The Relationships Between Nurse Attributes, Site Characteristics, And Labor Support Attitudes And Behaviors Among Intrapartum Nurses

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by

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ABSTRACT
THE RELATIONSHIPS BETWEEN NURSE ATTRIBUTES, SITE CHARACTERISTICS AND LABOR SUPPORT ATTITUDES AND BEHAVIORS AMONG INTRAPARTUM NURSES

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Most American women deliver their babies in the hospital; an opportunity for nurses to make a positive impact. However, nursing labor support has been associated with fewer positive outcomes than support performed by lay providers, doulas, or midwives. Positive outcomes associated with continuous labor support include decreased cesarean deliveries, and use of medication or epidurals for pain. It was unclear why the outcomes were not as great when nurses provided labor support.

The purpose of this study was to describe the relationships between nurse attributes, organizational characteristics, and labor support attitudes, behaviors, and perception of barriers among intrapartum nurses. Conceptual frameworks for the study included the Theory of Reasoned Action and The Professional Labor Support Model. An exploratory, descriptive, mixed methods study was conducted with a purposive sample of labor and delivery nurses who work in three different hospital settings (rural, suburban, urban) in one region of a midwestern state. Participants completed the Labor Support Questionnaire (LSQ) in an online format. Participants who completed the survey were asked to participate in follow-up interviews. Responses to questions on the LSQ were statistically evaluated to identify differences between sites and significant correlations. Sixty nurses (57%) responded to the online survey and 11 participated in follow-up interviews. There were no significant differences in LSQ findings between participants in the three settings.

Personal birth experiences were correlated with attitudes and intended behaviors. Data triangulation revealed that LSQ and interview findings were consistent; women-centered care, preparing women, using presence (or nonpresence), and taking charge when needed, were aspects of labor support that were highly valued by the nurses studied. However, labor support differed when women used epidurals for analgesia; use of nonpresence increased. Barriers to labor support included staffing, documentation, physicians, high-technology interventions, doulas, and birth plans. Enablers of labor support included valuing collaboration with managers, doulas, providers, education and experience. Participants placed great importance on women-centered labor support but may not be aware of personal factors that impact care they provide. Interventions that are based only on women's perceived needs, and do not

reflect evidence-based practice may not promote labor progress and improved outcomes.

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Chapter 1 Introduction

Labor and birth are intense experiences and a time of particular vulnerability, when women need both physical and emotional support. This support can be provided by friends, family members, lay providers, or trained professionals such as doulas, midwives, or nurses. Labor support may impact not only the experience but also the outcomes for both mother and newborn. In 2007, the latest year for which statistics are available, 99% of women in the United States delivered their babies in the hospital environment (Martin et al., 2010). Therefore, nurses clearly have the potential to make a difference for women in labor. However, nursing labor support has been associated with fewer positive outcomes than support provided by lay providers, doulas or midwives (Hodnett, Gates, Hofmeyr, Sakala, & Weston, 2012). Studying professional nursing labor support may increase understanding of this complex interaction. It also may reveal factors that impact labor support and possible interventions to improve intrapartum-nursing care.

Statement of the Problem

Intrapartum nursing is a specialized area of nursing that provides professional labor support (PLS; see Appendix A for abbreviations) to women during a vulnerable time in their lives. There is evidence that continuous labor support can lead to a variety of improved outcomes for women and their newborns. The positive outcomes of continuous labor support have been identified in a number of studies, but it was not understood why the benefits were not as substantial when provided by the nurse. A key finding was the

improvement in benefits of labor support such as shorter labors, reduced cesarean deliveries, and analgesia, as the length of time increased (Scott, Berkowitz, & Klaus, 1999). There is evidence that nursing labor support makes a difference in patient experience and outcomes (Corbett & Callister, 2000; Hodnett & Osborn, 1989; Gagnon, Waghorn, & Covell, 1997; Radin, Harmon, & Hanson, 1993; Regan & Liaschenko, 2007) and influences a mother's perception of the childbirth experience (MacKinnon, McIntyre, & Quance, 2005). Yet studies have shown that there are a number of barriers to continuous labor support by nurses.

Professional labor support (see Table 1 for definitions of labor support providers) has been studied for over two decades and many improved

Table 1

Labor Support Providers

	Operational Definitions Providers of Labor Support
Nonprofessional	A person without formal training to provide support; included
Untrained	those who received brief training sessions as part of the study
-Lay Provider[a]	
Trained	A support person who has been trained in physical, emotional
-Doula	and informational support for the mother during labor and after birth (DONA, 2011).
-Lay Midwife[b]	A person who received some form of education in midwifery as specialty; when training was not described, they were assumed to be lay midwives, meaning that their training was through an apprenticeship.
Professional	A registered nurse (RN) with experience in intrapartum care
-Nurse	(although the level of preparation in labor support skills may not have been specified)

Note. [a]When authors provided no information about labor support training, or the specifics of the training were unclear, they were considered to be lay providers for the purpose of this review. [b]No studies of Certified Nurse-Midwives were among the studies reviewed, as they were not a focus of this research.

intrapartum outcomes have been attributed to it (see Table 2). These included (a) decreased use of oxytocin (Gagnon et al., 1997; Hodnett & Osborn, 1989; Klaus, Kennell, Robertson, & Sosa, 1986; Madi, Sandall, Bennett, & MacLeod, 1999; Trueba, Contreras, Valazco, & Lara, 2000); (b) fewer cesarean-sections (Kashanian, Javadi, & Haghighi, 2010; Kennell, Klaus, McGrath, Robertson, & Hinkley, 1991; Klaus et al., 1986; Madi et al., 1999; McGrath & Kennell, 2008; Morhason-Bello et al., 2009; Radin et al., 1993; Trueba et al., 2000); and (c) episiotomies (Hodnett & Osborn, 1989); (d) decreased use of forceps (Kennell et al., 1991; Radin et al., 1993) or vacuums (Madi et al., 1999); (e) analgesia (Hodnett & Osborn, 1989; Madi et al., 1999); and (f) epidurals (Kennell et al., 1991; McGrath & Kennell, 2008); (g) fewer newborns with low APGAR scores (Campbell, Lake, Falk, & Backstrand, 2006); (h) shorter duration of labor (Campbell et al., 2006; Kashanian et al., 2010; Kennell et al., 1991; Langer, Campero, Garcia, & Reynoso, 1998); (i) increased satisfaction with childbirth (Bruggemann, Parpinelli, Osis, Cecatti, & Neto, 2007; Campero et al., 1998; Hodnett et al., 2008; McGrath & Kennell, 2008; Morhason-Bello et al., 2009); and (j) breastfeeding success (Langer et al., 1998; Morhason-Bello et al., 2009). Social support, including physical and psychological care, communication, and education also promoted a more positive childbirth experience (Campero et al., 1998).

Any duration of labor support was significantly associated with improved intrapartum outcomes, but continuous labor support was demonstrated to have the greatest magnitude of impact (Scott, et al., 1999). In addition, labor support

Table 2

Quantitative Study Results: Outcomes Associated with Labor Support

	Study Location	Shorter Duration of Labor	Fewer Cesareans	Fewer epidurals	Less analgesia	Less use of oxytocics	Less use of stirrups	Fewer forceps	Fewer vacuum	Fewer episiotomies	Increased satisfaction of woman	Higher APGAR scores	Fewer NICU Admits	Early Breast-feeding	Breast-feeding Success
Untrained: Lay provider															
Mottl-Santiago (2008)	U.S.													X	X
Klaus (1986)	Guatemala	X	X			X									
Madi (1999)	Botswana		X		X	X			X						
Bruggemann (2007)	Brazil										X				
Morhason-Bello (2009)	Nigeria		X								X			X	
Trained: Doula or Midwife															
Hodnett (1989)	N.A.				X	X				X					
Kennell (1991)	U.S.	X	X	X				X							
Campbell (2006)	U.S.	X										X			
McGrath (2008)	U.S.		X	X							X				
Campero (1998)	Mexico										X				
Langer (1998)	Mexico	X													X
Trueba (2000)	Mexico		X			X									
Kashanian (2010)	Tehran, Iran	X	X												
Nursing Labor Support															
Radin (1993)	U.S.		X					X							
Gagnon (1997)	Canada					X									
Hodnett (2008)	N.A., U.K.										X				

Note. X indicates statistically significant finding; United States (U.S.); North America (N.A.); United Kingdom (U.K.)

was more beneficial when provided by lay providers, doulas, or midwives, rather than hospital employees such as nurses (Hodnett et al., 2012; Sauls, 2002).

While labor support is a part of the role of labor and delivery Registered Nurses (RNs), barriers to continuous labor support by RNs have been identified. For example, observations of nurses showed that they spent between 11.7-29.7% of their time actually providing intrapartum support (Davies & Hodnett, 2002). Miltner (2002) reported a higher percentage with 31.5% of time spent by intrapartum nurses providing at least one support measure, most commonly emotional support such as social talk, building rapport, or encouragement of family members. Informational support was next most common and was focused on the physical facility, postpartum care and breastfeeding. Physical care was the least common support provided and it included changing bed linens, warm or cold compresses, and touch.

Time spent providing labor support varied and appeared to be related to the nurse-patient ratio, with labor support time decreasing to 26.7% if the nurse was caring for three patients, as compared to 72.3% if caring for one and 50.2% if providing care for two patients (Miltner, 2002). Other factors that positively impacted nursing time spent providing care included the nurse's age and experience (Barrett & Stark, 2010), along with management or organizational supports (Angus, Hodnett & O'Brien-Pallas, 2003; Carlton, Callister, Christiaens & Walker, 2009; Davies & Hodnett, 2002; Sleutel, Schultz, & Wyble, 2007). Subjective norms such as the belief that providing supportive care was not valued by others, (Sauls, 2007), and other work demands (e.g., staffing; Carlton

et al., 2009; Davies & Hodnett, 2002) were negatively related to labor support. Attitudes (Sauls, 2007), including staff attitudes regarding labor support practices (Davies & Hodnett, 2002), facility culture (Sleutel et al., 2007), and relationships with physicians (Angus et al., 2003; Carlton et al., 2009; Sleutel, 2000; Sleutel et al., 2007) also influenced the labor support provided to intrapartum patients.

Currently, 61% of all pregnant women in the United States experience labor with epidural anesthesia (Osterman & Martin, 2011). Epidurals numb sensory and motor nerve pathways, providing significant pain relief or absence of discomfort (Walsh, 2009). The findings of a recent research study suggested that patients who have epidural analgesia might not receive the same level of labor support as women without epidurals (Payant, Davies, Graham, Peterson, & Clinch, 2008). Nurses' intent to provide continuous labor support for women with epidurals and predictors of intent to provide labor support were different depending upon epidural use (Payant et al., 2008). Subjective norms and attitudes were the greatest predictors of labor support for women with epidurals. Alternatively, having taken labor support courses and perceived behavioral control (PCB) were the greatest predictors of support for women who did not have epidurals. Subjective norms were identified such as the expectation that a nurse who has a patient with an epidural should help other nurses. Attitudes of other nurses, physicians, and management about patients with an epidural not needing support because they were assumed to be comfortable were reported. It also has been suggested that the prevalence of epidurals jeopardizes nurses' ability to remain current in labor support skills (Carlton et al., 2009). Nurses may

find it difficult to maintain their labor support knowledge and expertise when they are infrequently used, and only for patients without epidurals.

To date, no studies have described, or compared the factors important to the provision of nursing labor support between different hospital-based birth environments to reveal relationships between nursing labor support and outcomes. More contemporary information is needed concerning nurses' attitudes and behaviors regarding PLS; nurse characteristics such as age and experience, organizational characteristics such as administrative values, epidural and cesarean section rates, staffing, and experience with nurse-midwives between settings. Important factors related to PLS by nurses will be identified along with an in-depth description of intrapartum nursing care.

Purpose of the Study

Continuous labor support has a positive impact on mothers and their newborns, yet the impact of PLS by nurses has been less than expected or desired. The explanation is not clear but nurses' attitudes and behaviors; nurse and organizational characteristics and administrative values regarding labor support have been implicated. The purposes of this exploratory, descriptive study were to describe nurse's attitudes and behaviors regarding professional labor support and evaluate their relationship to nurse and organizational characteristics. The goal was to provide a detailed description of factors that impacted the care provided to women in labor and address gaps in scientific knowledge concerning professional labor support. Survey and focus groups were employed.

