,

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1990). Thus, higher expectations of personal control appear to be related to more positive physiological and psychological outcomes.

Support for the childbearing woman comes from her own immediate circle of family and friends, and from a host of health professionals such as nurse-midwives, nurses, childbirth educators, and physicians. What do women expect from these networks of support? Women expected their husband/labor coach to be present at the birth (Beaton & Gupton, 1990; Khazoyan & Anderson, 1994). Additionally, fathers expected to attend the birth of their child (Palkovitz, 1987). Women expected physicians to be present only for the birth of the baby unless a complication arose, while they expected nurses to provide largely task-oriented care—coming in and out of the room to check on various things, such as cervical dilatation, blood pressure, and fetal heart tones. Very few women expected emotionally supportive care or continuous presence at the bedside from nurses (Beaton & Gupton, 1990).

Childbirth classes have become an important aspect of obstetrical care. Expectations concerning the anticipated gains from childbirth classes were varied between fathers and mothers attending classes. Fathers expected more factual information regarding the childbirth process, while mothers were more interested in gaining confidence for the labor and birth and in learning strategies to improve their ability to cope with labor and birth (Maloney, 1985). It is clear that a pregnant woman will develop detailed expectations of her anticipated personal experience of the childbirth process and for the roles of those who will be present to assist her.

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Fear of Labor and Birth.

Historically, childbirth has been perceived as a hazardous time—a threat to the life and health of mother, baby, or both. Technology and medical advances have dramatically reduced these risks but have not had a similar impact on fears. Fear of the unknown and not knowing what to expect are commonly reported themes among pregnant women (Beaton & Gupton, 1990). Fear arousal is inversely related to self-efficacy (Bandura, 1980). Fear of childbirth has been found to increase with advancing pregnancy (Areskog et al., 1982). Fear will induce a physiological stress response. Self-efficacy has been found to be a cognitive mediator to physiological stress reactions (Bandura et al., 1985). Subjects with high self-efficacy were found to have low levels of catecholamines during a stressful task, while those with moderate to low self-efficacy demonstrated a substantial rise in plasma catecholamines. Subjects who judged themselves completely inefficacious declined to do the stressful task, with a resultant drop in catecholamines. Unfortunately, labor and birth are stressful tasks that the pregnant woman cannot decline to do. Importantly, the low to moderate self-efficacious subjects were later given modeled experiences that led to strengthening of self-efficacy percepts. These subjects with recently increased self-efficacy then performed the stressful task, exhibiting a similar catecholamine response to the subjects with high self-efficacy. This suggests that self-efficacy can be modified through interventions with a resultant alteration of the physiological stress response.

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Perception of the Labor and Birth Experience.

"Perceptions of performance during childbirth may serve as indicators of later capabilities in the mothering role" (Mercer, Hackley & Bostrom, 1983, p. 202). The labor and birth experience can be thought of as the first concrete act of mothering, particularly important for first-time mothers. Confidence for labor and birth has been linked to more positive perceptions of the birth experience (Mercer et al., 1983), which in turn has been linked to more frequent nurturing behaviors by the new mother toward her infant (Mercer, 1985). Other variables important for a positive perception of childbirth are a sense of maintaining control in labor and birth, prenatal classes, less medication in labor, partner support, and early maternal-infant interaction (Mercer, 1985; Mercer et al., 1983). Age affects perceptions of the birth experience. Teenage mothers were more likely to have negative perceptions, while mothers between the ages of 20-29 years had the most positive perceptions of birth. Perceptions of birth were found to have a positive correlation to maternal attachment behaviors (Mercer, 1985). For mothers older than 30, perceptions of birth were not related to mothering behaviors. This is thought to be because of both an increased readiness for pregnancy in this age group and the benefit of more life experiences that support knowledge acquisition of childbearing and childrearing (Mercer, 1985).

Research Hypotheses and Questions

This study examined the effects of live modeling vicarious birth experience on the self-efficacy for labor and birth of pregnant, nulliparous women. Nulliparity will control

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for performance accomplishment in that these women have not had a previous birth experience. The hypotheses and questions developed were:

Hr_1: There will be a difference in self-efficacy for labor and birth between pregnant, nulliparous women exposed to a live modeling vicarious experience and those exposed only to symbolic modeling vicarious experiences.

Hr_2: There will be positive relationships between self-efficacy for labor and birth and the value attached to the live modeling vicarious experience and social comparison to the birth model.

1. What are the relationships between selected antecedent and intervening variables (e.g., fear of labor and birth, preparation for childbirth, childbirth expectations) and self-efficacy for labor and birth in women exposed to a live modeling vicarious experience, and for those exposed only to symbolic modeling vicarious experiences?

2. What are the relationships between selected performance accomplishment marker variables (e.g., postpartum perceptions of the birth experience, length of labor, use of anesthesia and/or analgesia, route of birth, and infant Apgar score) and self-efficacy for labor and birth for subsequent pregnancies in women exposed to a live modeling vicarious experience and those exposed only to symbolic modeling vicarious experiences?

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Method

Design.

The nonexperimental, comparative research design is used when subjects have self-selected an experience that is difficult or impossible for the researcher to manipulate. In this study, the experience of interest was a previous live modeling vicarious experience of labor and birth—a situational experience that subjects in Group 1 have encountered at some point in their lives. The following research design was used:

Group 1	X	O_1 birth O_3
Group 2		O_2 birth O_4

Group 1 was composed of women who have had the prior experience of being present at the labor and birth of another woman. Group 2 was composed of women who have not had this experience.

This research design is characterized by minimal control. From this type of design, one can expose the research hypothesis to disconfirmation (Campbell & Stanley, 1963). Selection and mortality are considered the major threats to validity in this type of design.

Sample.

A sample size of 154 was sought based on the "N versus V" (number of observations versus number of variables) rule (Knapp, 1996; Munro & Page, 1993). Of the 186 women approached for inclusion in the study, only 7 declined to participate. Reasons for declining included "not interested in research," "no time to complete these

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forms," and "too much stress in my life already." Of the 179 women who agreed to participate, 20 women never completed the prenatal or postpartum forms. But because their midwives completed the Labor and Birth Data Forms, there are some data on these women. These nonresponders had a higher rate of reported intrapartal complications (as reported by their midwives), but there was no difference in the route of birth between the two groups. Complete data sets were obtained from 146 of a total sample of 159 women. Varying sample sizes for the different analyses reflect partial and missing data. Sample sizes for the different data collection points are prenatal data ($\underline{N} = 159$), labor and birth data ($\underline{n} = 155$), and postpartum data ($\underline{n} = 152$). A sample of convenience was recruited and enrolled from clients receiving care through six nurse-midwifery practices in Ohio. Women who met the following criteria were approached for inclusion in the study: (a) 19 years of age or older at EDD (Estimated Due Date); (b) nulliparous, (c) at low obstetrical risk; (d) anticipate a vaginal birth; (e) able to read and write English; (f) in the third trimester of pregnancy; and (g) give written informed consent. These criteria were chosen to restrict the sample to healthy, nulliparous pregnant women and to measure self-efficacy for labor and birth when the task of coping with labor and birth was imminent.

Sample. Women completed the prenatal forms between gestational weeks 32-40 ($\overline{X} = 36.5$ weeks) (Table 1). The sample consisted of predominantly married (66.9%), Caucasian (89.3%) women at a mean age of 25.4 years with 14.6 years of education. Income ranged from <$15,000 to >$75,000 annually with 60.7% reporting full or part time employment.

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Pregnancies were planned for 55.7% of these women. This was the first labor and birth for all women but not necessarily the first pregnancy. Some women had a history of spontaneous abortion (11.5%), and some had a history of elective abortion (10.1%). Problems in this pregnancy were reported by 40.4% of the women. The problems listed ranged from the mild physiologic adjustments to pregnancy (fatigue, nausea, dependent edema, and backache) to episodic illnesses (gastrointestinal flu, urinary tract infection, and asthma), and to pregnancy-related conditions (gestational diabetes, preterm labor, and mild pregnancy induced hypertension) (Table 3, page 45). Study participants ($\underline{n} = 154$) gave birth between 35-42 weeks gestation ($\overline{X} = 39.6$ weeks). Intrapartal features of the sample included the following mean length of labor: first stage = 11 hours 19 minutes; second stage = 1 hour 17 minutes; and third stage = 9 minutes (Table 4, page 48). Birth was accomplished via the following routes: vaginal birth, 76%; vacuum-assisted birth, 4%; forceps, 3%; and Cesarean birth, 17%.

No untoward intrapartal events occurred for 38% of these women. Midwives reported complications or variations in the labor and birth process for the remaining 62% of women. Most of the complications were not acute in nature but required treatment, such as premature rupture of membranes and postdates. Serious complications were also reported, such as thick meconium stained amniotic fluid with late decelerations in fetal heart rate patterns, an outbreak of genital herpes, and pregnancy-induced hypertension. Whether the intrapartal variations were of minor or major significance to maternal-fetal health, infants were vigorous at birth as reflected by their Apgar scores.

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Mean infant Apgar scores were 7.8 at 1 minute (with a range of 1-9) and 8.9 at 5 minutes (with a range of 7-9).

LMVBE Group. In this study, the experience of interest was a previous live modeling vicarious birth experience. The experience presented itself as a natural life event in the history of the participant. Women were present at the live modeling vicarious birth experience from 15 years to a few months prior to participating in this study. Those who had seen more than one birth were asked to fill out this form with their most memorable birth in mind.

Of the 159 women, 28.3% of the women had the opportunity to attend a birth. All of the women who had the opportunity to attend a birth planned to attend. A live birth was witnessed by 25.8% ($n = 41$) women. Two of these women returned unusable CBSEI1 forms (>10% of the data were missing); therefore, only 319 women were included in the analyses. Most witnessed births occurred in the hospital setting (76.2%) with the physician as primary birth attendant (59.5%), although eight women saw home births (19.1%), and two women saw a birth in a birth center (4.7%). Other primary birth attendants observed by the participants include Certified Nurse-Midwives (21.4%), Direct Entry Midwives (7.1%), and Registered Nurses (9.5%). One woman observed her father as the primary birth attendant to her mother.

The relationships of the study participants to the laboring women they observed were as follows: 19.1% ($n = 8$) were friends, 14.2% ($n = 6$) were daughters, 23.8% ($n = 10$) were sisters, and 23.8% ($n = 10$) were health-care providers. The category of other was chosen by 19.1% ($n = 8$) and included the following relationships:

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acquaintance, cousin, and sister-in-law. In addition to observing the birth, 38.1% provided labor support, 7.1% acted as photographer, and 16.7% rendered health-care services to the laboring women. Health-care providers had more frequent access to birth than did other participants. The average number of births viewed by the 41 women was 3.9 (range = 1-55); however, this number is skewed by the number of births witnessed by health-care professionals. An average of 10.3 births was seen by health-care providers, while an average of 1.9 births was seen by all other participants. Most of the participants observed a vaginal birth (88.1%).

Procedure.

Prenatal Data Collection. Written consent was obtained from the six participating midwifery practices to contact their clients to invite them to participate in this study. The researcher or research assistant went to the practice and obtained the next month's list of women at term. The due date list was screened for nulliparous women, which generally accounted for 1/4 to 1/3 of the women on the list. These charts were screened for eligibility. The addresses and phone numbers of the women were obtained. Women were called by the researcher or research assistant, an explanation of the study was given, and an invitation to participate was extended. The study recruitment flyer and correspondence are in Appendix C.

After verbal consent was obtained, the prenatal package of tools and a written consent form (Appendix D) was mailed to have its arrival coincide with the woman's 36th week of pregnancy. A self-addressed stamped envelope was included for

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convenience. Because some due dates were later found to be in error and altered, the range of estimated gestational weeks (EGA) at data collection time #1 was earlier than intended (range in weeks EGA was 32-40). The earliest weeks' gestation were still in the middle of the third trimester of pregnancy, when the task of coping with labor and birth was imminent; therefore, these women were included.

In addition to a demographic data form (Appendix E), the following quantitative instruments were mailed to both groups of women: (a) the Childbirth Self-Efficacy Inventory 1 (CBSEI 1, Appendix F) (Lowe, 1993), (b) the Preparation for Childbirth Scale (PCS, Appendix G), (c) the Childbirth Attitudes Questionnaire (CAQ, Appendix H), (d) the Childbirth Expectations Questionnaire (CEQ, Appendix I), and (e) the Rosenberg Self-Esteem Scale (RSES, Appendix J). Women who had the experience of witnessing a live birth were given additional forms, asking for demographic data regarding the birth model and the live modeling birth experience (Appendix K), as well as (a) the Live Modeling Birth Experience Visual Analogue Scale (LMBE-VAS, Appendix L) and (b) the Social Comparison Visual Analogue Scale (SC-VAS, Appendix M). These latter two scales were developed by the researcher for this project.