Labor support roles depended on the provider of support. Definitions of labor support roles within the literature varied and overlapped. Therefore, for the purpose of this study, the roles were operationally defined as presented in Table 1. The use of the term “midwife” varied within studies and may have included lay midwives, midwife students, or midwives with professional education. When authors provided no information about labor support training, or the specifics of the training were unclear, they were considered to be lay providers for the purpose of this study.

Specific Aims

The specific aims of the study were 1) to describe intrapartum nurses’ attitudes and behaviors regarding professional labor support as measured by the Labor Support Questionnaire (LSQ) Parts 1, 2, and 3 (Sauls, 2004); 2) examine relationships between LSQ responses and factors such as nurses’ demographic characteristics, personal birth history, and work experience; and 3) evaluate the relationships between attitudes and behaviors between and within three Midwestern intrapartum units.

Significance to Nursing Practice

Labor support can lead to a variety of improved outcomes and is an important part of the role of labor and delivery nurses. With most women delivering their babies in a hospital setting, there is an enormous opportunity for nurses to make a positive impact. This study contributed to understanding PLS. Nurses, managers, and educators may be more informed about intrapartum

nursing care and factors that impact it. Further, findings may assist with development of mechanisms to improve intrapartum care and patient outcomes.

Significance to Nursing Education

Factors that were important to professional nursing labor support, and their relationships, were identified through this study. Nurse educators may use the evidence generated by this study to increase their understanding of this specialized focus of care and to guide the information they share with nursing students. Students may benefit from this increased understanding as the evidence generated from this study shapes their learning.

Significance to Nursing Research

Research findings suggested that nurse characteristics and the characteristics of their employing hospital may have an impact on nurses' labor support attitudes and behaviors, but have not been investigated. This study of intrapartum nurses who work at three hospitals may help create a more accurate description of factors that impact PLS and reveal a rich description of intrapartum nursing care. Additional areas for future research were revealed to enhance understanding of expert intrapartum nursing care and identify areas for improvement.

Chapter 2 Review of the Literature

The impact of labor support on outcomes for mothers and their babies has been studied and there was evidence that intrapartum support can lead to positive outcomes. Studies of labor support have focused on a variety of providers of support including non-professional lay providers with no training to provide support, trained providers including doulas and midwives, and professional labor support by nurses. First, the conceptual framework and philosophical underpinning were presented. The history and culture of labor support were then examined to set the stage for the review of literature on non-professional and professional labor support (PLS). A description of the search strategy was presented, followed by critique of both quantitative and qualitative studies that met the search criteria. This comprehensive review incorporated evaluation of scientific investigations including outcomes of labor support. The review was organized according to the type of provider of support, nonprofessionals: lay providers; trained providers including doula and midwife; and professionals: nurses (see Table 1, p. 2). Gaps in the literature were then identified and assumptions described.

Conceptual Framework

The conceptual framework utilized for this study focused on nurse and organizational characteristics and nurses' attitudes and intended behaviors regarding professional labor support (see Figure 1). Interactions and relationships between these factors influence nursing labor support. The

relationships between them occur between pairs of factors as well as interactions among them. This framework, based on the Theory of Reasoned Action ([TRA] Ajzen & Fishbein, 2010), provided a basis for understanding professional labor support (see Figure 2). It helped conceptualize a nurse's actions while providing labor support with the premise that actual behavior depended upon the intent to act, which was determined by attitudes towards the behavior. Attitudes, perceived behavioral control (PBC), and subjective norms were all influential, and they will vary depending on the behavior and the individual. Operational

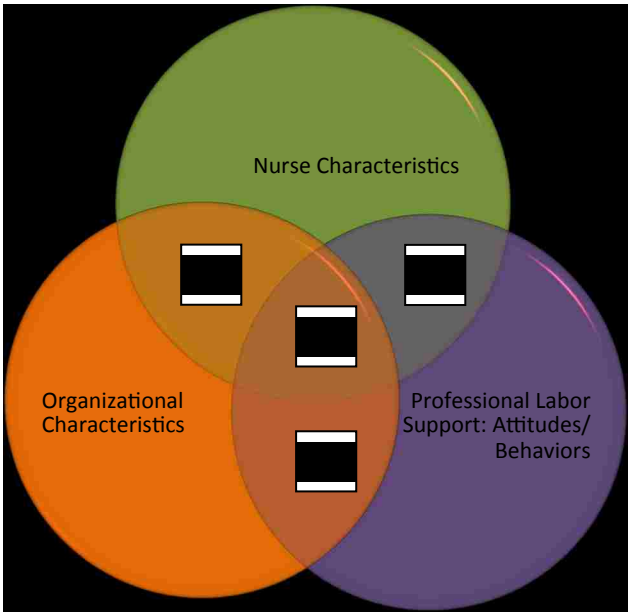

Figure 1. Conceptual Framework: Labor Support Questionnaire Components
A. Relationship of nurse characteristics and organizational characteristics
B. Relationship of nurse characteristics to PLS: attitudes and behaviors
C. Relationship of organizational characteristics to PLS: attitudes and behaviors
D. Interaction of organizational characteristics, Nurse Characteristics and Professional Labor Support Attitudes and Behaviors

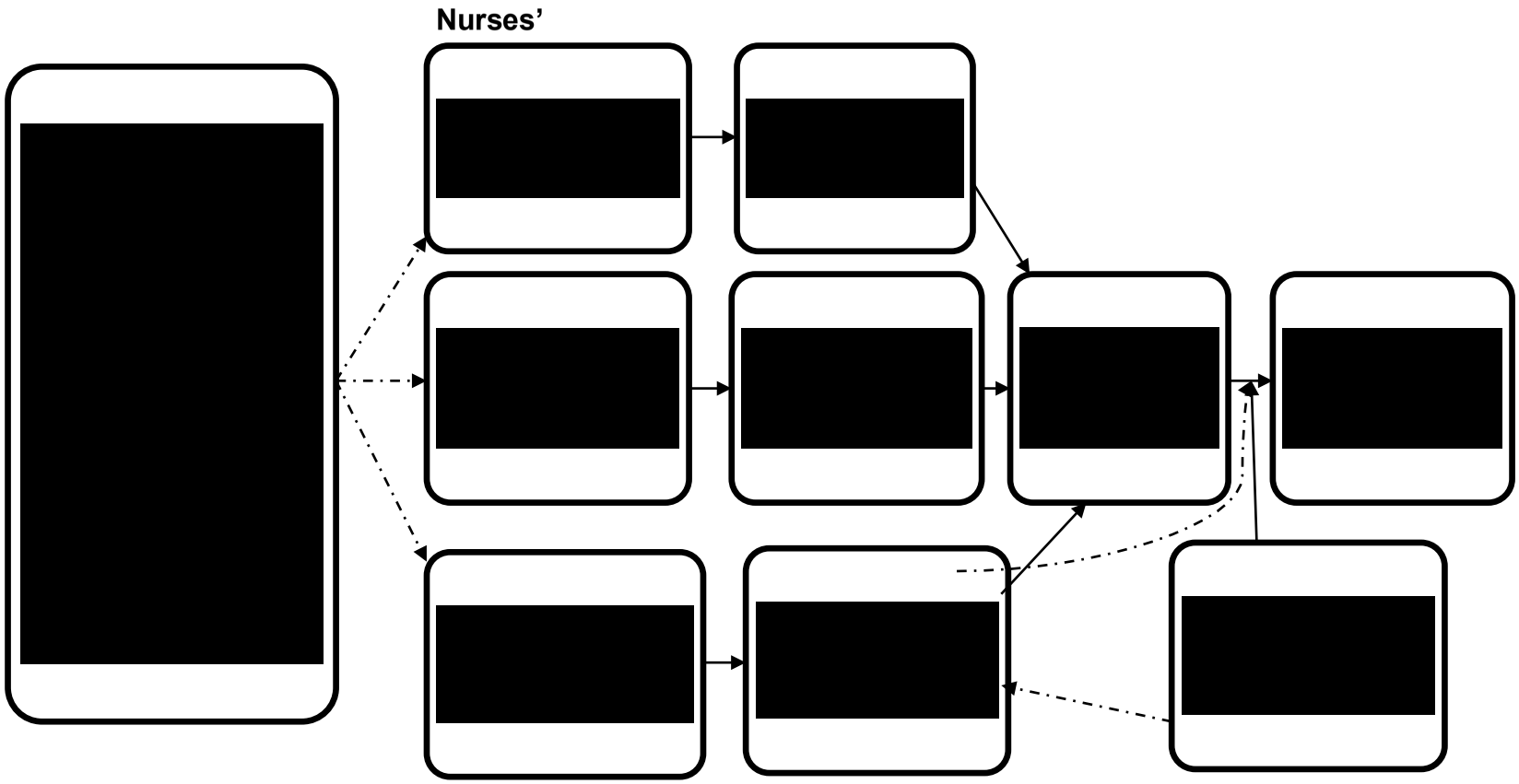

Figure 2: Conceptual Framework. Schematic Presentation of conceptual framework; based on Theory of Reasoned Action, Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach.* New York: Psychology Press; terminology adapted to current study; *measured on the LSQ

and conceptual definitions of terms are presented in Table 3. Positive attitudes towards a behavior, the nurse's belief that the behavior is possible to complete on the nurse's intrapartum unit and perception that the behavior is valued by colleagues and those in positions of authority positively relate to the intent to act. The intent to act is the strongest predictor of the actual conduct of the behavior. This premise is vital, as labor support has the potential to positively influence labor outcomes for mother and baby. Using the TRA as an organizing framework, specific components may be evaluated and targeted for improvement, in an effort to positively influence provision of labor support and improve outcomes for mother and baby.

Personal attitudes. Personal attitudes are the individual's tendency to respond in a negative, neutral, or positive manner to any aspect of the person's world, including behavior (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 2010). They are influenced by the beliefs that a person holds as a result of their experiences and individual differences, including demographics such as age, gender, ethnicity, socioeconomic status, education, group membership, past experiences, and exposure to information. These beliefs may not only impact a person's attitude toward a behavior; they may contribute to the intent to act and whether or not a behavior is carried out.

Perceived (subjective) norms (social norms). Another important factor in determining behavior is a person's belief that others view the behavior as valuable. Perceived or subjective norms refer to acceptable or permissible behaviors within a certain society, in this case, the intrapartum unit.

Table 3

Labor Support Questionnaire Definition of Terms

Term	Conceptual Definition	Operational Definition (derived from the LSQ)
Professional Labor Support (PLS)	A deliberate interaction between the intrapartum nurse and the laboring woman that supports the woman to cope during labor and birth (Sauls, 2004).	The score on the 27(28) items and six subscales of the LSQ Parts 1 and 2; a 6-point Likert scale (0-5). Higher scores on both scales indicate more positive attitudes toward importance of behavior and greater intent to use the behavior. Possible score 0-135 (140)
Subjective norm	The nurse's perception of the value of PLS as perceived by co-workers, institution, patients	Measured on Part 3 of the LSQ. Scores ranged from 0 indicating no social pressures to prevent performance of PLS to 3 indicating many social pressures that prevent performance of PLS.
Perceived Behavioral Control	Barriers to providing PLS	Measured on Part 3 of the LSQ. Responses indicating if staffing, paperwork, lack of experience, or other, would be considered a barrier to care. Nurses were asked to define "other".
Dimensions of PLS		
Tangible support	Performance of tasks that meet the physical needs of the woman in labor	LSQ subscale score, questions 2, 9, 19, 20, 24, 25
Advocacy	Process of interpreting the woman's wishes during the intrapartum period and acting on her behalf to ensure the centrality of her role in decisions about care.	LSQ subscale score, questions 3, 12, 13, 14, & 22

Term	Conceptual Definition	Operational Definition (derived from the LSQ)
Emotional support (ES) reassurance	The process of instilling confidence and peace of mind in the laboring woman and encouraging a positive affirmation and self-esteem during the process of childbirth.	LSQ subscale score, questions 1, 10, 15, 16, & 17
ES: creating control, security, and comfort	The process of providing emotional support behaviors that empower the woman to have control of and feel safe in the environment, and be involved in planning her care and pain management.	LSQ subscale score, questions 5, 6, 7, 8, & 18
ES: nurse caring behaviors	The processes of providing emotional support behaviors that promotes comfort and reassurance, demonstrates respect and competency, and are helpful and respective of the client.	LSQ subscale score, questions 21, 26, & 27
Informational support	The process of sharing information to meet the learning and knowledge needs of the woman in labor concerning breathing, relaxation and pushing techniques.	LSQ subscale score, 4, 11 & 23
Personal attitudes	The degree of importance placed on the PLS behaviors	The score on Part 1 of the LSQ
Behavioral Intent	The nurse's intended use of the supportive behavior in practice	The score on Part 2 of the LSQ

Behaviors that are perceived as appropriate social norms are more likely to be carried out (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 2010). Social norms also can be described as social pressure to perform or not perform the behavior. A nurse, for example, is less likely to intend to and actually carry out labor support behaviors when peers or managers view the behavior as unacceptable in their setting. The behavior is less likely to occur in this situation, even when the behavior is held in high regard.