Birth Data Collection. At the same time the prenatal packets were mailed to the women, a Labor and Birth Data Form (Appendix N) was mailed to her midwife for inclusion in their charts. It was expected that the midwifes would fill out the form shortly after the birth. Return envelopes and postage were provided. The form requested the following data: (a) weeks gestation at birth; (b) length of labor; (c) use of pain

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relief strategies, including analgesia and/or anesthesia; (d) route of birth; (e) intrapartal complications; and (f) infant Apgar score.

Postpartum Data Collection. At three weeks postpartum, women from both groups were mailed a postpartum package of data with an enclosed stamped return package. A small incentive was sent to the women to encourage their full participation. Incentives included were a tea bag of raspberry herbal tea, several chocolates, and a key chain or refrigerator magnet to hold a picture of their baby. Women were encouraged to take a moment to relax with tea and chocolates while reflecting on their birth experiences. The following instruments were included: (a) the Importance Questionnaire (IQ, developed by the researcher for this project, Appendix O), (b) the Perceptions of Birth Scale (POBS, Appendix P) (Marut & Mercer, 1979), and (c) the Childbirth Self-Efficacy Inventory 2 (CBSEI2, Appendix Q) (Lowe, 1993).

Two additional attempts were made to obtain completed postpartum forms. A follow-up reminder letter was mailed two weeks after the initial package was mailed. Two weeks later, a second package of tools and incentives was sent. Women completed forms between 3 - 20 weeks postpartum ($\overline{X} = 4.9$ weeks postpartum).

Instruments

Prenatal Data.

Demographic Data Form. This self-administered questionnaire asked standard demographic data (age, education, income, race, marital status, employment status) and information about the pregnancy (planned pregnancy, prior elective or spontaneous

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abortions, prior ectopic pregnancy, health status during pregnancy, estimated due date). The participants were also asked if they had ever had the opportunity to attend another woman's birth and, if so, did they actually witness the birth.

Childbirth Self-Efficacy Inventory 1. The CBSEI (Lowe, 1993) is a self-report, 62-item instrument measuring outcome expectancies and self-efficacy expectancies for labor and birth. There are four summative subscales in the CBSEI—outcome expectancies and self-efficacy expectancies for the active phase of labor (each section containing 15 items), and outcome expectancies and self-efficacy expectancies for the second stage of labor (each section containing 16 items)—and two summative scales—total outcome expectancies and total self-efficacy expectancies (each scale containing 32 items). The CBSEI is consistent with the principles of self-efficacy theory and was developed through a multi-stage process (Lowe, 1993). The descriptive data on each prenatal instrument are presented in Table 5 (page 57). Reliability estimates of the subscales and summative scales of the CBSEI were high in this study, ranging from .88 to .97.

Preparation for Childbirth Scale. The PCS is a checklist of 9 items considered to contribute positively toward a woman's preparation for coping with labor (Beaton, 1986). Respondents are asked to check those items that they had completed in preparation for birth or as part of their formal education. Each activity (item) checked has a weighted score value that is summed to produce the PCS total score, with a possible range of 0.0 to 5.095. The reliability estimate of the PCS in this study was .49 (KR-20).

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Childbirth Attitudes Questionnaire. The CAQ is a 15-item, 4-point Likert scale adapted by Harman (1988) from a questionnaire developed by Areskog et al. (1982) designed to identify women with significant fear of childbirth. The reliability estimate of the CAQ was .70.

Childbirth Expectations Questionnaire. The CEQ consists of 35 items rated on Likert scales with scale points ranging from strongly disagree (1) to strongly agree (5). A stem statement of "With regard to my childbirth experience, I expect that," is followed by a brief descriptive statement of childbirth expectations. For this study, the CEQ was used as a unidimensional scale. A high score on the CEQ indicates positive expectations for the childbirth experience. The reliability estimate of the CEQ in this study was .82.

Rosenberg Self-Esteem Scale. This well-known instrument is a Likert-type scale used to measure self-esteem as an aspect of personality (Dobson et al., 1979). It was used in this study as a measure to check for equality of groups on a psychological variable. The reliability estimate of the RSES in this study was .90.

Birth Model Demographic Data Form. This self-administered questionnaire asked for selected data about the live modeling vicarious birth experience (e.g., number of witnessed births, relationship with the birth model, primary care provider at birth, role at birth, place of birth, and route of birth accomplished by the birth model).

Live Modeling Birth Experience Visual Analogue Scale. The value of the LMBE-VAS to the subject was measured by a visual analogue scale, developed by the researcher for this project. In this case, the end anchors were "The birth I attended was

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a very positive experience for me" to "The birth I attended was a very negative experience for me."

Social Comparison Visual Analogue Scale. This SC-VAS used the end anchors of "I am exactly like the woman whose birth I attended" to "I am nothing like the woman whose birth I attended." The phenomenon of interest was how closely the subject compared herself to the birth model. Attribute similarity between the subject and the model generally increases the power of modeling influences, even when the personal characteristics may be spurious indicants of performance capabilities (developed by the researcher for this project).

Labor and Birth Data.

These data were obtained from the nurse-midwife at time of birth or through a chart review of the labor and delivery chart shortly after the birth. Information gathered included weeks gestation at birth, length of labor, use of pain relief techniques (including analgesia and/or anesthesia), route of birth, birth complications, and infant Apgar scores.

Postpartum Data.

Importance Questionnaire. The IQ was developed by the researcher for this project as a rank order instrument to determine to whom or what the woman attributed her performance during labor and birth. Women might attribute their performance to items equally; however, they were asked to sequentially rank the items. Items to rank in order of importance to her ability to cope with labor and birth were (a) my nurse's help,

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b) my nurse-midwife's help, (c) my own efforts, (d) my support person's help, (e) pain medication, and (f) other. If a woman attributed her performance to her own efforts, this theoretically would have a more powerful influence on her self-efficacy percepts than if she attributed her performance to other sources. In interpreting the numbers, it is important to keep in mind that lower numbers or rankings equal higher importance. Table 6 (page 68) provides data on postpartum instruments.

Perceptions of Birth Scale. The POBS measures maternal perceptions of the labor and birth experience for women having vaginal or unplanned Cesarean sections (Marut & Mercer, 1979). Twenty-nine items are rated on a scale of 1 to 5, ranging from not at all to extremely. Higher scores reflect more positive feelings about the birth experience. For this study, the POBS was used as a unidimensional scale. The reliability estimate of the CEQ in this study was .85.

Childbirth Self-Efficacy Inventory 2. An adaptation of the CBSEI2 (Lowe, 1993) was developed for postpartum administration. The stems began with "For my next labor and birth experience...." Theoretically, the differences in the scores obtained prenatally and those obtained postnatally reflect the influence of performance accomplishment, the actual labor, and birth experience that provides the parturient with the most authentic evidence of her abilities. Reliability estimates of the subscales and summative scales of the CBSEI2 were high in this study, ranging from .85 to .96.

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Results

Raw data were entered into the Statistical Package for the Social Sciences for the personal computer [SPSS-PC] (SPSS, 1997). Data were cleaned and noted errors were corrected. The amount and distribution of missing and partial data were examined. When only one or a few responses were missing from a multiple item tool (<10% of data), the missing variable(s) were estimated based on responses to similar stems. Those with large amounts of missing data (≥10%) were eliminated for certain analyses. Data from the major dependent variables were examined for skewness. Skewness was determined by examining the distribution of data in comparison to the normal distribution. Distributions for the variables were roughly normal upon inspection, and therefore no data transformations were performed. Additionally, screening was conducted through the examination of the residuals in the hierarchical multiple regression analyses. Residuals were normally distributed.

Women were divided into two groups based on the past experience of being present for a live modeling vicarious experience ($\underline{n} = 39$) or not ($\underline{n} = 113$). There were no significant differences between the groups on major demographic variables and on the screening psychological variable, self-esteem (Table 8). There was a statistically significant difference in the gestational age of the participants at time of first measurement ($\overline{X} = 36.3$ weeks for those who did not see a birth; $\overline{X} = 36.9$ weeks for those who did see a birth). However, this is not a theoretically meaningful difference.

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	Had LMVBE (n = 39)	Did not have LMVBE (n = 113)	Significance
Independent t-tests			
Weeks gestation	36.8 weeks	36.3 weeks	p = .01
Age	25.4 years	25.4 years	p = .93
Education	14.9 years	14.5 years	p = .35
Self-Esteem	31.61	31.99	p = .68
	X^2	df	Significance
Chi-Square			
Race/ethnicity	2.35	1	p = .12
Marital status	0.03	1	p = .87
Employment	0.18	1	p = .67
Income	4.05	6	p = .67
Problems in pregnancy	1.63	1	p = .20
Planned pregnancy	0.18	1	p = .67

n = 152

Table 8. Group Comparison on Prenatal Variables

Hypothesis 1 was not confirmed; there was no statistically significant difference in self-efficacy for labor and birth between nulliparous, pregnant women exposed to a live modeling vicarious birth experience and those not so exposed (Table 9). Further exploration of the data included an examination of differences in CBSEI1 subscales and the CBSEI2 summative scales between these two groups; no significant differences between the two groups were found. Scores of the LMVBE-VAS were divided at the median to form two groups—those who highly valued the live modeling vicarious birth experience and those who did not. No significant differences were found between these groups. The differences between the CBSEI1 and CBSEI2 for the full sample were found to be significant for self-efficacy expectancies (CBSEI1 = 205.9;

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CBSEI2 = 215.1; $p = .042$), but not for outcomes expectancies (CBSEI1 = 238.6; CBSEI2 = 232.7; $p = .084$).

	Had LMVBE (n = 39)	Did not have LMVBE (n = 113)	Significance (p-Value)
Independent t-Test			
Efficacy sum 1	212.1	202.0	.131
Efficacy sum 2	218.1	215.1	.817
Outcome sum 1	241.8	238.9	.229
Outcome sum 2	232.9	233.6	.386
Active labor efficacy 1	102.1	99.7	.082
Active labor outcome 1	116.2	118.8	.856
Second stage efficacy 1	109.3	102.3	.157
Second stage outcome 1	123.8	120.4	.190

$n = 152$

Difference in Mean Self Efficacy Scores After Birth	Prenatal (mean weeks = 36.5)	Postpartum (mean weeks = 4.8)	Significance (p-Value)
Paired Sample t-Test			
Total outcome	238.6	232.7	.084
Total efficacy	205.9	215.1	.042

$n = 146$

Table 9. Difference in Mean Self-Efficacy Scores by Group

Hypothesis 2 was not confirmed; there was no relationship between the value attached to the live modeling vicarious experience and self-efficacy for labor and birth ($r = -0.035$; $p = .41$) in those women who had seen a live modeling vicarious birth (Table 10). The social comparison of the study participant to the birth model was examined in relation to self-efficacy for labor and birth; there was no relationship ($r = 0.059$; $p = .36$). However, social comparison to the birth model and the value of

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the live modeling birth experience had a moderate, positive correlation ($r = .510$; $p = .000$).

	Efficacy	Social Comparison	Value of Modeled Birth
Efficacy	1.00		
Social Comparison	.059 p = .36	1.00	
Value of Modeled Birth	-.035 p = 41	.510 p = <.001	1.00

$n = 39$

Table 10. Relationships between Self-Efficacy for Labor and Birth and the Value of the Live Modeling Vicarious Experience and Social Comparison to Birth Model

For research question 1, the goals of the hierarchical regression analysis were exploratory and examined the theoretical prediction that the live modeling vicarious birth experience is a significant predictor of self-efficacy expectancies for labor and birth in nulliparous, pregnant women. The correlations of selected variables with self-efficacy were examined (Table 11). The live modeling vicarious birth experience was not related to self-efficacy ($r = .08$; $p = .302$); however, it was related to preparation for childbirth ($r = .21$; $p = .008$). Significant positive relationships were found between self-efficacy and preparation for childbirth ($r = .22$; $p = .007$), childbirth expectations ($r = .50$; $p = .000$), planned status of pregnancy ($r = .18$; $p = .024$), and self-esteem ($r = .24$; $p = .024$). A significant negative relationship was found between self-efficacy and fear of childbirth ($r = .31$; $p = .000$).