Perceived behavioral control. A final influence in the TRA is PBC; the individual's perception of personal or environmental factors that may promote or impede the behavior (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 2010). Personal and environmental factors influence people's perception that they are capable of performing a behavior, and that they have control over performing it. These factors may include positive factors to promote the behavior such as the necessary supplies, knowledge, skill, opportunity and support. They also may include barriers to action that may result from lack of positive factors previously described. When attitudes are positive and social norms support the behavior, higher PBC would be expected to lead to greater intent to act, and thus greater likelihood that the behavior will be performed.

Behavioral intent. The intent to act is determined by personal attitudes, social norms, and PBC a nurse holds about a specific behavior (Fishbein & Ajzen, 2010). Behaviors are more likely to be carried out if intention is high. The factors that influence attitudes, subjective norms, and PBC may contribute to intent to act and can be studied to evaluate nursing behaviors in the provision of

labor support, thereby identifying potential areas for improvement in labor support nursing practice.

TRA Background. Behavioral intentions are the best predictors of actual behavior (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 2010). The TRA has been used in several studies to evaluate nursing practice in an effort to better understand the care provided to patients. Its versatility as a conceptual framework to better understand nursing care and its ability to explain behavioral intentions was evident from the wide variety of applications of the framework with significant findings. A brief review of a variety of nursing studies was presented to demonstrate the usefulness of the TRA in understanding nursing care behaviors.

McKinlay, Couston and Cowan (2001) used the TRA to investigate nursing care of patients who self-poison. They administered questionnaires to 118 registered nurses on the acute admissions, accident, or emergency unit of a large inner city hospital. The aim of the study was to evaluate the contributions of and relationship between subjective norms, attitudes, and behavioral intention to provision of care to self-poisoning patients. The questionnaires evaluated nurses' responses to vignettes representing positive and negative care of this patient population. They found that attitude and subjective norms predicted nurses' intention to provide care that would resemble care that was provided in positive versus negative vignettes ($R^2 = .66$, $p < .001$). Attitudes were the best predictor ($\beta = .74$, $p < .01$) of behavioral intention, but subjective norms also contributed ($\beta = .14$, $p < .05$).

The TRA also was used to explain nurses' behavior in maintaining patient privacy in a hospital setting (Tabak & Ozon, 2004). Nurses (n = 109) from six internal medicine wards at one hospital in Israel participated in the study. Participants completed nine questionnaires that were developed by the researchers to evaluate planned behavior (α = .63), PBC (α = .86), normative beliefs (α = .97), subjective norms (α = .96), reported behaviors (α = .84), behavioral beliefs (α = .87), attitudes (α = .84), behavioral results based on behavioral beliefs (α = .87), and demographic information. Attitudes were positively correlated with PBC (r = .23, p < .05) and perceived social pressure (r = .19, p < .05), and negatively correlated with number of hours worked (r = -.28, p < .01). Reported behavior in support of privacy maintenance was correlated most strongly with PBC (r = 3.62, p < .01), attitude (r = .27, p < .01), and social pressure (r = .21, p < .05). Attitudes and PBC accounted for 15% of the variance in nurses' behavior (β = .32, R^2 = .15, p < .01). The TRA provided a useful framework for evaluating these behaviors and provided valuable information about nursing care in this population.

Intentions to provide labor support also have been evaluated using the TRA (Payant et al., 2008). Nurses' attitudes, subjective norms, and intention to provide continuous labor support for women were evaluated through surveys developed for the study. Ninety-seven registered nurses from two birthing units in a large, urban, Canadian hospital participated. Two scenarios were presented, with and without the mother receiving epidural analgesia. Nurses responded to each scenario. Intention to provide labor support (t(96) = 8.07, p < .0001),

attitudes ($t(96) = 6.34$, $p < .0001$), and subjective norms ($t(96) = 8.61$, $p < .0001$) were significantly different between the two scenarios with all scores lower for the epidural scenario. Again, the TRA helped explain nursing behavior and components that influence it.

Studies that have been guided by the TRA have found it useful to explain nursing behavior and uncover factors that predict provision of care. Three examples were shared to demonstrate its utility. The TRA was chosen to guide this study because of this demonstrated efficacy in describing and predicting nursing behaviors. It also provided the conceptual basis for the instrument used in this study, the LSQ.

Philosophical Underpinning

Constructivism. The philosophical underpinning for this study was constructivism. The constructivist paradigm, with a relativist ontology and transactional, relational, subjectivist epistemology (Guba & Lincoln, 1994), grew out of the post-positivist work of Husserl (Mertens, 2005). Reality is constructed socially, culturally, and historically (Lincoln & Guba, 1985; 2000) and relies on participants' views for understanding (Mertens, 2005). It is important to recognize the meanings and purposes behind human actions in order to understand them (Guba & Lincoln, 1994). The constructivist researcher utilizes both qualitative and quantitative methods, mixed methods, to provide a deep understanding or reconstruction (Guba & Lincoln, 1994). The methods were complimentary and allowed the research question to drive methods to collect both qualitative and quantitative data that were integrated at the appropriate

stage of inquiry (Creswell, 2003). Document reviews along with observations and interviews are good fits for data collection (Mackenzie & Knipe, 2006) to meet the aim of understanding and reconstruction (Guba & Lincoln, 1994) in the constructivist paradigm.

Historical perspective on labor support

Throughout history women have given birth with the assistance of others. The woman giving birth chose who she wanted to be present for support, and she retained control as she listened to her body (Brodsky, 2006; Zwelling, 2008). Typically, these support persons were females; frequently one of them was a midwife and was more experienced in helping the woman as she labored and gave birth (Brodsky, 2006; Yuill, 2012). Midwives used their skills and provided comforting touch and encouragement along with directions for changes in position and movement to enhance comfort, coping, and promote fetal descent (Jordan, 1987). They also used simple low technology tools such as birthing stools that both allowed access to the perineum for controlling the actual birth, but also placed the woman in a physical position to promote labor and take advantage of gravity (Brodsky, 2006). Men initially called “male midwives”, and then later physicians, became involved in the birth process only as a last resort when there were complications. They sometimes had training in the use of interventions such as forceps to manage difficult births (Brodsky, 2006).

Prior to the 20th century, babies primarily were delivered at home, because birth was viewed as a normal process and hospitals were viewed as places for illness and death (Zwelling, 2008). With increased urban populations in the 18th

and 19th centuries and the promise of anesthesia, birth moved into the hospital (Jordan, 1987; Zwelling, 2008), and physicians replaced midwives as the primary birth attendant (Yuill, 2012). This change in birth setting was accompanied by a shift in control of the birth process from the woman listening to her body, to the authority that interpreted the information provided by physical assessments and instruments, such as an electronic fetal monitor (Jordan, 1987; Zwelling, 2008). The low technology environment containing simple tools that provided the woman with freedom of movement and promoted labor was replaced with a stationary hospital bed or delivery table that did nothing to encourage progress (Jordan, 1987). Further, instead of being surrounded by women providing support, hospitalized women were usually isolated and experienced labor and birth alone in the technical hospital environment (Zwelling, 2008).

Vulnerability. Pregnant women are considered a vulnerable group (United States Department of Health and Human Services, 2009) and historically have depended on trusted midwives, family members, and close friends to protect their interests during childbirth (Brodsky, 2006). During labor and birth, the woman's perceptions of time are significantly altered. She experiences profound, intermittent pain with each contraction and with the other sensations of labor that require her complete focus and attention (Baker, Ferguson, Roach, & Dawson, 2001).

The shift of childbirth from the home to the hospital placed the woman in an increasingly vulnerable position as she relinquished control over the process of birth (Brodsky, 2006; Zwelling, 2008). Physicians, previously only involved

during difficult births (Brodsky, 2006), assumed control over childbirth in the hospital setting. They used the newest technology to “improve” intrapartum care (Brodsky, 2006). These newest technologies included sedative and hypnotic medication that precluded the woman’s ability to understand or consent to interventions such as use of forceps to remove the baby (Brodsky, 2006; Zwelling, 2008), thereby increasing her vulnerability to additional interventions.

Use of natural childbirth techniques brought some control back to the women, as they learned techniques to cope with discomfort during labor and to promote labor progress (Brodsky, 2006). In spite of this, women were still vulnerable to decisions made by physicians and nurses that they may not be able to understand, rendering them unable to adequately give informed consent (Lo, 2007). Nurses can have a positive impact on the woman’s vulnerability by protecting the rights of the mother and fetus by providing expert intrapartum care (Hodnett et al., 2012; Scott et al., 1999; Zhang, Bernasko, Leybovich, Fahs, & Hatch, 1996). However, nurses have many responsibilities beyond labor support of a single laboring woman (Miltner, 2000).

Some women attend childbirth education classes to help them understand labor and birth, learn coping strategies for the discomfort, and to promote labor progress. A recent survey indicated that only about 10% of women continue to attend childbirth classes (DeClercq, Sakala, Corry, & Applebaum, 2006). Instead, women get their information from television programs (Morris & McInerney, 2010) and other sources, such as friends and the internet (Armstrong & Pooley, 2005). This trend has resulted in far fewer contemporary American

women beginning labor with education and preparation. This situation places an even greater burden on labor and delivery nurses to both educate and support women and their families during the birth process.

Another major change due to the medicalization of childbirth was the substantial increase in the rate of epidural anesthesia. Approximately 60% of laboring women experience labor and birth with an epidural (Osterman & Martin, 2011). The impact of epidurals on the need for and the provision of labor support are largely unknown and is a focus of this study.

Nursing. Registered nurses provide care for most mothers in the United States who overwhelmingly chose to deliver their babies in hospital settings (Martin et al., 2010). Nurses are responsible for supporting the mother and her family, promoting labor progress, evaluating the status of mother and fetus and their responses to labor, and providing interventions that support vulnerable laboring women (Lowdermilk, Perry, & Cashion, 2010). Nurses have the opportunity and great potential to make a difference for the majority of mothers by improving outcomes for both mother and newborn by providing excellent intrapartum care, breastfeeding education, and support. The impact of nursing labor support may be increased with better understanding of factors that impact intrapartum nursing care and their influence on outcomes.

Search Strategy

An initial search of the CINAHL database using keywords “labor support” returned 565 citations. The search was limited to English language, human, and research, with a return of 138 studies. Inclusion criteria included discussion of

outcomes related to labor support, the impact of labor support on outcomes or discussion of the role of the person providing the support such as description of the care provided. The studies were evaluated based on the inclusion criteria and 24 studies were retained for review. The search also was conducted in Medline using limits of English language and human with return of 66 citations. Sixteen studies met inclusion criteria; four new studies were identified and twelve were duplicates from the Cinahl Search. PubMed also was searched using "labor support" with limits English language, humans and research with return of 65 citations. Seventeen studies met inclusion criteria with one study that was not identified in the previous searches. A search of the Cochrane Systematic Reviews also was completed using "labor support" and no results were returned. The search term "labor" returned 256 and "labor and nursing" returned 35 citations. One systematic review was identified that met inclusion criteria. Reference lists of the studies that met inclusion criteria were reviewed to identify additional sources and three additional studies were identified. Thirty-one studies met inclusion criteria, including one Cochrane Systematic Review (Hodnett et al., 2012), and two meta-analyses (Scott, et al., 1999; Zhang et al., 1996). Evidence supporting the relationship of labor support to positive outcomes was identified. Providers of care included lay providers and trained providers, including doulas, lay midwives and nurses.