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	Expec-tations	Fear	Prepa-ration	Self-Esteem	Self-Efficacy	Planned Status	Witnessed Birth
Expec-tations	1.0000						
Fear	-.6107 p = .000	1.0000					
Prepa-ration	.1140 p = .160	.0226 p - .781	1.0000				
Self-Esteem	.2959 p = .000	-.2954 p = .000	.1109 p = .171	1.0000			
Self-Efficacy	.4985 p = .000	-.3158 p = .000	.2212 p = .007	.2400 p = .003	1.0000		
Planned Status	.2805 p = .000	-.3137 p = .000	.2226 p = .006	.0866 p = .284	.1833 p = .024	1.0000	
Witnessed Birth	-.0119 p = .883	.0322 p = .690	.2118 p = .008	-.0334 p = .678	.0839 p = .302	.0338 p = .673	1.0000

N = 159

Table 11. Correlations Between Selected Variables and Self-Efficacy for Childbirth

Because there was no relationship between the live modeling vicarious birth experience and self-efficacy, it was not entered into the regression analysis. Those variables with a significant correlation with self-efficacy were entered into the regression analysis in an order based on theoretical relationships. The variables were entered in the following order: (a) preparation for childbirth (PCS), (b) expectations for childbirth (CEQ), (c) fear of childbirth (CAQ), (d) planned status of pregnancy (PLANPG), and (e) self-esteem (RSES). The first three variables were entered as part of the planned analysis. Preparation for childbirth and expectations for childbirth reflect, in part, both symbolic modeling vicarious experiences and verbal persuasive messages and would be theoretically more powerful sources of self-efficacy information. Fear of childbirth reflects, in part, the visceral arousal source of self-efficacy. The variables of planned

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pregnancy status and self-esteem were entered into the hierarchical regression equation after significant correlations with self-efficacy for labor and birth were found. Although self-esteem precedes planned pregnancy status temporally, planned pregnancy status is specifically related to childbirth and thus was entered before self-esteem. The only variable accepted into the equation was childbirth expectations (CEQ), which explained 25% of the variance in self-efficacy (Table 12).

Overall F	df	Significance
47.85	1	p = .000

Accepted into the equation

	Predictor	B	SE B	Beta	T	sig T	R^2
step 2	expectations	1.822	.2633	.4968	6.91	.000	0.25

Not accepted into the equation

	Predictor	Beta in	Partial	Min Toler	T	Sig T
step 1	preparation	.1393	.1592	.9848	1.94	.060
step 3	fear	-.0390	-.0354	.6217	-.427	.670
step 4	planned status	.0623	.0687	.9171	.829	.408
step 5	self-esteem	.0832	.0927	.9347	1.121	.264

N = 159

Table 12. Explained Variance of Self-Efficacy for Childbirth from Selected Variables

For research question 2, the goals of the hierarchical regression analysis were exploratory and examined the theoretical prediction that performance accomplishment would become the most significant predictor of self-efficacy expectancies for a future labor and birth in these women postpartum. The groups were compared on selected intrapartum and postpartum variables (Table 13). The groups were essentially equivalent

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on all major intrapartal and postpartal variables. Only birth complications were significantly higher in the live modeling vicarious birth experience group.

Independent t-Tests

Variables	LMVBE (n = 37)	No LMVBE (n = 105)	Significance
Weeks gestation at birth	39.8 weeks	39.7 weeks	p = .572
1st stage labor	10.5 hours	11.8 hours	p = .964
2nd stage labor	79.5 minutes	75.4 minutes	p = .254
3rd stage labor	8.8 minutes	9.3 minutes	p = .651
1 minute Apgar	7.8	7.8	p = .886
5 minute Apgar	8.9	8.9	p = .691
weeks postpartum	4.8	4.8	p = .661

Chi-square (N = 159)

	X^2	df	Significance
Birth route	1.9	1	p = .16
Birth problems	6.4	1	p = .01

Importance Questionnaire (Mean Rankings by Group)*

	LMVBE (n = 37)	No LMVBE (n = 105)	Significance (p Value)
My own efforts	2.0	2.3	p = .13
Support person	2.3	2.4	p = .39
Midwife's help	2.4	2.5	p = .94
Other	4.2	4.0	p = .94
Nurse's help	4.3	4.1	p = .29
Pain medicine	4.6	4.3	p = .06

* Please note that lower scores indicate higher importance.

Table 13. Group Comparison on Intrapartum & Postpartum Variables

The correlations of selected variables with self-efficacy for a future birth were examined. Significant positive relationships were found between self-efficacy for a future birth and perceptions of the birth ($r = .45$; $p = .000$) and importance of pain

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medication to performance ($r = .31$; $p = .000$). A significant negative relationship was found between self-efficacy for a future birth and importance of own efforts to performance. Note that the lower scores indicate higher importance on the importance variables (Table 14).

	Witnessed Birth	Birth Satisfaction	Importance of Own Efforts*	Importance of Pain Medication*	Self-Efficacy	Birth Route
Witnessed Birth	1.0000					
Birth Satisfaction	-.1175 p = .180	1.0000				
Importance of Own Efforts*	.-0794* p = .338	-.0397 p = .649	1.0000			
Importance of Pain Medication*	.0715* p = .406	.3453* p = .000	-.2067* p = .014	1.0000		
Self-Efficacy	.0240 p = .779	.4455 p = .000	-.2243* p = .007	.3130* p = .000	1.0000	
Birth Route	-.1114 p = .166	.2348 p = .007	-.0484* p = .555	.0254* p = .766	.1394 p = .098	1.000

$n = 152$ * Spearman's rho
Note that lower scores indicate higher importance.

Table 14. Correlations Between Selected Variables and Self-Efficacy for a Future Birth

Those variables with a significant correlation with self-efficacy were entered into the regression analysis in an order based on theoretical relationships. Because there was no relationship between the live modeling vicarious birth experience and self-efficacy for a future birth, it was not entered into the regression analysis. The variables were entered in the following order: (a) birth satisfaction (POBS) (Marut & Mercer, 1979), (b) importance of own efforts in labor performance, and (c) importance of pain medication

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in labor performance. Satisfaction with birth was entered first as part of the planned analysis, as it was considered to be a marker variable for performance accomplishment. Other marker variables for performance accomplishment, such as route of birth and length of labor, did not have significant simple correlations with self-efficacy for a future birth and, therefore, were not entered into the regression analysis. The importance of this researcher's own efforts was entered next, because attribution of performance to own efforts would theoretically influence self-efficacy percepts to a greater degree than would attribution of performance to any other item. Importance of pain medication was entered last, because only 49% of the women used analgesia and only 32% of the women used anesthesia. The variables accepted into the equation were birth satisfaction (POBS) and importance of own efforts in labor performance, which explained 17% and 6%, respectively, of the variance in self-efficacy for a future birth (Table 15).

Overall F	df	Significance
17.58	2	p = .000

Accepted into the equation

	Predictor	B	SE B	Beta	T	sig T	R^2
step 1	birth satisfaction	1.722	.3416	.4076	5.04	.000	0.17
step 2	own efforts	-9.81	3.324	-.2385	-2.94	.004	0.06

Not accepted into the equation

	Predictor	Beta in	Partial	Min Toler	T	Sig T
step 3	pain med	.0217	.0222	.8049	.24	.811

n = 152

Table 15. Explained Variance of Self-Efficacy for a Future Birth

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Discussion

The act of giving birth represents an intimate and sacred event in a life history. For this reason, witnessing a live birth prior to giving birth for the first time was not manipulated by the researcher. While many and varied people observe birth with the consent of the laboring woman, it was believed that this once in a lifetime event—the birth of a first child—was too important to the individual woman and her family to control for research purposes, particularly at the beginning levels of knowledge development in this area of inquiry. Additionally, the performance of the laboring woman is an unknown prior to the unfolding drama of labor and birth. Therefore, the selection of proficient models for vicarious live modeling experiences is tentative at best.

The importance of vicarious experiences and their value as sources of information for self-efficacy judgments depend on basic psychological subprocesses, such as attention, cognitive functioning, and retention (Bandura, 1971, 1997). Vicarious experiences are not inherently enlightening. Certainly, some retention of the live modeling vicarious birth experience occurred for these women to be able to report on the various aspects of their past experience with this phenomenon. However, the internal processing and making sense of this life experience, as well as its cognitive integration with other sources of self-efficacy information, were not examined in this study. These aspects of learning through vicarious birth experiences should be examined in a prospective manner to capture features of the experience that may have been lost to memory in this sample of women.

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There were no controls placed on the live modeling vicarious birth experience. Therefore, a wide variation in experiences was represented in this sample, from extremely positive to extremely negative. The experience presented itself as a natural life event in the history of the participant. There were no limits placed on the timing of its occurrence for this study. Women were present at the live modeling vicarious birth experience from 15 years to a few months prior to participating in this study. This meant that some of these women were children when observing birth. Developmental level of the birth observer would affect the basic psychological subprocesses, such as attention, cognitive functioning, and retention, used in making sense of this experience and integrating this information into a personal history.

Group differences in mean self-efficacy expectancy scores were in the direction hypothesized, but significant differences were not demonstrated in this study. This live modeling vicarious birth experience was integrated with other sources of self-efficacy information that may differentially mediate the judgment of one's own abilities to complete the task requirements of labor and birth. This study controlled for performance accomplishment as the most powerful source of self-efficacy for childbirth by enrolling only nulliparous women, but other sources of information were not controlled. While the live modeling vicarious birth experience was theoretically the most powerful source of self-efficacy information for pregnant nulliparous women, the relative scarcity of this experience for women is countered by the abundant and pervasive nature of symbolic modeling vicarious experiences and verbal persuasive messages for pregnant women.

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Future work in this area should examine the differential effects of all sources of self-efficacy information.

There was no relationship between the value of the live modeling vicarious birth experience and social comparison to the birth model to self-efficacy, but these two measures were moderately and positively related to each other. The live modeling birth experience did not influence these women's beliefs regarding their own abilities for labor and birth. The level of social comparison measured in this study may represent a positive affect toward the birth model and in no way implies a behavioral commitment on the part of the women who observed birth. This level of identification involves little psychological investment other than holding the birth model in esteem. A person may be held in esteem and yet this person does not set standards for one's own behavior nor are self judgments made against this person's performance attainments. There was likely to be a degree of identification embedded in the relationship of the woman observing birth and the birth model. Most of these women were related by familial ties or friendship bonds. While this does not support the theoretical relationship that modeled behavior by similar others is a more powerful influence than by those who differ, it could be that the Social Comparison Visual Analogue Scale (developed by the researcher for this project) was not able to measure other important aspects of the social comparison process. For example, was the woman observing the birth detached from the process, or did she feel empathy with the birth model? Was she able to imaginatively project herself in the birth model's situation and adopt the birth model's choices and behaviors in a cognitive rehearsal of her own anticipated labor and birth?

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The value of the LMVBE visual analogue scale used in this study (developed by the researcher for this project) was a global judgment of the value of the witnessed labor and birth experience; however, the process of labor and birth is measured in long and tedious hours. There is time during labor and birth for both positive and negative events to occur. For example, a maternal blood pressure elevation or a period of fetal distress may generate tension and increasing fears during labor regarding the health and well-being of the mother and baby. These concerns may resolve with little intervention and no untoward outcomes, but the emotional tone of the experience may color the remainder of the viewed birth. Conversely, a positive outcome—a vigorous, crying baby—at the end of a long and difficult labor beset by health concerns at every turn may influence the review of this experience in a positive way. Because the viewed birth experience was embedded in a relationship that both preceded and followed the event, it is likely that the birth experience was reviewed with the birth model and that a relationship was developed with the growing infant. These aspects may affect the interpretation and integration of the live modeling vicarious birth experience for the birth witness. Future investigation in this area should address the differential effects of the subcomponents of the live modeling vicarious birth experience.

The live modeling vicarious birth experience was unrelated to self-efficacy for childbirth and therefore not entered into the regression equation; however, this experience was positively related to preparation for childbirth ($r = .2118$; $p = .008$). This suggests that this powerful life event, significant in its own right to a personal history, mediates only a small and indirect effect on self-efficacy as a unique preparatory

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event for childbirth. This event was not generally attended with that particular goal in mind; rather the goal for the women who observed birth was to be supportive to the laboring woman through being present at a significant event in her life. The exposure to skill subsets and coping strategies for the task of labor and birth and to comparative attainments of others provided preparatory information as an aside. This parallels the social childbirth of the past, when women would learn about the work and the strength required for labor and birth through attendance at friends' and neighbors' births. It is recommended that future measurement of preparation for childbirth include an assessment of live modeling vicarious birth experiences.

The positive relationship of planned pregnancy status to self-efficacy for labor and birth is worthy of comment. Perhaps the conceptualization of the task at hand for women is not "coping with labor and birth." Perhaps the task is conceptualized by most women as "having a baby." If this is so, then achieving pregnancy when planning to do so would be successful mastery of a subset of the task and, therefore, would enhance self-efficacy percepts. It is very interesting to consider how women conceptualize this task, given that there is literature support for cultural variation in how women think of labor and birth (Drummond & Rickwood, 1997). This may, in turn, affect both outcome expectancies and self-efficacy expectancies. For example, an Australian sample of women did not differentiate between active and second stage labor (Drummond & Rickwood, 1997). These women may not think of labor as two distinct stages but rather as a continuum of experience. In America, the idea of labor stages is promoted in the formal education of health-care professionals and in the childbirth literature and

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education classes for expectant parents. However, women's conceptualization of the task and the subskills involved in bringing forth a child should be investigated further.

Selected significant relationships found in this study between the antepartal variables and childbirth self-efficacy are shown in Figure 2. Only childbirth expectations explained a significant amount of the variance in childbirth self-efficacy. It was expected that there would be some positive correlation between the CEQ and the CBSEI, because both measures look at expectations for labor and birth experience.

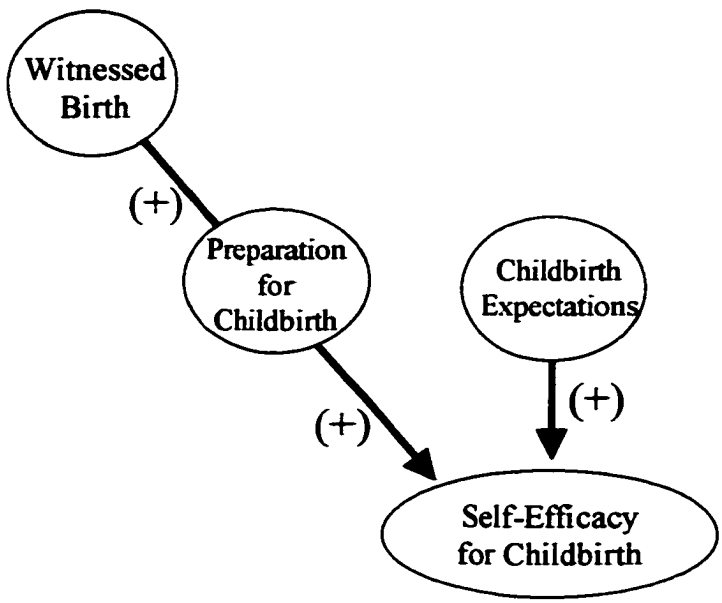

Figure 2. Relationships of Selected Prenatal Variables with Self-Efficacy

However, the CBSEI looks specifically at the parturient's own behavior and abilities for performing the tasks involved in childbirth, while the CEQ measures the parturient's expectations for herself, others attending her labor and birth, and the use of

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interventions, thus adding a unique contribution, apart from the CBSEI, to the examination of childbirth expectations in this study. Pregnant women develop detailed expectations in anticipation of the childbirth process and for the roles of those who will be present for support. There is a body of evidence that suggests that higher expectations for childbirth are generally rewarded with a more positive experience (Green et al., 1990; Hodnett & Osborne, 1989; Khazoyan & Anderson, 1994). These results suggest that positive generalized childbirth expectations contribute to self-efficacy expectancies. Self-efficacy, in turn, acts as a central mediating belief that directly and indirectly affects behavior and physiological stress response in the performance of the difficult task of labor and birth, according to theoretical propositions.

A woman's satisfaction with her birth experience and the attribution of labor and birth performance to the woman's own efforts explained a total of 23% of the variance in self-efficacy for a future labor and birth, or 17% and 6% respectively. The contribution of "own efforts" to this equation is likely to be undervalued because it was measured using a forced choice rank order instrument. The acceptance of "own efforts" into the regression equation supports the idea of attribution of performance as an important one to examine further in the area of childbirth self-efficacy.

The significant relationships found in this study between the postpartum variables and self-efficacy for a future birth are shown in Figure 3. It is interesting that attribution of performance to "own efforts" was inversely related to attribution of performance to "pain medication." The use of pain medication may foster a sense within the woman of

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being a passive actor in the labor and birth process rather than an active participant who makes choices.

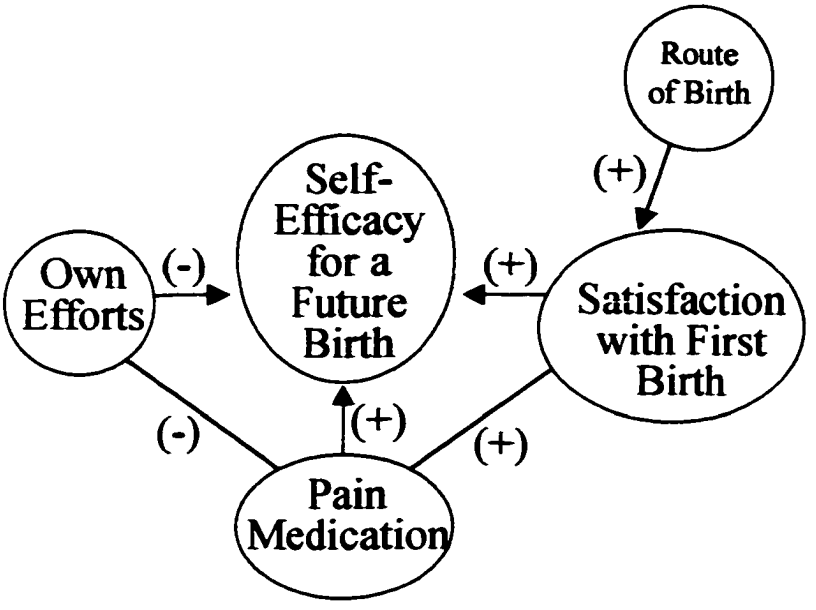

Figure 3. Relationships of Selected Variables to Self-Efficacy for a Future Birth

These results suggest that, while performance accomplishment is a significant source of self-efficacy information, a large portion of the variance remains unexplained by the measures used in this study. The potential effect on self-efficacy of unidentified variables related to either the sources of self-efficacy or the importance of various aspects of performance accomplishment not captured in this study must be considered. These findings support further study of self-efficacy in the investigation of important mind-body connections in the area of labor and birth.

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Future Research

The area of inquiry of self-efficacy for labor and birth and related phenomenon opens a wide and potentially prolific program of research. The following research questions and ideas are generated from this research project.

1. There were problems with some of the tools used in this study (see the section on quantitative limitations in this chapter). Further work in this area with a midwifery client population requires a refining of the tools used, using psychometric theory to guide the refinement process.

2. While this study examined selected physiological birth outcomes, such as length of labor and route of birth, the processes of the relationship between self-efficacy and physiology require further examination. Laboratory studies exploring the stress response of pregnant women to a range of positive and negative birth images are indicated. Examining the psychophysiologic correlates of childbirth self-efficacy prenatally and intrapartally is necessary to expand our understanding of the mind-body interactions during labor and birth.

3. Further exploration of how confidence for labor and birth develops in women is warranted, looking at specific sources of information specified by self-efficacy theory. For example, how pervasive are the negative media images of labor and birth? Are they counterbalanced by positive images?

4. Intervention studies should look at current practices by health-care providers and women to see what works and what does not in relation to self-efficacy. For example, do birth plans enhance confidence in childbearing women? How do women's

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use of spiritually or religiously based coping strategies for labor and birth mediate self-efficacy for childbirth? In addition, certain populations of women should be targeted for research attention. Are there true labor phobics? How does fear of childbirth interact with self-efficacy for childbirth?

Conclusion

Witnessing birth is a singular and separate life experience for most women. For pregnant, nulliparous women who have had a live modeling vicarious experience, this event became intertwined with other phenomenon, such as preparation for childbirth and the many and varied sources of symbolic vicarious experiences. This influence of this life experience on a woman's self-efficacy for labor and birth must be understood in the context of multiple and complex influences in a woman's life.

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CHAPTER 6

TRIANGULATION OF RESULTS

Triangulation

Triangulation as used in this study was combining qualitative and quantitative methods in the same research project. Each method must stay true to its rigor. The origin of the word "triangulation" is from surveying and navigational techniques where two points are known and the third point is determined via the geometry of the triangle. The researcher, from data gathered from two points or methods, attempts to triangulate onto a greater understanding, the third point.

Triangulation is not an end in itself; it must have a logical linkage between the research questions and the methods (Murphy, 1989). A common use of triangulation is to ensure that the most comprehensive approach is taken to solve a research problem (Hinds & Young, 1987). The purpose of the simultaneous triangulation used in this study was to obtain different but complementary data on the same topic to strengthen research results and to contribute to theory and knowledge development—not to replicate results.

There are five areas of concern when using triangulation: (a) the difficulty of merging numeric and textual data; (b) the interpretation of divergent results obtained

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from the use of qualitative and quantitative methods; (c) the lack of delineation of concepts and the merging of concepts; (d) the weighing of information from different data sources; and (e) the difficulty in ascertaining the contribution of each method when assimilating results (Knafl & Breitmayer, 1992). Blending the data does not occur in the process of analysis but in fitting together the results to form a cohesive and coherent outcome.

It should be noted that the predominant world view of this study was post-positivist, with triangulated methods. Data from the interviews were included as a way to learn from the women themselves what the important aspects of the live modeling vicarious birth experience were to them—aspects that might not reveal themselves a priori to the careful scientist. Triangulation allowed the exploration of the phenomenon of live modeling vicarious birth experiences from different vantage points. It was also used to examine the value of the quantitative methods used and to suggest other variables that might be important to explore in subsequent studies. Additionally, qualitative methods were used to further investigate the value of self-efficacy theory in the area of childbirth by "exploring the multiple realities of the actors in a changing social scene by engaging them in a dialogue and being open to their interpretation of the world" (Swanson & Chapman, 1994, pg. 75).

Group differences in mean self-efficacy expectancy scores were in the direction hypothesized, yet significant differences were not demonstrated in this study. The women in the qualitative portion of the study directly belie this quantitative finding. All

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believed that the experience of witnessing birth was a powerful experience, and several stated that it directly influenced their confidence for labor and birth. One woman stated:

> I have no doubt that this [the witnessed birth] was the most powerful and hopeful thing to prepare me for my own birth.

These conflicting findings and known limitations to the quantitative methods support the need for further work in this area. Because it is likely that more American women will be viewing birth prior to giving birth themselves as time goes by—assuming that most hospital visiting policies remain liberal—the vicarious experience of birth for women will remain an interesting research endeavor. Indeed, a Newsweek article proclaimed watching birth as one of the "hottest" new things to do in the spring of 1999 ("Bear down," 1999).

The opportunity to witness a birth was embedded in a relationship with the laboring woman. Typically this was an intimate social relationship—such as friend, sister, or daughter—and the opportunity to be present was offered as an invitation. This theme reflected the quantitative finding of the moderate, positive correlation between the value of the live modeling vicarious birth experience and social comparison to the birth model. A preexisting and valued social relationship is most often the vehicle for women who are not health-care providers to gain access to birth.

Of the variables examined in this study, only childbirth expectations explained a significant amount of the variance in childbirth self-efficacy. From the women's interviews, it was clear that they developed detailed expectations and contingency plans for unmet expectations. Birth plans were developed under a cloud of uncertainty about

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what would actually happen during labor and birth. This uncertainty seemed to foster the generation of this cognitive "trying on" of labor and birth scenarios. Perhaps those women who reflect more frequently on positive scenarios, rather than negative ones, are able to maintain high expectations. Cognitive rehearsal and its relationship to expectations for labor and birth is an interesting area to explore further.