Importance of Labor Support

The positive impact of labor support was identified in two meta-analyses and one systematic review (see Table 4). All of the analyses identified

improvements in outcomes for mother and newborn (Hodnett et al., 2012; Scott et al., 1999; Zhang et al., 1996).

Zhang et al. (1996) performed a meta-analytic review of the impact of continuous labor support provided by doulas for mothers delivering their first baby. Five studies met inclusion criteria, focusing on emotional support related to obstetric and postpartum outcomes. One of the studies (n = 103) was evaluated separately because the study population, primarily middle class married women over age 30, was very different from the populations of the other four studies (n = 1349) that focused on inner-city, low-income, primiparous women who delivered in hospitals and did not allow anyone to accompany the mother.

The meta-analysis revealed that mothers who received labor support had labors that were 2.8 hours shorter than the control group (95% CI 2.2-3.4). Use of oxytocin was lower in the support group as well (RR .44, 95% CI .40-.70). These findings suggest that labors were shorter in the supported labor group even without oxytocin augmentation. However, the study that was evaluated separately revealed a higher use of oxytocin for the support group than the control group (43 vs. 22%, $p < .05$). For the four studies included in the meta-analysis, mothers who had doula support were twice as likely to have a vaginal delivery (RR 2.01, 95% CI 1.5-2.7).

Scott et al. (1999) also conducted a meta-analysis of labor support, but they compared outcomes of intermittent and continuous labor support. Studies that were included focused on the emotional, social, and/or non-medical

interventions provided by a lay person or doula to healthy women. Eleven clinical trials (*n* = 4391) met inclusion criteria; five that used continuous support (*n* = 1809) and six that used intermittent labor support (*n* = 2582). In all of the studies, participants were randomly assigned to either the experimental supported or usual care group. Support was considered continual when bathroom breaks were the only interruption in presence of the provider of support, while intermittent support was defined as the provider of support leaving the mother for any length of time or purpose other than using the bathroom. Synthesis of study findings was completed and weighted according to the size of the samples. Data were aggregated across the 11 studies using the Cochrane Review Manager to calculate odds ratios. Mothers in the continuous doula support group experienced shorter labors (weighted mean difference -1.64, CI -2.3--.96), and used less analgesia (OR .64, 95% CI .49-.85), oxytocin (OR .29, 95% CI .20-.40), forceps (OR .43, 95% CI .37-.65), and Cesarean delivery methods (OR .49, 95% CI .37-.65) than the intermittent doula support group. No significant differences were identified on any outcomes when intermittent doula support was compared to no doula support. This finding provides validation for the importance of continuous labor support for the greatest impact on improving outcomes.

Table 4

Meta-Analyses and Systematic Review Impact of Labor Support on Outcomes

1st Author & Year	Purpose of the Evaluation	Studies evaluated/ population	Number of studies/ total N	Findings	Effect Size
Zhang[2] (1996)	To evaluate evidence on effects of continuous labor support provided by a doula for primiparous women	RCT's published between 1965 and 1995; young disadvantaged women	4/1349	Continuous vs. no support	
				Shorter labor	-2.8 hours, 95% *CI* -2.2 to -3.4
				Increased likelihood of vaginal delivery	*RR* 2.01, 95% *CI* 1.5-2.7
				Less use of oxytocin	*RR* .44, 95% *CI* .40-.70
				Less use of forceps	*RR* .46, 95% *CI* .30-.70
				Fewer Cesarean deliveries	*RR* .54, 95% *CI* .40-.70
Scott[1] (1999)	Compare continuous and intermittent labor support provided by doulas on childbirth outcomes[a]	RCTs	11/4230		
				Shorter labors	*wmd*[b] -1.64 hours, 95% *CI* -2.3 to -.96
				Fewer cesareans	*OR* .49, 95% *CI* .37-.65
				Less use of forceps	*OR* .64, 95% *CI* .28-.65
				Less oxytocin	*OR* .29, 95% *CI* .20-.40
				Less use of any analgesia	*OR* .64, 95% *CI* .49-.85

1st Author & Year	Purpose of the Evaluation	Studies evaluated/ population	Number of studies/ total N	Findings	Effect Size
Hodnett[3] (2012)	Primary: to evaluate the effects of continuous, one-to-one intrapartum support as compared with usual care. Secondary: to assess whether the effects of continuous support are influenced by routine practices and policies, the provider's relationship to the hospital and to the woman, and timing of onset.	Published and unpublished RCT's	22/15,288	Increased vaginal birth,	*RR1*.08, 95% *CI* 1.04 to 1.12
				Shorter labors	Mean difference -0.58 hours, 95% *CI* -0.85 to -0.31
				Fewer cesareans	*RR* .78, 95% *CI* 0.67 to 0.91
				Fewer instrumental vaginal births	*RR* .90, *95*% *CI* .85 to .96
				Less use of any analgesia	*RR* .90, 95% *CI* .84 to .97
				Fewer epidurals	*RR* .93, 95% *CI* .88-.99
				Less dissatisfaction	*RR* .69, 95% *CI* 0.59 to 0.79
				Less likely to have baby with low 5-minute APGAR score;	*RR* .69, 95% *CI* 0.50 to 0.95

Note. Discipline of first author, [1]public health, [2]medicine, [3]nursing; [a]intermittent support non-significant; [b]weighted mean difference

An inconsistency in the Scott et al. (1999) meta-analysis was found in that the narrative description of the search strategy and results identified providers of care were doulas or lay women and inclusion of 11 studies, but the summary table included 10 studies and identified the provider of care in 1 of the continuous and 4 of the intermittent support studies as either midwives or midwifery students. The midwives' training was not described, so the potential influence of these differences could not be evaluated. The meta-analysis provided support for positive outcomes related to continuous labor support, but specific conclusions are difficult to make, as settings and participants varied significantly.

Hodnett et al. (2012) conducted a systematic review of studies that compared continuous labor support to no support. Twenty-one trials were evaluated involving 15061 women. Labor support was provided by nurses, untrained women, doulas, and lay midwives. Overall, laboring women who received continual support during labor by persons in any of these roles experienced more spontaneous vaginal births (*RR* 1.08, 95% *CI* 1.04 to 1.12*),* decreased use of any intrapartum analgesia (*RR* .90, 95% *CI* .84 to .97), including regional analgesia (*RR* .93, 95% *CI* .88-.99), fewer instrumental (*RR* .90, 95% *CI* .84 to .96*)* and cesarean births (*RR* .79, 95% *CI* .67 to .92); and experienced a shorter duration of labor (Mean difference = -.58, 95% *CI* -.86-.30) than women in the control groups who received usual care. In addition, fewer newborns had low five-minute APGAR scores (*RR* .70, 95% *CI* .50 to .96, *p* = .028). Hodnett et al. also evaluated outcomes based on provider type, and they concluded that improvements were greatest when the person providing support

was not a hospital staff member, including nurses, or a social contact of the mother. The biggest difference occurred when there was a stark contrast in levels of support which may confound the conclusions.

These meta-analyses and the comprehensive review revealed positive relationship between labor support and improved mother and newborn outcomes. A review of individual studies, including pertinent studies from the most recent systematic review by Hodnett et al. (2012) and from the comprehensive literature search, was completed to further describe support during labor, its relationship to improved outcomes, and differences based on provider of support. First, the review of non-nursing support will be presented, including lay and trained doula or lay midwife support, followed by nursing support.

Non-Nursing Labor Support

Labor support by non-nurses; including lay persons, trained doulas, and midwives, as operationally defined in Table 1 (p. 2), were reviewed in this section. In some studies, the non-nursing support person was chosen by the mother and in others the support person was assigned when the mother presented to the intrapartum unit, as a part of the study design.

Untrained, Lay support. Studies of lay labor support (see Table 5) primarily were conducted in foreign countries where the usual care was vastly different from care provided in the United States. Randomized controlled trials were conducted in Guatemala (Klaus et al., 1986), Botswana (Madi et al., 1999), Brazil (Bruggemann et al., 2007), and Nigeria (Morhason-Bello et al., 2009). Labor support included emotional and physical support, including back rubs,

hand-holding, encouragement, and reassurance that the mother would never be left alone. Mothers in the usual care groups did not receive any additional labor support. Bruggemann et al. (2007) provided verbal instructions while Morhason-Bello et al. (2009) provided pamphlets explaining responsibilities that would be expected of the labor companions. No additional instruction was provided in the other studies. Mothers were able to choose their support provider, in most cases her partner or the father of the baby (Bruggemann et al.; Madi et al., 1999; Morhason-Bello et al., 2009). The groups were not separated so all of the women remained in crowded rooms with limited privacy for the duration of their labors. In contrast, Klaus et al. (1986) utilized unknown lay providers and separated the experimental group when they reached 3-4cm dilation by transferring them to a private room.

Mothers in the experimental groups experienced fewer cesarean deliveries (Klaus et al., 1986; Madi et al., 1999; & Morhason-Bello et al., 2009), shorter duration of labor (Klaus et al., 1986; Morhason-Bello et al., 2009), less use of oxytocics (Klaus et al., 1986; Madi et al., 1999), less use of analgesia (Madi et al., 1999), and fewer vacuum assisted deliveries and amniotomies (Madi et al., 1999). Stepwise regression revealed that social support accounted for 25% of the variance in duration of labor for women without complications or interventions (Klaus et al., 1986). In addition, women who were supported were more satisfied with the labor (Bruggemann et al., 2007; Morhason-Bello et al., 2009) and delivery (Bruggemann et al., 2007), and initiated breastfeeding earlier (Morhason-Bello et al., 2009). The only study that was conducted in the

Table 5

Summary of Studies Non-Nursing Labor Support: Untrained Lay Providers

1st Author & Year Method	Purpose of the Study	Study Location	Design	Total *n* (E, C)	Findings (E *vs.*, C)	Significance
			Quantitative Design			
Klaus[1] (1986) CMR	Evaluate the clinical effect of support during labor on maternal and neonatal morbidity	Guatemala	RCT	417 (168, 249)	Cesarean deliveries (7 vs. 17%)	$p < .001$
					Duration of labor (7.7 vs. 15.5 hours)	$p < .001$
					$r = -.0578$, $R^2 = .383$, $\Delta R^2 = .254$	
					Use of oxytocics (2 vs. 13%)	$p < .001$
Madi[2] (1999) RMR, I	Evaluate the relationship between continuous presence of female relative in labor and labor outcomes	Botswana	RCT	109 (53, 56)	Cesarean deliveries (6 vs. 15%)	$p < .05$
					Use of oxytocics (13 vs. 30%)	$p < .05$
					Analgesic use (53 vs. 73%)	$p < .05$
					Vacuum assisted deliveries (4 vs. 16%)	$p < .05$
					Amniotomies (30 vs. 54%).	$p < .05$

1st Author & Year Method	Purpose of the Study	Study Location	Design	Total *n* (E, C)	Findings (E *vs.*, C)	Significance
Bruggemann[3] (2007) MR, Q	Evaluate the effectiveness and safety of support to laboring women by the companion of their choice	Brazil	RCT	212 (105, 107)	Satisfaction with labor experience (median 88.0 vs. 76.0)	$p < .0001$
					Satisfaction with delivery (median 91.4 vs. 77.1).	$p < .0001$
Mottl-Santiago[1] (2008) RMR	Evaluate the impact of doula support compared to no doula on breastfeeding and birth outcomes	United States	RCA	11,471 (2174, 9297)	Early breastfeeding (46 vs. 23%). [trend: 1999 = 11 %; 2005 = 40%]	$p < .05$
					Intent to breastfeed (85 vs. 68%) [trend: 1999 = 50%; 2005 = 83%]	$p < .05$
Morhason-Bello[1] (2009) MR	Evaluate the effect of psychosocial support on labor outcomes	Nigeria	RCT	585 (293, 292)	Cesarean deliveries (8.2 vs. 22.3%)	$p < .001$
					Duration of labor (4.7 vs. 5.3 hours)	$p < .001$
					Time to first episode of breastfeeding (16.3 vs. 60.9 minutes)	$p < .001$
					Satisfaction with labor experience (63.3 vs. 32.9).	$p < .001$

Note. E = Experimental, C = Control; Discipline of first author [1]Medicine, [2]Midwife, [3]Nursing; CMR = Concurrent medical record review, RMR = Retrospective medical record review, I = Interview, Q = Questionnaire, RCT = Randomized Controlled Trial, RCA = Retrospective Cohort Analysis

United States (Mottl-Santiago et al., 2008) did not find a similar impact on outcomes, with breastfeeding initiation and success being the only significant differences between groups. The women who participated in that study were given extensive education about on breastfeeding that also may have impacted outcomes. Trends during the six-year study were positive however, lending support to the significance of the findings.