Sources of self-efficacy were mentioned liberally in the interviews. Vicarious experience and verbal persuasive sources were intertwined—birth stories and personal opinions, childbirth films, and viewer reactions were among those sources mentioned. At the time of this study, cable channel continued the trend of "real life" productions with a show that spotlighted a different labor and birth each week. While the birth video was real, the time element was still compressed. The easy availability of symbolic modeling vicarious experiences in our society is noteworthy. Many emotional reactions were elicited during the witnessed birth—very few mentioned any visceral response when contemplating their own upcoming labor and birth. This suggests that the concepts specified as important in self-efficacy theory are also important in its application to childbearing. These specified relationships await further research to confirm the continued utility of this theory in this area.

Because the interviews were conducted prenatally and no further interviews were obtained postpartally, the qualitative findings can only be triangulated with prenatal quantitative findings.

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Limitations

Quantitative Limitations.

Design. Witnessing a live birth prior to giving birth for the first time was not manipulated by the researcher. No attempt to control or select the type or the timing of live modeling vicarious birth experience was done for research purposes, because of the beginning levels of knowledge development in this area of inquiry. Because of this, aspects of the experience were not captured by this study. For example, some retention of the live modeling vicarious birth experience occurred for these women to be able to report on the various aspects of their past experience with this phenomenon. However, the internal processing and making sense of this life experience, as well as its cognitive integration with other sources of self-efficacy information, were not examined in this study. These aspects of learning through vicarious birth experiences should be examined in a prospective manner to capture features of the experience that may have been lost to memory in this sample of women.

This live modeling vicarious birth experience was integrated with other sources of self-efficacy information that may differentially mediate the judgment of one's own abilities to complete the task requirements of labor and birth. This study controlled for performance accomplishment as the most powerful source of self-efficacy for childbirth by enrolling only nulliparous women, but other sources of information were not controlled. While the live modeling vicarious birth experience was theoretically the most powerful source of self-efficacy information for pregnant nulliparous women, the relative scarcity of this experience for women is countered by the abundant and pervasive nature

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of symbolic modeling vicarious experiences and verbal persuasive messages for pregnant women. Future work in this area should examine the differential effects of all sources of self-efficacy information.

Sample. A convenience sample of pregnant, nulliparous women was recruited from six nurse-midwifery practices in Ohio. Women who receive care from midwives may be different than women who receive care from doctors. Additionally, midwifery care focuses on the psychosociospiritual aspects of the childbearing to a greater extent than physician care. The phenomenon of interest was psychological in nature. Women were enrolled in midwifery care for a period of time before the first measurement. The potential for differential effects of physician care on the psychological indices examined in this study was controlled by using only midwifery clients. However, only 5% to 6% of the approximately 4 million women who give birth in America every year use the services of midwives. This, and the use of a convenience sample, severely restricted any generalizability of findings from this study. It should be noted that the intent of this descriptive, exploratory study was not to generalize to a population but to describe a phenomenon and examine group differences.

Instruments. A number of the instruments posed difficulties when used in this midwifery client sample. For example, the PCS contained out-of-date assumptions that there were only two types of childbirth classes—Lamaze childbirth versus hospital classes. A number of participants wrote in the kind of childbirth classes that they differentiated from Lamaze classes. These included "my midwives' classes" and "Bradley classes." Additionally, the PCS is lacking two important preparatory events as

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choices—(a) a witnessed birth experience and (b) spiritually or religiously-based practices, such as prayer, that add to a woman's range of preparation and coping strategies.

Using visual analogue scales for the measurement of the value of the live modeling vicarious birth experience and of the social comparison to the birth model may not have tapped into the relevant dimensions of those phenomena. Because of the difficulty in specifying objective criteria for subjective abstract constructs and because single-item measures cannot be factor analyzed, the demonstration of construct validity remains tentative (Wewers & Lowe, 1990). Measurement of internal consistency is prevented by the single-item format of the VAS. Additionally, a parallel form of the VAS would be difficult to construct. "Due to these constraints, evaluating the reliability of the VAS is one of the more troublesome areas for investigators choosing to use this method" (Wewers & Lowe, 1990, p. 234).

Some of the item stems in the Perceptions of Birth Scale (Marut & Mercer, 1979) were generated from the medical model of birth that puts the doctor as the head of the childbearing team, with both the nurse and the laboring women as members of that team. An example of such an item is "to what extent do you consider yourself to be a useful and cooperative member of the obstetric team?" Midwives practice woman-centered care and put the laboring women at the front and center of her system of support and also tend to avoid language inviting sports analogies, such as "coaching" and "team." Furthermore, while this tool is theoretically for those women who had both a vaginal birth and an unanticipated Cesarean birth, it appears that, in this sample of

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midwifery clients anticipating a vaginal birth, many women who had an unanticipated C-section were unable to complete certain items. Eight of the 31 women who had unanticipated Cesarean birth left blank a significant minority of the questions in the POBS (Marut & Mercer, 1979) and wrote out to the side "N/A" (not applicable) or some comment to that effect. The items that most of these women had difficulty with were: "Did your partner (or other person) review your labor experience with you?" and "Did you feel better after reviewing the labor and delivery experience?" The theoretical basis of the POBS requires scrutiny before it is applied to further midwifery client populations.

Qualitative Limitations.

For the qualitative analysis, the researcher is part of the interaction in the search for meaning, and this raises some concerns. The researcher must not contaminate the study with her own preconceived ideas and personal interpretations but remain true to the words of the respondents. Few, if any researchers, will come to a study as a blank slate—with no thoughts or preconceived ideas about it. Indeed, simply posing the question indicates that some value is given to the phenomenon.

As a practicing nurse-midwife, I value the experience of being present at birth. I have supported friends and family members in the experience of witnessing their loved one deal with the pain, the anguish, and the ultimate triumph of labor and birth. I witness the emotional responses generated during this event and find that, most often, this is a positive experience for everyone present. I had to suspend my beliefs about the

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witnessing of birth as a powerful and formative experience for pregnant, nulliparous women during the process of analysis to remain true to the words of the women who spoke with me. I deliberately sampled women who had a negative experience when witnessing birth to examine the aspects of this type of occurrence. Because I was examining self-efficacy theory, I was cognizant of the need to not impose the ideas of the theory into the interview through leading questions but rather to let the woman tell her own story of this experience and the perceived influence it had on her anticipated labor and birth.

Rigor in the analysis and interpretation was done through (a) prolonged and persistent observation, (b) peer debriefing, and (c) checking with respondents for trustworthiness of the interpretation. I have 18 years of experience as a midwife with the phenomenon, and I spent 2 years looking at this experience with the eyes of a researcher. Dr. Mary Rowan, my advisor to the qualitative piece of this study, examined my raw data and my audit trail, offered suggestions, and confirmed my interpretation. The student research assistants and I discussed the qualitative analysis at length, to ferret out the important narratives from the less important. The women respondents were given the opportunity to verify the accuracy of both the raw data and the researcher's interpretation of the data.

Qualitative research results are not meant to be generalizable in the same way as quantitative results. The reader of the research makes a judgment of the depth and scope of the description and whether this invokes an "aha!" moment—a recognition or insight into the phenomenon described. Understanding and insight are the goals of this research,

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and, to the extent that this understanding can be useful in other similar situations, the results are considered to be transferable (Sandelowski, 1986). The first draft of Chapter 4 was sent to all respondents, their midwives, and the research assistants who worked on this project. The feedback from these people indicated that the researcher's interpretation did communicate the essence of this experience. One research assistant who was present for an interview said, "I could hear her speaking again through reading the manuscript." The only feedback that was presented to alter this interpretation of the data was from one respondent who believed that her sisters were a more powerful influence on her beliefs and choices regarding birth than her mother. While it is true that her sister's birth choices were a positive powerful influence, the portrait she shared of her mother was a negative powerful influence. The ultimate test of the value of this description will come through publication of the results to a wider audience of women, practitioners, and researchers.

Future Research

The area of inquiry of self-efficacy for labor and birth and related phenomena opens a wide and potentially prolific program of research. To definitively plan the next 20 years of research in this area would deny the element of discovery inherent in research, as well as the situational constraints that researchers encounter. However, each research project sets the stage for the next as it builds and develops the body of knowledge in that area. The following research questions and ideas are generated from this research project.

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1. There were problems with some of the tools used in this study (see the section on quantitative limitations in this chapter). Further work in this area with a midwifery client population requires a refining of the tools used, using psychometric theory to guide the refinement process.

2. While this study examined selected physiological birth outcomes, such as length of labor and route of birth, the processes of the relationship between self-efficacy and physiology require further examination. Laboratory studies exploring the stress response of pregnant women to a range of positive and negative birth images are indicated. Examining the psychophysiologic correlates of childbirth self-efficacy prenatally and intrapartally is necessary to expand our understanding of the mind-body interactions during labor and birth.

3. Are women receiving midwifery care more confident than those receiving physician care? Are there initial differences in these two groups of women, or does the provider's practice style affect confidence? How do midwives enhance confidence in the context of developing relationships with women? A concept analysis of the "midwifery model of care." An ethnographic study of how this model of care is lived out in the diverse practices of midwives should be conducted.

4. Further exploration of how confidence for labor and birth develops in women is warranted, looking at specific sources of information specified by self-efficacy theory. For example, how pervasive are the negative media images of labor and birth? Are they counterbalanced by positive images?

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5. Intervention studies should look at current practices by health-care providers and women to see what works and what does not in relation to self-efficacy. For example, do birth plans enhance confidence in childbearing women? How do women's use of spiritually or religiously based coping strategies for labor and birth mediate self-efficacy for childbirth? In addition, certain populations of women should be targeted for research attention. Are there true labor phobics? How does fear of childbirth interact with self-efficacy for childbirth?

6. Qualitative exploration of women with high self-efficacy and women with low self-efficacy for childbirth would be helpful to identify important variables in the development of childbirth self-efficacy.

Practice Implications

Care providers to childbearing families must be sensitive to ways of giving care to women and their families. Flip remarks and cool receptions to support people are remembered long after the offending care provider has forgotten them. Hospital marketing efforts are undermined when promises of welcome to a laboring woman's supportive others do not materialize. It is important to be responsive to the support person's need for guidance in their role as birth observer. Care providers can give this gentle guidance.

Adult support people to the laboring woman might want to consider preparing for the birth event to the same extent that children birth observers are prepared. Being at birth creates integral impressions for women of all ages. Older women at birth have

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relived or healed their birth experiences through attendance at their daughters' births. Women who have yet to give birth are worthy of our special attention when present at a birth. Asking these women for their stories of witnessing birth also obligates us to listen. We must affirm our commitment to always listen to the women we serve.

Birth, a psychophysiological event embedded in social processes, is a powerful and fundamental event in the life history of a woman. Many profound changes occur within the individual woman and within her family structure during the childbearing process. These changes call for an approach to care that is concerned with more than just screening for pathology. These changes call for an approach to care that is based on a relationship of trust and mutual respect between care providers and the women they serve, and a provision of services that addresses psychological, social, spiritual, and biological needs.

Health-care providers need to assess a woman's expectations for her labor and birth experience and a woman's beliefs in her own abilities and intervene when indicated through the vehicle of an ongoing, therapeutic relationship. Health-care providers need to assist the woman in understanding that, in childbirth, a wide range of responses to varying circumstances can be considered a successful mastery experience. And, finally, health-care providers need to foster the belief in the woman that she brought about the successful mastery of her childbirth experience through her own efforts. Herein lies true empowerment—and the best that we have to offer to women and their families.

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Appendix A

Sources of Self-Efficacy Information for Labor and Birth

Bandura, 1977a

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Sources of Self-Efficacy Information for Labor and Birth

PERFORMANCE ACCOMPLISHMENT	VERBAL PERSUASION
1. prior pregnancy, labor & birth experiences 2. prior experiences with spontaneous and/or elective abortions	1. persuasive messages from family, friends, strangers, others 2. persuasive messages from health care providers 3. persuasive messages from media source 4. persuasive messages from childbirth classes
VICARIOUS EXPERIENCE **Live Modeling** 1. attendance at the birth of another woman's baby **Symbolic Modeling** 2. hearing stories about birth 3. reading stories about birth 4. viewing films, videos, photographs of birth 5. childbirth classes 6. visualization & guided imagery 7. labor "simulations" 8. Internet sites, computer simulations, stories, & pictures	**VISCERAL AROUSAL** 1. common discomforts of pregnancy 2. symptoms from complications of pregnancy and/or illness 3. autonomic nervous system response when thinking about labor 4. normal signs & symptoms of labor progress 5. prior experiences with pain 6. prior experiences with body as functioning well or poorly

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Appendix B

Strategies Used by Midwives to Enhance Confidence in Pregnant Women

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Strategies Used by Midwives to Enhance Confidence in Pregnant Women

Performance Accomplishment

1. building on positive prior pregnancy, labor & birth experiences
2. addressing negative prior pregnancy, labor & birth experiences by:
   - listening to her story
   - acknowledging her fears as real
   - encouraging distance between that experience & current situation
   - helping her to reframe her story to elicit learning value
3. examining emotional influence of prior experiences with spontaneous and/or elective abortions

Vicarious Experience

Live Modeling

1. reviewing any prior attendance at another woman's labor & birth & examining the emotional influence of this experience

Symbolic Modeling

1. encouraging exposure to a wide variety of symbolic modeling experiences, such as hearing stories about birth, reading stories about birth, viewing films, videos, photographs of birth, childbirth classes, visualization & guided imagery, labor "simulations," Internet web sites, & computer programs for the learning value and with the perspective that not all the information she comes across will be relevant to her personal situation
2. correcting misinformation with facts & helping her to differentiate facts from opinions
3. individualizing strategies to the unique needs & interests of the woman, e.g., a midwife encouraged an artistically talented woman to model for an art class in late pregnancy, thus helping her to see herself as strong & beautiful in her ability to grow & bring forth new life

Verbal Persuasion

1. Encouraging her to put into perspective persuasive messages from family, friends, strangers, health care providers, media sources, childbirth classes, others
2. Planting positive seeds during pregnancy about your faith in her ability to give birth in a healthy & confident manner
3. Providing positive verbal persuasion during labor, "You can do this; you are doing this!"

Visceral Arousal

1. Reviewing her general health status & current pregnancy health to point out her body's inherent ability to heal and to grow & nurture a baby
2. Reviewing prior experiences with pain for successful coping strategies
3. Dealing with emotional responses as issues to examine, not dismissing them as "normal"
4. Helping her to interpret the signs & symptoms of labor as positive progress

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Appendix C

Study Recruitment Flyer and Participant Correspondence

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Study Recruitment Flyer
Explanation of the Study

Your nurse-midwifery practice has agreed to be a part of a research project examining psychological issues during pregnancy, labor, and birth and early postpartum issues for first time mothers. This research is being done by a doctoral candidate, Cindy Farley, CNM, MN, at the Ohio State University College of Nursing and is being supervised by her faculty advisor, Dr. Nancy Lowe, CNM, PhD. You are eligible to participate in this study if you would like to do so. If you agree to participate, you will be given a set of questionnaires to fill out after you reach 36 weeks of pregnancy. This should take about 20-30 minutes of your time. If you have seen a live birth, you may also be invited to take part in a face-to-face interview with the researcher. Your nurse-midwife will provide some birth outcome information to the researcher after you give birth—information such as the length of your labor and the type of pain relief measures you used during labor. Then at about 3-4 weeks after you have given birth, the researcher will mail another set of questionnaires directly to you at home, along with a stamped envelope in which to return the questionnaires. These last questionnaires should take about 10-15 minutes of your time.

1. Would you like to participate in this study? (Check one)
   No_____ Reason for not participating?_____
   (Thank you for your time. Please return this flyer and the forms to your nurse-midwife.)
   Yes_____ Go to question 2)

2. Have you ever been present at the birth of another woman's baby?
   No_____ (Do not fill out the last three forms - the ones titled "Birth Attendance Demographic Data Form," "Social Comparison Visual Analogue Scale," and "Live Modeling Birth Experience Visual Analogue Scale.")
   Yes_____ (Fill out all forms)

3. Please fill out these forms as soon as possible after you are 36 weeks pregnant and return them to the researcher in the stamped, self-addressed envelope provided. According to your chart, you will be 36 weeks pregnant on _____.

4. The researcher will need your name address and phone number to send you the questionnaires after the birth. All identifying information will be destroyed after your participation in the research project is completed. Please return this sheet with the questionnaires.

Name_____ Phone number_____
Address_____ City_____ State_____ Zip_____

I am very grateful that you will share your time and insights with me. It is my hope that this study will increase health-care providers' sensitivity to the psychological needs of first time mothers. If you have any questions about this study, please feel free to ask your nurse-midwives.

Cindy Farley

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October 30, 1998

Dear xx:

I received your name from your nurse-midwives. They have agreed to allow me to contact their clients who are eligible to participate in my dissertation research project on psychological issues in pregnancy. Because I have had difficulty reaching you by phone, I decided to write to you to explain my study and invite you to participate. I have sent the forms along as well, in the hopes that you will agree to participate. If you decide you do not wish to, simply check the NO response below and return the blank forms to me in the envelope provided.

You are eligible to participate in this study if you would like to do so. If you agree to participate, please fill out the enclosed set of questionnaires as soon as possible after you receive this package and return them to me in the enclosed envelope. This should take about 20-30 minutes of your time. Your nurse-midwife will provide some birth outcome information to me after you give birth—information such as the length of your labor and the type of pain relief measures you used during labor. Then at about 3-4 weeks after you have given birth, I will mail another set of questionnaires directly to you at home, along with a stamped envelope in which to return the questionnaires. These last questionnaires should take about 10-15 minutes of your time.

1. Would you like to participate in this study? (Check one)
   No_____ Reason for not participating?_____
   (Thank you for your time. Please return this flyer and the forms to your nurse-midwife.)
   Yes_____ Go to question 2)

2. Have you ever been present at the birth of another woman's baby?
   No_____ (Do not fill out the last three forms - the ones titled "Birth Attendance Demographic Data Form," "Social Comparison Visual Analogue Scale," and "Live Modeling Birth Experience Visual Analogue Scale.")
   Yes_____ (Fill out all forms)

I am very hopeful that you will share your time and insights with me. It is my hope that this study will increase health-care providers' sensitivity to the psychological needs of first-time mothers. If you have any questions about this study, please feel free to ask your nurse-midwives or call me.

Sincerely,

Cindy Farley, CNM, MN
OSU Doctoral Candidate

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December 2, 1998

Dear xx:

Thank you so much for your willingness to participate in my research study about psychological issues during pregnancy, labor, and birth and the early postpartum period. Enclosed you will find the prenatal forms that I am asking you to fill out. Please fill them out as soon as possible and return them to me in the stamped, addressed envelope provided. If it happens that you give birth to your baby before you are able to fill out this forms, please simply write a note to that effect and return the blank forms to me.

Use the following question as a guide to which forms to fill out:

Have you ever been present at the birth of another woman's baby?
If **No** - Fill out all forms except the last three forms - the ones titled "Birth Attendance Demographic Data Form," "Social Comparison Visual Analogue Scale," and "Live Modeling Birth Experience Visual Analogue Scale."
If **Yes** - Fill out all forms.

I am very grateful that you will share your time and insights with me. It is my hope that this study will increase health-care providers' sensitivity to the psychological needs of first-time mothers. If you have any questions about this, please do feel free to ask me or your nurse-midwives.

Best wishes for a safe and satisfying birth experience - and a beautiful, precious baby!

Sincerely,

Cindy Farley, CNM, MN
OSU Doctoral Student

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February 27, 1999

Dear xx:

I hope that you are enjoying your time as a new mother - and I hope that you are getting some sleep! As you recall, you have agreed to participate in my research study about psychological issues during pregnancy, labor, and birth and the early postpartum period. Enclosed you will find the final forms that I am asking you to fill out. Please fill them out and return them to me in the stamped, addressed envelope provided. Because the early days of adjusting to motherhood can be hectic, I will send you a gentle reminder if I have not received the forms back from you soon.

I am very grateful that you have shared your time and insights with me. It is my hope that this study will increase health-care providers' sensitivity to the psychological needs of first-time mothers. To show my appreciation for your efforts, I have enclosed some chocolates and mint tea. I hope that you will take a moment for yourself to relax and reflect on your birth experience while you enjoy this treat. I have also enclosed a refrigerator photo magnet—this is a frame for a small photo of your precious baby!

Thank you again for your time. Please do not hesitate to contact me if you have any questions.

Sincerely,

Cindy Farley, CNM, MN
Ohio State University College of Nursing
Doctoral Candidate

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February 6, 1999

Dear xx:

I hope this letter finds you and your baby doing just fine. This is a gentle reminder for you to fill out and mail the postpartum study forms that should have reached you by now. This will complete your participation in my research study about psychological issues in pregnancy, labor, and birth and the early postpartum period. It is most helpful if you would take the time to complete these forms. I truly appreciate your assistance in this matter. I have enclosed a self-addressed stamped envelope for you to fill out in case the forms were lost in the mail or misplaced and you need another set of forms.

Just check below and return this letter, and I will send more forms to you as soon as possible. Or if you have decided that you wish to withdraw from the study, please check the appropriate blank. This way I will know not to contact you further.

_____ Yes, I need another set of forms.
_____ I do not wish to continue in this study.

I am very grateful that you have shared your time and insights with me. It is my hope that this study will increase health-care providers' sensitivity to the psychological needs of first-time mothers. Thank you again for your time. Please do not hesitate to contact me at xx if you have any questions.

Sincerely,

Cindy Farley, CNM, MN
Ohio State University College of Nursing
Doctoral Candidate

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February 26, 1999

Dear xx:

As you recall, you have agreed to participate in my research study about psychological issues during pregnancy, labor, and birth and the early postpartum period. Enclosed you will find the final forms that I am asking you to fill out. Please fill them out and return them to me as soon as possible in the stamped, addressed envelope provided. Thank you so much.

It is my hope that this study will increase health-care providers' sensitivity to the psychological needs of first-time mothers. To show my appreciation for your efforts, I have enclosed some chocolates and raspberry tea. I hope that you will take a moment for yourself to relax and reflect on your birth experience while you enjoy this treat. I have also enclosed a refrigerator photo magnet—this is a frame for a small photo of your precious baby.

If you have decided that you wish to withdraw from the study, please return the blank forms, along with a note stating that you are withdrawing. This way I will know not to contact you further. I am hopeful, however, that you will continue and fill out these final forms. Thank you again for your time. Please do not hesitate to contact me if you have any questions.

Sincerely,

Cindy Farley, CNM, MN
Ohio State University College of Nursing
Doctoral Candidate

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Appendix D

Consent for Participation in Social and Behavioral Research

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Consent for Participation in Social and Behavioral Research

I, _____, consent to participate in research entitled:
Vicarious Experience: A Source of Self-Efficacy for Birth

I understand that Dr. Nancy K. Lowe, a faculty member in the College of Nursing, is the principal investigator of this research project and that Cindy Farley, a student in the doctoral program at the College of Nursing, is co-principal investigator. I understand that other graduate students may also participate in this research project. Dr. Lowe can be reached at xx, and Cindy can be reached at xx if I have further questions or concerns.

I understand that the purpose of this study is to examine prior experiences and various psychological issues related to childbearing. I understand that I will be asked to fill out forms related to these areas today (30-45 minutes). If I have attended another woman's birth previously, I will also be asked to fill out additional forms (5-10 minutes), and I may also be asked to participate in an audiotaped interview (up to 60 minutes). I will be asked to sign a release of information form that will be sent to my prenatal care provider to obtain the following information about my birth: (1) length of labor, (2) use of analgesia/anesthesia, (3) route of birth, and (4) infant Apgar score. I will also be sent forms regarding my birth experience at about 1 to 3 weeks postpartum to complete and return by mail (20-30 minutes). At that point, my participation in the research project is completed. I understand that all data will be kept confidential, that once my participation in the study has ended, all identifying information will be removed from all forms, and that all audiotapes will be destroyed after they have been transcribed.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Further, I understand that I am free to withdraw consent at any time and to discontinue participation in the study without affecting my care.

Finally, I acknowledge that I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date		Signed	Participant
Signed	Principal Investigator	Signed	Co-Principal Investigator
Witness			

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Appendix E

Demographic Data Form

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Demographic Data Form

Code _____

Please fill in the blanks or circle your answers as appropriate.