While outcomes were statistically significant, the large variation between the labor environments (Klaus et al., 1986) may have introduced confounding variables that could have contributed to these outcomes, including differences in noise level, number of people present in the room, crowding, and close proximity to other mothers in labor. Mothers in the control group may have benefited from the presence of supportive others in the environment, even though the attention was not focused on them, threatening internal validity. Differences between experimental and control groups (Morhason-Bello et al., 2009) also limited comparisons and threatened the internal and external validity of the study. Active management of labor may also have limited the positive impact of labor support (Bruggemann et al., 2007).

Evaluation of care that companions provided or understanding of teaching received on labor support was not provided. Lack of information about actions of companions made interpretation of results unclear. Companions may or may not have been guided by the education provided to deliver adequate labor support. The studies were not blinded so the Hawthorne effect may have impacted internal validity. However, mothers did express increased satisfaction with the

labor and delivery experience when they had a companion with them during labor (Bruggemann et al., 2007). Internal validity also may be limited due to study methods. Retrospective data collection does not provide any control over, or knowledge of, any undocumented events that may have impacted outcomes (Norwood, 2010). Foreign sites and the vast differences between usual care for mothers in labor when compared to the United States significantly limited generalizability. Despite factors that limited internal validity in these studies, significant differences were identified between the experimental and control groups and the findings suggested that labor support by a lay provider may lead to positive birth outcomes and provided evidence of the positive impact of lay labor support.

Trained providers: doula and lay midwife. Studies investigating the impact of trained labor support on outcomes (see Table 6) have been conducted in the United States (Campbell et al., 2006; Kennell et al., 1991; McGrath & Kennell, 2008), Mexico (Langer et al., 1998; Trueba et al., 2000; Campero et al., 1998), Canada (Hodnett & Osborn, 1989), and Tehran, Iran (Kashanian et al., 2010). All but Campero et al. (1998), a qualitative follow-up to Langer et al. (1998), were randomized, controlled trials of the impact of labor support provided by trained companions on outcomes. Site and design characteristics varied between studies. Some provided the trained support in addition to the support person chosen by the mother (Campbell et al., 2006; Hodnett & Osborn, 1998; McGrath & Kennell, 2008). The control group also was able to have a support person of their choice. Other studies, including those done in Mexico (Campero

et al.; Langer et al.; Trueba et al., 2000), Tehran (Kashanian et al., 2010), and one from the United States (Kennell et al., 1991) enrolled participants who were poor, and were not able to have any support, other than that provided by the study, and the control groups received no support.

Mothers in the supported groups experienced shorter labors (Campbell et al., 2006; Kennell et al., 1991; Langer et al., 1998; Kashanian et al., 2010), fewer cesareans (Kashanian et al., 2010; Kennell et al., 1991; McGrath & Kennell, 2008, Trueba et al., 2000), and epidurals (Kennell et al., 1991; McGrath & Kennell, 2008), used less analgesia (Hodnett & Osborn, 1998) and oxytocics (Hodnett & Osborn, 1998; Trueba et al., 2000), and had fewer deliveries requiring forceps (Hodnett & Osborn, 1998; Kennell et al., 1991), or episiotomy (Hodnett & Osborn, 1989). In addition, mothers who received trained labor support reported increased satisfaction (Campero et al., 1998; McGrath & Kennell, 2008). Newborns also benefited from the support with fewer special care nursery admissions (Kennell et al., 1991) and greater breastfeeding success (Langer et al., 1998).

These study outcomes highlighted potential benefits of continuous labor support for low risk mothers using individual care and early initiation of labor support. Support was related to decreased interventions, even in a high intervention environment (Hodnett & Osborn, 1989; Kennell et al., 1991). Presence of an additional support person may have contributed to positive

Table 6

Summary of Studies Included: Non-Nursing Labor Support: Trained Providers, Doulas and Lay Midwives

1st Author & Year Method	Purpose of the Study	Study Location	Design	Total *n* (E, C) or (E, O, C)	Findings (E *vs.*, C)	Significance
			Quantitative Design			
Hodnett[1] (1989) RMR, I	To determine the physical and psychological effects of midwives or lay midwives in training on childbirth outcomes	Canada	SRT	103 (49, 54)	No analgesic use (21 vs. 68%; X^2 [3, *N*=103] = 9.8)	p < .02
					Episiotomies (61 vs. 85%; X^2 [1, *N* = 103] = 6.44)	*p < .01*
Kennell[2] (1991) RMR, I	To evaluate the impact of continuous presence of supportive companion (doula) on labor outcomes	United States	RCT	616[a] (212, 204, 200)	Duration of labor (7.4 vs. 8.4 vs. 9.4 hours; F[2, 63] = 12.8)	*p = .0001 (p* < .02 for all comparisons)
					Use of oxytocics (17 vs. 23%; X^2[2]=40.2)	*p* < .0001 (p < .001 for E vs. C, and O vs. C)
					Epidural Analgesic use[b] (7.8 vs. 22.6 vs. 55.3%; X^2[2]=86.9)	*p* < .0001
					Cesarean delivery (8 vs. 13% vs. 18%; X^2[2]=9.4)	*p* =.009 *(p* = .004 E vs. C*)*
					Forceps delivery (8.2 vs. 21.3 vs. 26.3%)	*p* = .006 for all comparisons.

1st Author & Year Method	Purpose of the Study	Study Location	Design	Total *n* (E, C) or (E, O, C)	Findings (E *vs.*, C)	Significance
Langer[3] (1998) RMR, I	Impact of psychosocial support doula on labor and newborn outcomes	Mexico	RCT	724 (361, 363)	Feeling of control during labor (72.5 vs. 63.5%; RR 1.13, 95% CI 1.03-1.27)	$p < .05$
					Duration of labor (4.56 vs. 5.58 hours; RR 1.05 95% CI -1.52 to -.51)	$p < .05$.
					Breastfeeding at one month (12.3 vs. 7.5%; RR 1.64, 95% CI 1.01-2.64)	$p < .05$
Trueba[4] (2000) RMR	Evaluate impact of doula support during labor on cesarean rate	Mexico	RCT	100 [a] (50, 50)	Cesarean delivery (2 vs. 24%)	$p = .003$
					Oxytocin use (21 vs. 48%)	$p = .001$
Campbell[1] (2006) RMR	Compare childbirth outcomes of women accompanied by an extra support person in addition to a doula, with those who were not	United States	RCT	586 [a] (291, 295)	Duration of labor (10.4 ± 4.3 vs. 11.7 ± 4.8 hours)	$p = .004$
					APGAR > 6 at 1 (95 vs. 90%) and 5 (99.7 vs. 97%) minutes	$p = .06$; .006
					Dilation at epidural (4.3 vs. 3.9 cm.)	
McGrath[5] (2008) RMR, I	Examine effect of doula support for nulliparous middle-income women accompanied by male	United States	RCT	420 [a] (224, 196)	Cesarean delivery (13.4 vs. 25%),	$p = .002$
					Epidural use (64.7 vs. 76%)	$p = .008$

1st Author & Year Method	Purpose of the Study	Study Location	Design	Total *n* (E, C) or (E, O, C)	Findings (E *vs.*, C)	Significance
	partner					
Kashanian[2] (2010) CMR	Effect of CLS by a lay midwife on duration of stages of labor and cesarean rate	Tehran, Iran	RCT	100 [a] (50, 50)	Cesarean delivery (8 vs. 24%) Duration of labor (167.9 ± 76.3 vs. 246.7 ± 101 minutes)	$p < .026$ $p < .001$
			Qualitative Design			
Campero[4] (1998) Q, I	To compare experiences of women who received psychosocial support from a doula to those who had routine care	Mexico	Qualitative follow up to Langer et al., 1998	16 (8, 8) [c]	Women who received support during labor had more positive feelings about the childbirth experience, were more likely to say that their educational needs had been met, felt better able to cope, and had better communication about labor.	

Note. E = Experimental, O = Observation, C = Control; Discipline of first author [1]Nursing; [2]Medicine; [3]Public Health; [4]Doula; [5]Pediatric Faculty; CMR = Concurrent medical record review, RMR = Retrospective medical record review, I = Interview, Q = Questionnaire, SRT = Stratified Randomized Trial; RCT = Randomized Controlled Trial, RCA = Retrospective Cohort Analysis, [a] Statistic not provided; [b]reported for spontaneous vaginal deliveries [c]8 from each group in Langer et al. study

outcomes (Campbell et al., 2006; Hodnett & Osborn, 1998; McGrath & Kennell, 2008). An observer who did not interact with the mother also may have led to positive outcomes such as decreased use of oxytocics, duration of labor, and number of forceps deliveries (Kennell et al., 1991). Possible Hawthorne effects may have been present, specifically possible influence of study participation on the additional support person's behavior. In addition, nurses' behavior may have been influenced in response to group assignment. However, significant findings were detected for several outcomes, lending support to the importance of labor support to positive labor outcomes. Limitations also include retrospective data collection and the lack of control over, or knowledge of, any events that were not documented but may have impacted outcomes (Norwood, 2010).

Research sites and samples varied, however, positive outcomes were identified in all of the studies and did not differ based on sample characteristics or presence of others. The focus of one study on the middle class (McGrath & Kennell, 2008) limits generalizability, but offers insight into a group of mothers that had not been previously studied. These positive findings, decreased cesareans and epidural use in the supported group, added to the knowledge base on labor support outcomes. They provided evidence that middle class mothers in Cleveland, Ohio, and potentially elsewhere, benefitted from continuous labor support.

The labor support providers' training was not described in several studies (Hodnett & Osborn, 1989; Kashanian et al., 2010) making it unclear how their preparation may have influenced outcomes. Threats to internal validity included

lack of blinding and of separation of groups. The support provided to mothers in the experimental group may have benefited mothers in the control group, even though the attention was not focused on them. A probable bias may have existed as doulas tend to favor natural childbirth; this bias may have influenced the women receiving support (Campbell et al., 2006; Kennell et al., 1991; Langer et al., 1998; McGrath & Kennell, 2008; Trueba et al., 2000. Absence of risks attributable to doula intrapartum support was discussed as a powerful rationale for providing such care for women in labor.

Campero et al. (1998) performed a qualitative follow up to the study by Langer et al. (1998) described above. They enrolled 16 of the women (8 in the intervention and 8 in the control group) and paired them based on similar characteristics. Mothers who received psychosocial support from a doula had more positive feelings about the childbirth experience when compared with the control group. They were more likely to indicate that their educational needs had been met, believed they were better able to cope, and they had better communication about labor. Interview process was not described except that they occurred before discharge, usually within 24 hours. Consistency in the interview process was uncertain. In addition, efforts to prevent bias in the analysis were not described. The number of participants (*n*=16) was based on theoretical saturation, but elaboration of this process was not provided. These qualitative findings supported benefits of continuous labor support and human presence on psychosocial outcomes related to women's experience. However,

lack of important details about the interview process and data analysis threatens reliability of the findings.

Summary. Improvements in outcomes were identified when trained personnel including doulas and lay midwives provided labor support. Studies evaluating the impact of trained providers on labor outcomes were primarily conducted in the United States or Canada, unlike the studies of lay providers that were almost exclusively poor, foreign settings. Generalizability of the findings of studies conducted in foreign locations was limited by the lack of similarities to labor conditions in the United States. Despite the different settings, outcomes related to lay and trained labor support were similar and included shorter duration of labor, fewer cesareans and forceps, less analgesia including epidurals, less use of oxytocics, as well as increased maternal satisfaction and breastfeeding success. However, outcomes in the foreign settings were better for lay providers than they were for trained providers. Positive outcomes were identified across settings and providers. Consistency of findings across settings substantiates the improved outcomes attributable to trained labor support.