1. Today's date	2. Expected due date (m/d/y)	3. Your age	4. Total years of education

5. Marital status 1 single 4 separated 2 married 5 widowed 3 divorced	10. Have you ever had a pregnancy that has ended in the following manner? Miscarriage? Abortion? Tubal pregnancy? 1 yes 1 yes 1 yes 2 no 2 no 2 no
6. Race/ethnicity 1 Caucasian 4 Asian 2 Hispanic 5 Native American 3 African American 6 other:	11. Have you had any health problems during this pregnancy? If yes, please briefly describe the health problems you have had:
7. Employment status 1 not currently employed 2 not employed, full-time student 3 employed part time (<30 hours/week) 4 employed full time (30+ hours/week) 5 other:	12. What measures do you expect to use for pain relief during labor and birth? Please circle all that apply to you: 1 nothing 7 hydrotherapy (bath or shower) 2 relaxation techniques 8 narcotic drugs 3 breathing techniques 9 epidural 4 support person 10 other: 5 massage 6 walking during labor
8. Annual family income 1 <$15,000 2 $15,001 - $20,000 3 $20,001 - $30,000 4 $30,001 - $40,000 5 $40,001 - $50,000 6 $50,001 - $75,000 7 $>75,001	13. Have you ever had the opportunity to attend another woman's labor and birth? 1 yes (go to question #14) 2 no (you are done with this form)
9. Was this a planned pregnancy? 1 yes 2 no	14. Did you attend the labor and birth of another woman? 1 yes (you will be provided with 3 additional forms regarding this experience) 2 no (please explain why you did not attend the labor and birth of another woman)

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Appendix F

Childbirth Self-Efficacy Inventory 1

Lowe, 1993

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Childbirth Self-Efficacy Inventory 1

ID _____

Think about how you imagine labor will be and feel when you are having contractions 5 minutes apart or less. For each of the following behaviors, indicate how helpful you feel the behavior could be in helping you cope with this part of labor by circling a number between 1, not at all helpful, and 10, very helpful.

		Not at all helpful								Very helpful
1.	Relax my body	1	2	3	4	5	6	7	8	9 10
2.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9 10
3.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9 10
4.	Keep myself in control.	1	2	3	4	5	6	7	8	9 10
5.	Think about relaxing.	1	2	3	4	5	6	7	8	9 10
6.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9 10
7.	Keep myself calm.	1	2	3	4	5	6	7	8	9 10
8.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9 10
9.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9 10
10.	Think positively.	1	2	3	4	5	6	7	8	9 10
11.	Not think about the pain.	1	2	3	4	5	6	7	8	9 10
12.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9 10
13.	Think about others in my family.	1	2	3	4	5	6	7	8	9 10
14.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9 10
15.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9 10

Continue to think about how you imagine labor will be and feel when you are having contractions 5 minutes apart or less. For each behavior, indicate how certain you are of your ability to use the behavior to help you cope with this part of labor by circling a number between 1, not at all sure, and 10, completely sure.

		Not at all sure								Completely sure
16.	Relax my body	1	2	3	4	5	6	7	8	9 10
17.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9 10
18.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9 10
19.	Keep myself in control.	1	2	3	4	5	6	7	8	9 10
20.	Think about relaxing.	1	2	3	4	5	6	7	8	9 10
21.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9 10
22.	Keep myself calm.	1	2	3	4	5	6	7	8	9 10
23.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9 10
24.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9 10
25.	Think positively.	1	2	3	4	5	6	7	8	9 10
26.	Not think about the pain.	1	2	3	4	5	6	7	8	9 10
27.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9 10
28.	Think about others in my family.	1	2	3	4	5	6	7	8	9 10
29.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9 10
30.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9 10

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Think about how you imagine labor will be and feel when you are pushing your baby out to give birth. For each of the following behaviors, indicate how helpful you feel the behavior could be in helping you cope with this part of labor by circling a number between 1, not at all helpful, and 10, very helpful.

		Not at all helpful									Very helpful
31.	Relax my body	1	2	3	4	5	6	7	8	9	10
32.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9	10
33.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9	10
34.	Keep myself in control.	1	2	3	4	5	6	7	8	9	10
35.	Think about relaxing.	1	2	3	4	5	6	7	8	9	10
36.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9	10
37.	Keep myself calm.	1	2	3	4	5	6	7	8	9	10
38.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9	10
39.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9	10
40.	Think positively.	1	2	3	4	5	6	7	8	9	10
41.	Not think about the pain.	1	2	3	4	5	6	7	8	9	10
42.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9	10
43.	Think about others in my family.	1	2	3	4	5	6	7	8	9	10
44.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9	10
45.	Focus on the person helping me in labor	1	2	3	4	5	6	7	8	9	10
46.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9	10

Continue to think about how you imagine labor will be and feel when you are pushing your baby out to give birth. For each behavior, indicate how certain you are of your ability to use the behavior to help you cope with this part of labor by circling a number between 1, not at all sure, and 10, completely sure.

		Not at all sure									Completely sure
47.	Relax my body	1	2	3	4	5	6	7	8	9	10
48.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9	10
49.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9	10
50.	Keep myself in control.	1	2	3	4	5	6	7	8	9	10
51.	Think about relaxing.	1	2	3	4	5	6	7	8	9	10
52.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9	10
53.	Keep myself calm.	1	2	3	4	5	6	7	8	9	10
54.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9	10
55.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9	10
56.	Think positively.	1	2	3	4	5	6	7	8	9	10
57.	Not think about the pain.	1	2	3	4	5	6	7	8	9	10
58.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9	10
59.	Think about others in my family.	1	2	3	4	5	6	7	8	9	10
60.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9	10
61.	Focus on the person helping me in labor	1	2	3	4	5	6	7	8	9	10
62.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9	10

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Appendix G

Preparation for Childbirth Scale

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Preparation for Childbirth Scale

Code _____

Please check the following activities that you have completed in preparation for your labor or as part of your formal education:

_____ reading magazine articles and/or pamphlets about labor
_____ taking a formal tour of the labor suite
_____ talking with other women about labor
_____ talking with your midwife about labor
_____ seeing a film about labor
_____ reading Lamaze and/or other natural childbirth books
_____ receiving formal medical training as a health-care professional
_____ attending traditional prenatal classes
_____ attending Lamaze classes

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Appendix H

Childbirth Attitudes Questionnaire

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Childbirth Attitudes Questionnaire

ID _____

Following are some common fears that pregnant women have expressed in the past. No one is expected to have them all. Some women may have none of them. Please answer as honestly as you can without consulting anyone else. If you're not sure how to rate the intensity of the fear, do not worry about it. Just make a quick judgment and mark what seems about right.

Rate each fear according to the following scale:

1 = No anxiety; never have had that fear.
2 = Low anxiety; not enough to really call it fear.
3 = Moderate anxiety; it bothers you quite a bit, but not enough to affect your feeling of well being.
4 = High anxiety; it worries you a lot and affects your feeling of well being.

		No anxiety	Low anxiety	Moderate anxiety	High anxiety
1.	I have fear of losing control of myself at the delivery.	1	2	3	4
2.	I am really afraid of giving birth.	1	2	3	4
3.	I have nightmares about the delivery.	1	2	3	4
4.	I have fear of bleeding too much during the delivery.	1	2	3	4
5.	I have fear I will not be able to help during the delivery.	1	2	3	4
6.	I have fear of something being wrong with the baby.	1	2	3	4
7.	I have fear of painful injections.	1	2	3	4
8.	I have fear of being left alone during labor.	1	2	3	4
9.	I have fear of having to have a Cesarean section.	1	2	3	4
10.	I have fear of being torn with the birth of the baby.	1	2	3	4
11.	I have fear of the baby being injured during the delivery.	1	2	3	4
12.	I have fear of painful labor contractions.	1	2	3	4
13.	I have difficulty relaxing when thinking of the coming birth.	1	2	3	4
14.	I have fear of the hospital environment and not getting the kind of care that I want.	1	2	3	4
15.	Overall, I would rate my anxiety about childbirth as 1 (no anxiety), 2 (low anxiety), 3 (moderate anxiety), or 4 (high anxiety).	1	2	3	4

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Appendix I

Childbirth Expectations Questionnaire

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Childbirth Expectations Questionnaire

Code _____

This questionnaire is designed to describe women's expectations regarding their impending labor and delivery experience. Your opinions along with those of other pregnant women will be used to learn more about women and children.

This questionnaire contains a number of statements, each of which says something different about your labor and delivery expectations. While no one can know for sure what will happen to them in labor, we are interested in knowing what you anticipate or expect the childbirth experience will be like for you. We are asking for your "best guess" about what will happen to you in labor. For each statement, decide how you agree or disagree with the view expressed. Think about the statement. Beside each statement, you will find five words used to describe your expectation. There are no right or wrong answers. People differ in their views. Your response is a matter of your personal opinion. The information you give will be completely confidential.

Thank you very much for your time and your help. Below is an example which may help you in completing the questionnaire.

Example	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A. I am looking forward with great joy to the birth of my baby.	☐	☐	☐	☐	☒
B. I need to know more about childbirth than I possibly could.	☐	☐	☒	☐	☐

The answer to Example A, Strongly Agree indicates that you are quite certain that you are looking forward to the birth of your baby with great joy.

The answer to Example B., Neutral indicates that you cannot quite decide whether to agree or disagree with this statement.

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Please be sure to mark every statement and word(s) which comes closest to your opinion.
"With regard to my labor and delivery experience, I expect that ...:"

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. My partner/coach will be happy and excited.	☐	☐	☐	☐	☐
2. The nurses will be kind to me.	☐	☐	☐	☐	☐
3. I will avoid seeking help from the nurses.	☐	☐	☐	☐	☐
4. I will be immobilized by the pain of labor.	☐	☐	☐	☐	☐
5. I will be able to cope with labor.	☐	☐	☐	☐	☐
6. I will feel reassured by the nurses' presence.	☐	☐	☐	☐	☐
7. The nurses will spend little time with me.	☐	☐	☐	☐	☐
8. My plans for birth will be ignored by the nurse.	☐	☐	☐	☐	☐
9. My partner/coach will feel quite helpless.	☐	☐	☐	☐	☐
10. I will be required to have routine procedures even if I don't want them.	☐	☐	☐	☐	☐
11. I will ask my partner/coach for help.	☐	☐	☐	☐	☐
12. I will worry about the severity of labor pain.	☐	☐	☐	☐	☐
13. There is little chance that I will end up having a cesarean section.	☐	☐	☐	☐	☐
14. Lots of medical equipment and machinery will be used.	☐	☐	☐	☐	☐
15. I will be afraid of panicking.	☐	☐	☐	☐	☐
16. I will experience discomfort but not unbearable pain.	☐	☐	☐	☐	☐
17. I will feel comforted by the presence of my partner/coach.	☐	☐	☐	☐	☐
18. I will feel intense pain.	☐	☐	☐	☐	☐
19. I will have a childbirth free of medical intervention.	☐	☐	☐	☐	☐
20. I will want to have fetal monitoring.	☐	☐	☐	☐	☐
21. I will be afraid of being a coward.	☐	☐	☐	☐	☐
22. I will be able to relax during labor.	☐	☐	☐	☐	☐
23. The nurses will offer me encouragement.	☐	☐	☐	☐	☐
24. Forceps will be used.	☐	☐	☐	☐	☐

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	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
25. The pain of labor will be agonizing.	☐	☐	☐	☐	☐
26. I will receive personal attention from the nurses.	☐	☐	☐	☐	☐
27. My partner/coach will tell me what is going on.	☐	☐	☐	☐	☐
28. The nurse will allow me to be an active participate in decision making.	☐	☐	☐	☐	☐
29. I will be scared when I think about the pain of labor.	☐	☐	☐	☐	☐
30. I will refuse to have any procedures I consider unnecessary.	☐	☐	☐	☐	☐
31. My opinion or that of my partner/coach will be sought for all major medical decisions.	☐	☐	☐	☐	☐
32. I will use anesthetics and/or pain killing drugs.	☐	☐	☐	☐	☐
33. The nurse-midwife will make most of the decisions.	☐	☐	☐	☐	☐
34. I will avoid telling my partner/coach what I am feeling.	☐	☐	☐	☐	☐
35. I will be embarrassed by my behavior.	☐	☐	☐	☐	☐

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Appendix J

Rosenberg Self-Esteem Scale

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Rosenberg Self-Esteem Scale

ID _____

Instructions. Below is a list of statements dealing with your general feelings about yourself. If you agree with the statement, circle A. If you strongly agree, circle SA. If you disagree, circle D. If you strongly disagree, circle SD.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. On the whole, I am satisfied with myself	SA	A	D	SD
2. At times, I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD

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Appendix K

Birth Attendance Demographic Data Form

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Birth Attendance Demographic Data Form

Code _____

Please fill in the blanks or circle your answers as appropriate. If you have attended more than one woman's birth, please think of the most memorable birth to answer these questions.