Professional Labor Support (PLS): Nursing

Most mothers in the United States (99%) deliver their babies in a hospital setting, attended by registered nurses (Martin et al., 2010). Labor and delivery nurses have a number of responsibilities including: caring for one to three patients, depending on acuity; assessing and promoting labor progress; evaluating health and well-being of the mother and fetus in response to labor; and supporting the mother and her family (Lowdermilk, Perry, & Cashion, 2010).

Studies of professional labor support (PLS) have focused either on outcomes associated with labor support, description of the intrapartum nursing support role, or instrument development. An in-depth review of these studies will be organized according to these categories.

Nursing Labor Support: Outcomes. Several studies have evaluated the impact of PLS on patient outcomes (Gagnon et al., 1997; Hodnett et al., 1996; Hodnett et al., 2002; Hodnett et al., 2008; Radin et al., 1993; see Table 7). Radin et al. (1993) evaluated the influence of intrapartum nursing care on cesarean delivery rates. Nursing care, more than any other variable including type of physician, insurance, or subject characteristics, was associated with cesarean rate. Intrapartum care may have differed between nurses who had low versus high cesarean delivery rates, but it was not evaluated. However nurses in the low cesarean group were more likely to document on the psychosocial database, possibly indicating nurses' attitudes regarding the importance of this information. Evaluation of nurses' attitudes, important determinants of behavioral intent (Fishbein & Ajzen, 2010), would add to understanding the impact of nursing care on outcomes.

The impact of educational programs on PLS and labor outcomes as a result of educational interventions was evaluated in four randomized controlled trials (Gagnon et al., 1997; Hodnett et al., 1996; Hodnett et al., 2002; Hodnett et al., 2008). A two-day training program in labor support focused on developing strategic plans to increase the amount of labor support provided to patients (Hodnett et al., 1996). Designated nurse volunteers led the implementation of

the strategic plan at 20 hospitals in Canada. No significant impact on labor outcomes was identified. However, a follow-up study of PLS at two of the hospitals revealed a higher rate of unmedicated births at one site that had high workload, but no improvements at the one with lower workload (Angus et al., 2003). Nurses in the higher workload site also spent more time providing PLS than nurses in the lower workload setting. They had a supportive manager and physicians who valued the evidence-based care the nurses provided for their patients. The other site had an unsupportive manager, physicians who did not value nursing care, and feelings of powerlessness. One nurse gave the example that all of her efforts could be undone in a flash by a physician's offer of an epidural. It was clear from the comparison of sites that the labor support provided was not dependent on the nurse-patient ratio, but was at least in part, dependent on management and physician support.

Another educational intervention involved a 30-hour training workshop and quarterly refreshers on use of physical comfort measures, relaxation and coping techniques, and stress and pain management in an effort to promote positive labor outcomes (Gagnon et al., 1997). Following the workshop there was a trend towards

Table 7

Summary of Studies: Nursing Labor Support

1st Author & Year	Purpose of the Study	Study Location	Design	Total n (E, C)	Findings	Statistic	Significance
				Quantitative Design			
Radin (1993) CR	Determine the influence of nurses' care during labor and delivery on the cesarean birth rate	United States	RS	31 RNs 6 in lowest, 8 in quintile	Cesarean rates 4.9 *vs.* 19%, top and bottom quintiles	$F[7, 202] = 4.95$	$p < .0005$
Hodnett (1996)	Evaluate whether a marketing strategy would promote research-based practice and improve outcomes	Canada	RCT	20 hospitals with ≥ 30% epidural rate	NS		
Gagnon (1997) RMR	Compare risks and benefits of one-to-one nursing labor support with usual nursing care	Canada	RCT	413 (209, 204)	NS		
Hodnett (2002) RMR	Evaluate effectiveness of nurses as providers of labor support in North America	North America	RCT	6915 RNs (3461, 3454)	NS		
Hodnett (2008) RMR	Evaluate the impact of a complex nursing and midwifery intervention	North America and United Kingdom	RCT	4996 (2497, 2499)	Supported group more likely to indicate providers were "very helpful" on postpartum questionnaire;	OR = .67, 98.75% CI .50-.85	$p < .0125$
					More likely to be happy with nursing attention	OR = .51, 98.75% CI = .32-.70	$p < .0125$

Note. RS: Retrospective study; E = Experimental, C = Control; RMR = Retrospective medical record review, I = Interview, Q = Questionnaire, CA = Content analysis, S = Survey, SA = Secondary analysis, O = Observation, RCT = Randomized controlled trial, NS = Nonsignificant

less use of oxytocin for women who had one-to-one support during labor (*RR* = .83; 95% *CI* .67- 1.04; *p* > .05) but no significant improvements in outcomes. A two-day training program in labor support, provided for nurses by an expert labor nurse and doula trainer, also did not positively impact labor outcomes, even though the labor support provided was continuous (Hodnett et al., 2002).

A more direct educational intervention utilized nurse experts to educate nurses in a formalized approach to labor support in a two-day workshop (Hodnett et al., 2008). The formalized or structured approach included (a) attention to environment, (b) palpation of fetal position, (c) positioning to promote labor, (d) pain assessment and interventions to manage discomfort, (e) assessment of mother's emotional status, and (f) techniques to reduce distress. These interventions were consistent with findings of a Delphi study to identify important intrapartum support interventions (Miltner, 2000) and a single case study (Sleutel, 2000). Participating nurses provided structured care to patients in a labor assessment unit in accordance with the formalized approach over 1-4 hours. Mothers in the experimental group reported more satisfaction with nurses' helpfulness and the amount of attention received during intrapartum care. There was a positive trend toward vaginal birth for the structured care group (*OR* 1.12, 95% *CI* .96-1.27, *p* > .05) but it did not reach statistical significance. The intrapartum care was provided for 1-4 hours in the labor assessment unit and did not continue into the labor unit for the remainder of the labor.

The lack of impact of nursing labor support on outcomes identified in the studies was partially due to limited internal validity. Patients in the control group

also may have benefited from increased support because the studies were not blinded (Gagnon et al., 1997; Hodnett et al., 2002; Hodnett et al., 2008). Usual nursing care may have improved during the study period lessening the differences between groups due to the Hawthorne effect. Outcomes also may be limited by short duration of the intervention. One to four hours of either usual or structured care in the labor assessment unit may not be enough time to impact outcomes (Hodnett et al., 2008).

Retrospective data collection depended on accurate documentation and did not provide any control over, or knowledge of, any undocumented events that may have impacted outcomes (Norwood, 2010). It also was limited to the variables that were documented in the patient record. Labor support provided varied within and between groups because there was no standard care protocol, making comparisons between groups less valid (Gagnon et al., 1997). Implementation of the strategic planning program by the nurses who were trained to provide leadership was not evaluated (Hodnett et al., 1996). An assessment of nursing behavior before and after the marketing strategy was implemented would have made a greater contribution to understanding the impact of this strategy.

Hospital characteristics were not discussed and may have been influential in both the care provided and the outcomes (Hodnett et al., 2008). The high frequency of interventions may have reflected a medical model of labor care and also limited the positive impact of PLS by interfering with the natural progress of labor (Hodnett et al., 2002). Providing interventions such as epidural anesthesia

and oxytocin stimulation prior to randomization may have diminished the effectiveness of PLS (Gagnon et al., 1997). The choice of hospitals with varying intervention rates may have revealed different results. These studies demonstrated that randomized controlled trials of labor support might be a challenge due to issues that impact internal validity such as the Hawthorne effect. The actual care that nurses provided was not evaluated, limiting conclusions about the lack of positive outcomes from PLS (Gagnon et al., 1997; Hodnett et al., 2002; Hodnett et al., 2008).

Nursing Labor Support: Role. The randomized trials that evaluated the impact of labor support on outcomes did not reveal many significant differences as a result of training in labor support, nor did they evaluate the characteristics of the care that was provided. Studies that focused on intrapartum nursing care provided additional insight regarding PLS (see Table 8).

The Labor Support Questionnaire (LSQ), conceptually based on the theory of reasoned action ([TRA], Fishbein & Ajzen, 2010), was used to evaluate labor nurses' attitudes, subjective norms, perceived behavioral control (PBC), and behavioral intent to provide labor support (Payant et al., 2008; Sauls, 2007). Subjective norms and PBC were consistent predictors of behavioral intent to provide PLS. The greatest predictors, attitudes (Sauls, 2007) and subjective norms (Payant et al., 2008) varied across studies. Attitudes were significant only in nurses' responses to care of a patient who used epidural analgesia, while having taken labor support courses was significant for care of mothers who did not have epidurals (Payant et al., 2008). Nurses' intent to provide labor support

Table 8

Intrapartum Nursing Care: Role of the Nurse

1st Author & Year	Purpose of the Study	Study Location	Design	Total n (E, C)	Findings	Statistic	Significance
Miltner (2002) RMR, O	Examine the relationship between nurse staffing levels, patient medical acuity, and intrapartum nursing care; explore whether the lack of available time predicted the amount of supportive care provided.	United States	Descriptive	24 RNs 75 patients	Time spent with study participants was significantly different based on the number of patients assigned to the RN; more patients = less time	$F[2, 72]$ = 26.554	$p < .001$
					1 patient	72.3%[a]	
					2 patients	50.2%[a]	
					3 patients	26.7%[a]	
Payant (2008) S	Evaluate determinants of nurses' intentions to provide continuous labor support based on responses to 2 written scenarios of women in labor, one with and one without epidural analgesia.	Canada	Descriptive	97 RNs	Predictors of intent to provide PLS:		
					No epidural scenario	R^2.55	
					-Subjective norms	R^2.33	$p < .0001$
					-PBC	R^2.16	$p = .006$
					-Labor support courses	R^2.79	$p = .03$
					Epidural scenario	R^2=.88	
					-subjective norms	R^2=.34	$p < .0001$
					-attitudes	R^2=.40	$p < .0001$
					Intent to provide labor support was lower for epidural when compared with non-epidural scenario	Mean = 5.07 vs. 6.49 t[96] = 8.07	$p < .0001$
					Attitudes towards labor support were stronger in the non-epidural than the epidural scenario	Mean = 6.43 vs. 5.41 t([96] = 6.34	$p < .0001$).

1st Author & Year	Purpose of the Study	Study Location	Design	Total n (E, C)	Findings	Statistic	Significance
Sauls (2007) RMR, Q	Examine contribution of attitudinal, normative and control influences on intrapartum nurses' intentions to provide PLS, and assess if behavioral intent could predict outcome of length of labor	United States	Retrospective, exploratory	39 RNs	Behavioral intent to provide PLS: Attitude, subjective norms, and PBC	R^2 = .70 Attitudes (β = .68).	p < .0001
Barrett (2010) S, SA	Examine factors associated with labor support behaviors of nurses who provide labor care	United States	Descriptive	64 RNs	Correlation with labor support behaviors Age Experience Institutional epidural rate Institutional cesarean rate	 r = .39 r = .31 r = -.47 r = -.38	 p = .004 p = .022 p = .000 p = .0001
Qualitative Design							
Sleutel (2000) I, O	Pilot study to describe labor support techniques and strategies to enhance labor progress and prevent cesarean births.	United States	Single subject case study	1 RN	Three themes: The nurse's approach to labor Subcategories: Following the mother's body Hastening and controlling Nursing support techniques. Ethical dilemmas and unwilling partnership; nurse-MD conflict		

1st Author & Year	Purpose of the Study	Study Location	Design	Total n (E, C)	Findings	Statistic
Angus (2003) I, O	Develop an understanding of the culture of the nursing units experiencing an evidence based practice intervention	Canada		61 RNs	Social context important when implementing evidence-based practice. Themes: Nursing leadership Interprofessional struggle with physicians, Characteristics of the community and the physical environment	
Regan (2007) N	Understand the ways in which nurses cognitively frame childbirth; comparison between sites that did (did not) have midwifery practice	United States	Narrative response to picture	51 RNs 30 (21)	3 cognitive frames[b]: Birth as a natural process lurking risk risky process	 35%; (47 *vs*. 19%) 39%; (36 *vs*. 43%) 26%; (17 *vs*. 38%)
Sleutel (2007) CA	Explore labor and delivery nurses' views of intrapartum care, particularly factors that help or hinder their efforts to provide PLS	United States		416 RNs	Content analysis of comments on questionnaire Themes: Barriers Hastening, controlling, and mechanizing birth Facility culture and resources Mothers ' knowledge, language, and medical status	

1st Author & Year	Purpose of the Study	Study Location	Design	Total n (E, C)	Findings	Statistic
					Outdated practices Conflict Ethical/professional decline Facilitators Teamwork/collaboration Philosophy of birth as natural process Facility culture and resources Nursing impact, experience, and autonomy	
Carlton (2009) I	Identify the perceptions of nurses caring for women giving birth in nurse-managed highly technological birthing environments	United States		18 RNs	Themes: Nurses' aversion to birth plans Barriers to the provision of supportive care for birthing women Differences in caring for women who were medicated versus those who were unmedicated The rewards of caring for birthing women.	

Note. [a]Percent of their work time; [b]Results reported as total percent, (site that did vs. site that did not have midwives practicing).

was lower for patients who had epidural analgesia and was influenced by subjective norms that a nurse who has a comfortable patient with an epidural should help other nurses, rather than remaining with the patient (Payant et al., 2008). Nurses reported providing continuous labor support to their most recent 10 low risk mothers 90% of the time if the mother did not and 52% of the time if the mother did have epidural

analgesia. Findings provided evidence that intent to provide labor support and actual care were predicted by epidural use. Barriers to PLS, including paperwork and inadequate staffing that interfered with provision of care, also were identified and the impact of behavioral intent on duration of labor was not significant (Sauls, 2007).

Barriers to PLS also included interventions that interfered with the birth process, facility culture, mother's knowledge, language and medical issues, outdated practices, conflict, and professional and ethical decline (Sleutel et al., 2007). Factors that promoted labor support were teamwork and collaboration, philosophy of birth as a natural process, facility culture, resources, and nursing impact, experience, and autonomy. Culture and resources were identified as both hindrance and promoter. For example, a strong nurse manager made a positive impact on culture and viewed midwives and doulas as having a positive impact on intrapartum care. However, lack of managerial support, physician control, and being a teaching institution were major cultural barriers. Details were not provided about strategies nurses used to improve birth outcomes.

Nurse and institutional characteristics also may be influential. Labor support was positively correlated with nurses' age and experience and negatively related to institutional epidural and cesarean rates (Barrett & Stark, 2010). Experience with midwives also may positively impact the nurses' interpretation or cognitive frame regarding the labor experience by increasing the perception of birth as a normal process, rather than one that requires intervention (Regan & Liaschenko, 2007). Higher rates of interventions, including analgesia, epidurals, and cesarean rates may be dependent upon the nurses' cognitive frame, with forceps and cesarean rates increasing with expectation of problems.

Observation of nurses' labor support behaviors revealed the impact of workload on nursing care (Miltner, 2002). Nurses spent increasingly less time with patients as their workload increased, with 72.3% of their time devoted to caring for the patient if only one was assigned, 50.2% if two, and 26.7% if three patients were assigned. About a third of that time (31.5%) was spent providing at least one supportive care, primarily emotional support such as social talk, building rapport, or emotional support of family members. Physical care was the least common support provided and focused on changing bed linens, warm or cold compresses, and touch. Findings from this study demonstrated that labor support consumed a significant portion of the nurses' time. However, opportunities exist to improve nursing care and to focus intrapartum nursing care on behaviors that promote labor progress and improve outcomes.

Observation and interview methods were used in a single case study to describe labor support (Sleutel, 2000). Three themes were identified through

analysis of data, (a) the nurse's approach to labor, (b) ethical dilemmas and unwilling partnership, and (c) nurse-physician conflict. For the nurse in the study, the medical model was prevalent alongside a supportive model of nursing care, and sometimes created ethical dilemmas and conflict. The nurse described the challenges and conflict she experienced when attempting to follow the mother's body and promote labor through techniques that did not include medical interventions. Her experiences also provided some insight into the lack of clear benefits identified in the studies as a result of nursing support.

These findings were reinforced by evaluation of focus groups conducted with nurses working in nurse managed intrapartum units to examine communication with physicians and intuitive nursing interventions (James, Simpson, & Knox, 2003). Four themes emerged from transcript analysis (a) the expert nurses' provision of labor care based on knowing the labor process and intuition, (b) knowing the woman and letting her body guide the labor, (c) advocating for the laboring woman, and (d) the autonomy inherent in the nurse managed model of labor support. While the nurses spoke negatively about technology, use of technology on the labor and delivery unit where these nurses practiced was higher than the national average. Nurses' perceptions of their role provided evidence of expertise in labor support. However, intervention rates remained high in spite of the expert nursing care.

Similar themes were revealed through interviews of intrapartum nurses who also worked at facilities using nurse-managed labor models (Carlton et al., 2009). Themes that were identified included (a) an aversion to birth plans,

including the perception that they are a “jinx”, unrealistic and will lead to a cesarean delivery; (b) barriers to care including institutional policies such as continuous fetal monitoring and high risk protocols applied regardless of actual risk; (c) unit culture and staffing ratios, pressure from physicians, lacking skills to provide support, a problem that is increasing due to high epidural rates; (d) lack of understanding of need for individualized care; (e) linguistic barriers when patients did not speak English; (f) personal birth preference or experience of the nurses; (g) patients with unrealistic expectations; (h) differences in care between women who are versus those who are not medicated; and (i) rewards of caring for women in labor. One nurse remarked that the epidural patient counts as higher acuity but does not require as much care because of the perception of comfort. It was apparent from this study that nurses’ perceptions regarding labor support were influenced by a very large variety of factors that may impact nursing care.

These studies expanded understanding of PLS and the nurse’s role but they had some limitations. The lack of significant findings regarding the impact of behavioral intent on length of labor (Sauls et al., 2007) may have been due to nurses not following through on the behaviors they intended to perform. Self-report would be the only access to the information needed for the studies, but just as subjective norms may prevent or promote PLS in practice, they also may have influenced the responses provided (Carlton et al., 2009; James et al., 2003; Payant et al., 2008; Sauls, 2007; Sleutel, 2000). This phenomenon may have been partially responsible for high intervention rates in spite of nurses’ reported

aversion to them (James et al., 2003). Comparison of actions and perceptions would provide valuable information that could explain these contradictory findings. Experience with midwives may promote viewing labor as a natural process (Regan & Liaschenko, 2007), but this experience was not reported (Barrett & Stark, 2010; Carlton et al., 2009; James et al., 2003; Payant et al., 2008; Sauls, 2007; Sleutel, 2000.

Despite the limitations, the findings added to the understanding of PLS by describing the nurse's role in PLS and important factors that impacted the care provided. They also provided some insight into the limited benefits identified as a result of nursing care. Further evaluation of the relationships between PLS, institutional and nurse characteristics, experience with a variety of providers including nurse midwives, and the impact of attitudes, PBC, subjective norms and intent to provide PLS would provide additional insight.

Summary. Nursing labor support resulted in a number of positive labor outcomes including less oxytocin use (Gagnon et al., 1997), and increased satisfaction with care (Hodnett, et al., 2008). Nursing care also impacted both cesarean and episiotomy rates (Radin et al., 1993). Subjective norms also were influential, for example, the provision of labor support for women with epidurals may not be socially supported on an intrapartum unit (Carlton et al., 2009; Payant et al., 2008). However, emotional support provided by nurses was equally valued by women with or without epidurals (Corbett & Callister, 2000), supporting the importance of providing labor support regardless of whether or not women have epidurals. Managerial or unit based support also were important in

promoting PLS (Angus et al., 2003; Miltner, 2002; Sleutel, Schultz, & Wyble, 2007). Nurses frequently viewed physicians as limiting their ability to provide appropriate care for laboring women (Angus et al., 2003; Sleutel, 2000; Sleutel, Schultz, & Wyble, 2007). Nursing actions were focused on the family, and on teaching that was unrelated to the labor process (Miltner, 2002), rather than on promoting labor progress or comfort. The six dimensions (Sauls, 2002; 2004; 2006) or six factors (Sleutel, 2002) of labor support were not apparent in the observations of intrapartum nurses (Angus et al., 2003; Miltner, 2002; Sleutel, 2000). Lack of nursing focus on actions to promote labor and comfort, may be part of the explanation for dearth of positive outcomes from nursing labor support as compared to non-nursing labor support.

Labor Outcomes Summary

The scientific evidence supported the proposition that continuous labor support improved intrapartum outcomes for both the woman and her newborn (see Table 2, p. 4). Evidence of improved labor outcomes from labor support provided by non-nurses was more substantial, in part due to the larger number of studies of labor support using non-nursing providers. These studies were conducted primarily in foreign sites where usual care involved crowded labor rooms and little or no support. It was unclear why outcomes from continuous labor support were better when provided by non-nurses (Hodnett et al., 2012).

PLS: Instruments

Questionnaires developed to evaluate PLS include the Labor Support Scale ([LSS]; Sleutel, 2002) and the Labor Support Questionnaire ([LSQ]; Sauls, 2000). They were both self-report instruments but had different conceptual frameworks, purposes and factors. Detailed information about the LSQ will be presented in Chapter 3.

The LSS was based on a social support framework, with the assumption that social support would lead to improved outcomes. The purpose was to evaluate frequency with which nurses performed labor support interventions and to describe perceptions of the utility of the actions. The scale was developed in two phases, with revisions occurring between them. A six-factor solution emerged during factor analysis, and the instrument had adequate reliability (.90 for frequency and .92 for helpfulness). The six factors were (a) instrumental or physical support, (b) emotional support, (c) partner support information/advice, (d) advocacy, (e) mother-directed pushing, and (f) sustenance. Sleutel (2002) described three limitations of the instrument including (a) the inability to evaluate the use of labor support practices that may be used infrequently, such as a whirlpool; (b) many emotional items were deleted due to inadequate variance that may limit the ability of the instrument to discriminate in the emotional realm; and (c) it is a self-report instrument, which may be a limitation, as nurses may not accurately recall care they provided.

Gaps in the Literature

Evidence showed that labor support leads to positive outcomes for mother and newborn. Positive outcomes such as shorter labors, decreased analgesia including epidurals, fewer cesarean or forceps deliveries, less oxytocics, improved satisfaction with the labor experience, earlier breastfeeding and higher APGAR scores, were apparent in multiple studies (see Table 2, p. 4). However, positive outcomes varied and were inconsistent across studies. One of the factors impacting outcomes was the provider of labor support. Improvements in outcomes were greater in studies of non-nursing labor support, but reasons for these differences were not clear. Influences on nursing labor support were described, but impact on outcomes was not evaluated. Nurse attitudes and intention to provide labor support were identified as influential on nursing care provided, but they were not related to the positive patient outcomes that can result from intrapartum support. No studies were found that evaluated relationships between nurses' attitudes and intentions to provide labor support, nurse characteristics or organizational characteristics, and factors that may be impacted by the support nurses provide. It remained unclear what impact, if any, these variables may have on epidural and cesarean section rates. Findings from qualitative studies added important information to improve understanding of labor support, but without the concomitant quantitative analysis of relationships between variables, conclusions were limited.

This study extended knowledge of the nurse's role, attitudes, and behaviors regarding PLS, as well as the relationships between attitudes,

behaviors, and nurse and organizational characteristics (see Figure 2). Relationships between nursing attitudes and intention to provide labor support were explored; barriers and facilitators for labor support were identified. The addition of focus groups to follow up the quantitative analyses advanced the understanding of labor support and influencing factors.

Assumptions

The assumptions for this study were consistent with its conceptual framework (1-3; Fishbein & Ajzen, 2010) and those identified in the development of the Labor Support Questionnaire (4-6; Sauls, 2000).

1. Attitudes are positively related to behaviors. Therefore if a behavior is viewed positively, behavioral intent is greater.

2. Behavioral intent is positively related to subjective norms. Therefore, if the social group views a behavior positively, in this case the nurses and manager on the intrapartum units included in this study, it is more likely to be acted on.

3. Action is best predicted by attitudes, behavioral intent and subjective norms.

4. Intrapartum nurses' responses on the LSQ and in the follow up focus groups will be honest.

5. A woman in labor needs support to help her through the process of labor.

6. Childbirth is a process of physiologic, psychological and sociocultural change in which the woman has a special need for professional labor support along with the mother's personal support system.