1. How many births have you attended? _____	7. With regard to the woman whose birth you attended, what was her age? 1 I know her age was _____. 2 I don't know, but I guess her age to be _____.
2. What was your relationship to the woman whose birth you attended? 1 friend 4 aunt 2 sister 5 patient 3 mother 6 other	8. With regard to the woman whose birth you attended, what was her race/ethnicity? 1 Caucasian 6 other: 2 Hispanic 7 I don't know, but 3 African American I am guessing her 4 Asian race/ethnicity 5 Native American to be:
3. Were you present during the labor? 1 present for all of the labor 2 present for some of the labor 3 present for the birth only	9. With regard to the woman whose birth you attended, how many years of education had she completed? 1 I know her years of completed education were _____. 2 I don't know, but I guess her years of completed education to be _____.
4. What was your role during the birth you attended? Please circle all that apply to you. 1 observer 4 health-care 2 labor support professional 3 photographer 5 other:	10. With regard to the woman whose birth you attended, what was her income level? 1 <$15,000 6 $50,001-$75,000 2 $15,001-$20,000 7 >$75,001 3 $20,001-$30,000 8 I don't know, but I guess 4 $30,001-$40,000 her income level to 5 $40,001-$50,000 be _____.
5. Who was the primary health-care provider at the birth you attended? 1 nurse-midwife 4 nurse 2 doctor 5 other: 3 lay midwife	11. What kind of birth did the woman whose birth you attended have? 1 vaginal birth 3 forceps birth 2 Cesarean section birth 4 vacuum birth
6. Where did the birth that you attended occur? 1 hospital 2 birth center 3 home	12. What did the woman whose birth you attended use for pain relief during labor and birth? Please circle all that apply. 1 nothing 7 hydrotherapy 2 relaxation techniques (bath or shower) 3 breathing techniques 8 narcotic drugs 4 support person 9 epidural 5 massage 10 other: 6 walking during labor

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Appendix L

Live Modeling Birth Experience Visual Analogue Scale (LMBE-VAS)

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Live Modeling Birth Experience Visual Analogue Scale (LMBE-VAS)

Code _____

Please draw a vertical mark (|) on the point of the scale that best represents your feelings about your experience.

The birth I attended was a very positive experience for me.	_____	The birth I attended was a very negative experience for me.

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Appendix M

Social Comparison Visual Analogue Scale (SC-VAS)

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Social Comparison Visual Analogue Scale (SC-VAS)

Code _____

Please draw a vertical mark (|) on the point of the scale that best represents your feelings about your experience.

I am exactly like the woman whose birth I attended.	———————————————	I am nothing like the woman whose birth I attended

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Appendix N

Labor & Birth Data Form

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Labor & Birth Data Form

Dear Nurse-Midwife:

Your client, _____, has agreed to participate in a research study examining the development of confidence in pregnant, nulliparous women. Her signed consent form is on file in the office of Cindy Farley, the principal investigator.

Please fill in the blanks or circle your answers as appropriate as soon after the labor and birth of your client as possible and mail to Cindy Farley in the self-addressed stamped envelope attached to the chart. Thank you so much for your generous contribution of time.

1. Birth Date: _____ (month)_____(day) _____ (year)

2. Apgar Scores: _____ One Minute _____Five Minutes

3. Length of Labor: 1st Stage _____ hrs _____ min
   2nd Stage _____ hrs _____ min
   3rd Stage _____ hrs _____ min

4 Route of Birth:
   1 - NSVD
   2 - Vacuum Extraction
   3 - Forceps
   4 - Cesarean Section

Were there any complications during labor and/or birth? If so, please explain:

_____

_____

5. What measures for pain relief were used by this woman during her labor and birth? Please circle all that apply.
   1 - nothing
   2 - relaxation techniques
   3 - breathing techniques
   4 - support person
   5 - massage
   6 - walking during labor
   7 - hydrotherapy (bath or shower)
   8 - narcotic drugs (type _____ amount _____ cervical dilatation when first given _____)
   9 - epidural (cervical dilatation when first administered_____)
   10 - other_____

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Appendix O

Importance Questionnaire

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Importance Questionnaire

Today's Date _____ Code _____

Read all of the items below. Then think back about the way you were able to cope with your labor and birth. Please rank the following items in the order that best reflects the item's importance in your ability to cope with your first labor and birth. First, use 1 to indicate the **most important**, then use 6 to indicate the **least important**. Finally, rank the other items in the order of their importance to you, using 2 through 5.

_____ My nurse's help
_____ My nurse-midwife's help
_____ My own efforts
_____ My support person's help
_____ Pain medication
_____ Other, please explain:

_____
_____
_____

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Appendix P

Questionnaire Measuring Attitudes about Labor and Delivery Experience

Marut & Mercer, 1979

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Questionnaire Measuring Attitudes about Labor and Delivery Experience

Code _____

Please circle the number on each scale that best describes the feeling state referred to in each question.

Example: How relaxed were you during labor?

Not at all		Moderately		Extremely
1	2	3	(4)	5

(This answer would indicate that you were very relaxed although not extremely relaxed.)

	Not at all		Moderately		Extremely
1. How successful were you in using the breathing or relaxation methods to help with contractions?	1	2	3	4	5
2. How confident were you during labor?	1	2	3	4	5
3. How confident were you during delivery?	1	2	3	4	5
4. How relaxed were you during labor?	1	2	3	4	5
5. How relaxed were you during delivery?	1	2	3	4	5
6. How pleasant or satisfying was the feeling state you experienced during delivery?	1	2	3	4	5
7. How well in control were you during labor?	1	2	3	4	5
8. How well in control were you during delivery?	1	2	3	4	5
9. To what extent did your experience of having a baby go along with the expectation you had before labor began?	1	2	3	4	5
10. To what extent do you consider yourself to have been a useful and cooperative member of the obstetric team?	1	2	3	4	5
11. How useful was your partner in helping you through your labor?	1	2	3	4	5
12. How useful was your partner in helping you through delivery?	1	2	3	4	5
13. To what degree were you aware of events during labor?	1	2	3	4	5
14. To what degree were you aware of events during delivery?	1	2	3	4	5
15. How unpleasant was the feeling state you experienced during delivery?	1	2	3	4	5
16. Do you remember your labor as painful?	1	2	3	4	5

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	Not at all		Moderately		Extremely
17. Do you remember your delivery as painful?	1	2	3	4	5
18. How scared were you during delivery?	1	2	3	4	5
19. Did you worry about your baby's condition during labor?	1	2	3	4	5
20. Did you worry about your baby's condition during delivery?	1	2	3	4	5
21. Did the equipment used during labor bother you?	1	2	3	4	5
22. Was the delivery experience realistic as opposed to dream-like?	1	2	3	4	5
23. Did you have choices about interventions, i.e., examinations or treatments during labor?	1	2	3	4	5
24. Did your partner (or other person) review your labor experience with you?	1	2	3	4	5
25. Did you feel better after reviewing the labor and delivery experience?	1	2	3	4	5
26. Were you pleased with how your delivery turned out?	1	2	3	4	5
	Immediately		2 hours		8+ hours
27. How soon after delivery did you touch your baby?	1	2	3	4	5
28. How soon after delivery did you hold your baby?	1	2	3	4	5
	Not at all		Moderately		Extremely
29. Were you able to enjoy holding your baby the first time?	1	2	3	4	5

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Appendix Q

Childbirth Self-Efficacy Inventory 2

Lowe, 1993

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Childbirth Self-Efficacy Inventory 2

ID _____

You have recently had your first birth experience. Regardless of your plans for more children at the moment, please answer as though you will have another labor and birth. Think about how you imagine your next labor will be and feel when you are having contractions 5 minutes apart or less. For each of the following behaviors, indicate how helpful you feel the behavior could be in helping you cope with this part of labor by circling a number between 1, not at all helpful, and 10, very helpful.

		Not at all helpful									Very helpful
1.	Relax my body	1	2	3	4	5	6	7	8	9	10
2.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9	10
3.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9	10
4.	Keep myself in control.	1	2	3	4	5	6	7	8	9	10
5.	Think about relaxing.	1	2	3	4	5	6	7	8	9	10
6.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9	10
7.	Keep myself calm.	1	2	3	4	5	6	7	8	9	10
8.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9	10
9.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9	10
10.	Think positively.	1	2	3	4	5	6	7	8	9	10
11.	Not think about the pain.	1	2	3	4	5	6	7	8	9	10
12.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9	10
13.	Think about others in my family.	1	2	3	4	5	6	7	8	9	10
14.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9	10
15.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9	10

Continue to think about how you imagine your next labor will be and feel when you are having contractions 5 minutes apart or less. For each behavior, indicate how certain you are of your ability to use the behavior to help you cope with this part of labor by circling a number between 1, not at all sure, and 10, completely sure.

		Not at all sure									Completely sure
16.	Relax my body	1	2	3	4	5	6	7	8	9	10
17.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9	10
18.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9	10
19.	Keep myself in control.	1	2	3	4	5	6	7	8	9	10
20.	Think about relaxing.	1	2	3	4	5	6	7	8	9	10
21.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9	10
22.	Keep myself calm.	1	2	3	4	5	6	7	8	9	10
23.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9	10
24.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9	10
25.	Think positively.	1	2	3	4	5	6	7	8	9	10
26.	Not think about the pain.	1	2	3	4	5	6	7	8	9	10
27.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9	10
28.	Think about others in my family.	1	2	3	4	5	6	7	8	9	10
29.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9	10
30.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9	10

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You have recently had your first birth experience. Regardless of your plans for more children at the moment, please answer as though you will have another labor and birth. Think about how you imagine your next labor will be and feel when you are pushing your baby out to give birth. For each of the following behaviors, indicate how helpful you feel the behavior could be in helping you cope with this part of labor by circling a number between 1, not at all helpful, and 10, very helpful.

		Not at all helpful									Very helpful
31.	Relax my body	1	2	3	4	5	6	7	8	9	10
32.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9	10
33.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9	10
34.	Keep myself in control.	1	2	3	4	5	6	7	8	9	10
35.	Think about relaxing.	1	2	3	4	5	6	7	8	9	10
36.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9	10
37.	Keep myself calm.	1	2	3	4	5	6	7	8	9	10
38.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9	10
39.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9	10
40.	Think positively.	1	2	3	4	5	6	7	8	9	10
41.	Not think about the pain.	1	2	3	4	5	6	7	8	9	10
42.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9	10
43.	Think about others in my family.	1	2	3	4	5	6	7	8	9	10
44.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9	10
45.	Focus on the person helping me in labor	1	2	3	4	5	6	7	8	9	10
46.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9	10

Continue to think about how you imagine your next labor will be and feel when you are pushing your baby out to give birth. For each behavior, indicate how certain you are of your ability to use the behavior to help you cope with this part of labor by circling a number between 1, not at all sure, and 10, completely sure.

		Not at all sure									Completely sure
47.	Relax my body	1	2	3	4	5	6	7	8	9	10
48.	Get ready for each contraction.	1	2	3	4	5	6	7	8	9	10
49.	Use breathing during labor contractions.	1	2	3	4	5	6	7	8	9	10
50.	Keep myself in control.	1	2	3	4	5	6	7	8	9	10
51.	Think about relaxing.	1	2	3	4	5	6	7	8	9	10
52.	Concentrate on an object in the room to distract myself.	1	2	3	4	5	6	7	8	9	10
53.	Keep myself calm.	1	2	3	4	5	6	7	8	9	10
54.	Concentrate on thinking about the baby.	1	2	3	4	5	6	7	8	9	10
55.	Stay on top of each contraction.	1	2	3	4	5	6	7	8	9	10
56.	Think positively.	1	2	3	4	5	6	7	8	9	10
57.	Not think about the pain.	1	2	3	4	5	6	7	8	9	10
58.	Tell myself that I can do it.	1	2	3	4	5	6	7	8	9	10
59.	Think about others in my family.	1	2	3	4	5	6	7	8	9	10
60.	Concentrate on getting through one contraction at a time.	1	2	3	4	5	6	7	8	9	10
61.	Focus on the person helping me in labor	1	2	3	4	5	6	7	8	9	10
62.	Listen to encouragement from the person helping me.	1	2	3	4	5	6	7	8	9	10

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