Outcomes resulting from continuous labor support such as fewer cesareans, epidurals, episiotomies, analgesia, improved neonatal outcomes such as better APGAR scores and breastfeeding, as well as maternal satisfaction have not been consistent across studies and were not as significant when nurses

provide the labor support. The reasons for this were not clear from the literature that was reviewed. Nurses are present at most deliveries in the United States, yet the potential for improving labor outcomes was primarily demonstrated in foreign countries where intrapartum care was vastly different. Nurses' attitudes, perceived behavioral control, subjective norms and intent to provide PLS were important factors that may be responsible for some of the differences in study findings.

Chapter 3 Methods

In this chapter, a detailed review of the research design and methods to address the research questions for this study were provided. The research sample, data collection methods, and data analyses were outlined. Additionally, threats to validity were identified and strategies to limit threats to validity and promote rigor were described. Rationale for the research design and methods were reviewed, to justify decisions.

Design

A cross-sectional, descriptive design was employed to investigate intrapartum nurses' attitudes and behaviors about labor support and influential factors. The research question drove the choice of method (Hulley et al., 2007). A mixed methods approach was used to allow for more complete understanding of nursing labor support than either quantitative or qualitative method used alone (Morse & Niehaus, 2007). The quantitative approach, rooted in a positivist tradition, utilized a structured instrument and followed an established plan to gather the information needed for the study. The information gathered was then analyzed statistically to increase understanding of the phenomena being studied (Polit & Beck, 2008). The qualitative approach, based on an interpretive paradigm, utilized a naturalist approach to understanding the human experience through collection of narrative and subjective information. Rich, in-depth information was collected that provided firsthand knowledge of the experience

and rich detail of the dimensions of the phenomena of interest (Polit & Beck, 2008).

Quantitative evaluation of nurses' attitudes and behaviors regarding Professional Labor Support (PLS), nursing demographics, and organizational characteristics was conducted using labor and delivery nurses from three organizations as participants. The qualitative approach using focus groups followed completion and preliminary evaluation of the questionnaires in order to supplement and enhance the understanding of the nurses' responses to the questionnaires (Morse & Niehaus, 2007).

Study Aims

Research questions addressed the three specific aims of the study. The specific aims of the study were:

1. Describe intrapartum nurses' attitudes and behaviors regarding professional labor support.
2. Examine relationships between LSQ responses and factors such as nurses' demographic characteristics, personal birth history, and work experience.
3. Evaluate the relationships between attitudes and behaviors within and between three Midwestern intrapartum units.

Research Questions (see Table 9):

1. What are nurses' attitudes regarding labor support?
2. What are nurses' intended behaviors regarding labor support?
3. What barriers to practice do nurses identify that impact the support they provide?

4. What are the relationships between attitudes and behaviors within and between three Midwestern hospitals?

5. What are the relationships between attitudes, behaviors, barriers, and nurse characteristics?

Sample and Setting

A purposive sample of nurses who worked on labor and delivery units of three Midwestern hospitals was recruited to include a variety of experiences, educational backgrounds, shifts worked, and hours worked per week. The number of nurses currently working on the unit and their willingness to participate determined the sample size. Because this study was descriptive in nature, no predictor or outcome variables were defined so the concept of power did not apply (Hulley, Cummings, Browner, Grady, & Newman, 2007). Therefore, desired sample size was not calculated, and instead means and proportions were reported (Hulley et al., 2007).

Participating sites were selected because they had different characteristics (see Table 10). Sites with different characteristics were important to capture greater variance (Tabachnick & Fidell, 2007) in an effort to detect differences that might have been present between sites. Hospitals that provided neonatal care were classified on the basis of the care they were capable of providing for the newborn (American Academy of Pediatrics, 2012). The care at a Level 3 hospital included continuous availability of specialty personnel such as neonatologists, neonatal nurse practitioners, and respiratory therapists. Infants

Table 9

Research Questions and Measurement Strategies

Research Question	Measurement Strategies	
	Quantitative	Qualitative
1. What are nurses' attitudes regarding labor support?	Responses on LSQ[a] Part 1 (6 dimensions)	Responses to focus group questions
2. What are nurses' intended behaviors regarding labor support?	Responses on LSQ Part 2 (6 dimensions)	Responses to focus group questions
3. What barriers to practice do nurses identify that impact the support they provide?	Responses on LSQ Part 3	Responses to focus group questions
4. What are the relationships between attitudes and behaviors within and between three Midwestern hospitals?	Statistical analysis of LSQ responses, Chi square, ANOVA	
5. What are the relationships between attitudes, behaviors, barriers, and nurse characteristics?	Statistical analysis, Chi square, Pearson correlations	

Note. [a]LSQ: Labor Support Questionnaire

with high risk and complex health issues can be cared for in these hospitals. Level 2 hospitals were able to provide care to newborns with some complications and had round the clock access to neonatologists. Level 1 hospitals provided care to healthy newborns with minimal complications and may transfer high-risk infants with complex health issues to a higher level facility.

One site was an urban, Level 3 hospital that served a diverse population with large proportion of patients with public assistance insurance. Women may have received care from a doula, but it was personal and self-paid, not a hospital-based arrangement. Statistics were not available regarding the number of women who were attended by a doula. The hospital had a Neonatal Intensive Care Unit (NICU) and neonatologists on site for emergency situations. Residents specializing in family practice and obstetrics also were on site at all times. The second site was a suburban, Level 2 hospital that served a more homogenous population, who were primarily privately insured, Caucasian patients. It did not have an NICU and there were no on-site residents or obstetricians. The third site was a rural hospital that also served primarily Caucasian patients and did not have an NICU or on-site residents obstetricians. These sites had markedly different patient populations and characteristics that allowed for rich description of nurses' labor support.

Quantitative Research Methods

Instrument. The Labor Support Questionnaire (Sauls, 2000, 2004, 2006) was used for this study to evaluate participants' attitudes and behaviors

Table 10

Study Site Characteristics

Study Site	*# Nurses Employed*	*Deliveries/ Year (#)*	*Interventions (%)*				*Births attended by midwife (%)*	*Births attended by doula (%)*
			Cesarean	*Epidural*	*Forceps*	*Vacuum*		
Urban, Level 3	*65*	*3100*	*21*	*53*	*<0.8*	*<0.8*	*25*	*-*
Suburban, Level 2	*24*	*682*	*22*	*58*	*0*	*.01*	*0*	*10.85*
Rural, Level 1	*16*	*722*	*25*	*50*	*2*	*10.00*	*17*	*-*

Note. – data not reported

regarding PLS (see Appendix B). This instrument was conceptually based on the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2010). The TRA described the basis of behavioral intention as attitudes and subjective norms. The scale initially evaluated the value nurses placed on behaviors and how often they were implemented, similar to the LSS (Sleutel, 2002). In 2004, Sauls revised the instrument to be more conceptually consistent with the TRA.

The revised LSQ had six dimensions that emerged from factor analysis. For definition of terms see Table 3 on page 14. These included (a) tangible support, (b) advocacy, (c) emotional support (ES) - reassurance, (d) ES - creating control, security, comfort, (e) ES - nurse caring behaviors, and (f) informational support. While the Sauls and Sleutel (2002) scales share similarities with focus on emotional support, caring, information, and physical cares, the LSQ provided additional detail regarding the dimensions of emotional support. This addition increased content validity and made it a better measure of the wide range of support measures provided to women in labor.

The LSQ had three parts that were consistent with the TRA. Part 1 measured personal attitudes or degree of importance placed on PLS and Part 2 measured behavioral intent or intended utilization of the supportive behavior. A six-point Likert-type scale was used, ranging from 0-5, with 0 representing not important or not used, and 5 representing extremely important or always used. Participants indicated the value placed on behavior and frequency of intended use, with potential scores ranging from 0-135. Higher scores indicated higher

importance placed on the supportive behavior and higher intent to use the behavior in practice.

Part 3 of the scale measured subjective norms and perceived behavioral control (Sauls, 2004). An initial question asked if there were things that prevented the nurse from doing what she/he believed is PLS. If the response was “yes”, the subject chose from seven listed barriers that were present in his/her practice. Subjective norms were indicated by the responses regarding perceptions of value on PLS and range from 0-3, with 0 indicating “no social pressures that prevent performance of PLS,” and 3 indicating “many social pressures” (Sauls, 2004). Responses indicating perceived behavioral control or barriers to PLS ranged from 0-4, 0 representing “no barriers” and 4 indicating “many barriers present” (Sauls, 2004).

Cronbach’s alpha reliability for the entire scale and for Parts 1 and 2 (see Table 11) indicated acceptable to excellent internal consistency (Hulley et al., 2007). Some of the individual dimensions did not demonstrate adequate internal consistency, but the author retained items because they were consistent theoretically and clinically, as important to PLS. They were important to the repertoire of care and without them the internal consistency of the instrument did not increase (Sauls, 2004). Internal consistency for Part 3 was less than acceptable for behavioral control and for subjective norms (Polit, 2010). The total alpha for Part 3 was not reported (Sauls, 2004). Subsequent studies showed consistent reliability.

Table 11

Published Reliability for the Labor Support Questionnaire (LSQ)

Author	LSQ Dimensions	Internal Consistency[a]		
Sauls, 2004 (2001)		Part 1	Part 2	Part 3
	Combined scale, all dimensions	.92 (.90)	.86 (.88)	NR[b] (NA)[c]
	Tangible Support	.82 (.77)	.78 (.73)	---
	Advocacy	.90 (.86)	.89 (.89)	---
	Emotional Support: Reassurance	.69 (.77)	.53 (.79)	---
	Emotional Support: Creating Control, Security, and Comfort	.74 (.69)	.78 (.70)	---
	Emotional Support: Nurse Caring Behaviors	.78 (.65)	.65 (.62)	---
	Informational Support	.67 (.65)	.74 (.73)	---
	Perceived Behavioral Control	---	---	.11 (NA)
	Subjective (Social) Norms	---	---	.61 (NA)

Note. [a]Cronbach's alpha; [b]NR: Not Reported; [c]NA: Not Applicable

Content validity index was .94, indicating that 94% of the items were judged to be valid. Convergent validity was .57 (p = .00), evaluated by correlating the LSQ and the Caring Behaviors Inventory (Wolf, Giardino, Osborne, & Ambrose, 1994). Concurrent validity was evaluated through nurses' rating of a single question, "Overall, how important is it for the labor nurse to provide supportive care to the laboring woman?" The result was .27 (p = .001) indicating a statistically significant, though weak correlation. Exploratory factor analysis with varimax rotation was performed to establish construct validity. Six factors emerged, accounting for 61.4% of the variance. Therefore the LSQ has been demonstrated to be a reliable and valid tool.

To evaluate the impact of epidural analgesia on labor support, Question 28 was added. Question 23, a component of the Informational Support dimension, was edited to reflect care following, rather than before an epidural: "Assists with breathing and relaxation techniques after an epidural". The new question also was considered a conceptual fit with the informational support dimension and reliabilities were calculated with and without inclusion of the new item to evaluate statistical fit.

Permission was obtained from the author Dr. Donna Sauls to use the LSQ for this dissertation research (see Appendix C). The paper and pencil instrument was adapted for use as an online survey. Survey Monkey Gold provided the platform for the survey. Advantages of the online platform included speed of response, flexibility, and convenience (Evans & Mathur, 2005), allowing survey completion at the location and time of choice. Survey Monkey Gold also allowed confidential submission while being able to identify responses by site. The online surveys were formatted using each institution's brand color to promote trust and loyalty in an effort to improve the response rate (Dillman, Smyth, & Christian, 2008). Participants also completed a demographic and organizational questionnaire (see Appendix D) via Survey Monkey to provide a description of the sample. Sample characteristics were evaluated through descriptive statistics and compared between organizations.

Instrument testing: Cognitive Interview. Additional steps were taken to ensure the quality and understandability of the combined LSQ and demographic survey. Answering survey questions requires many stages of complex

processing (Murtagh, Addington-Hall, & Higginson, 2007). As a result, developing clear understandable survey items may be challenging. The cognitive interview was used to identify items that were difficult to understand (Nápoles-Springer, Santoyo-Olsson, O'Brien, & Stewart, 2006; Willis, 2005). In this process, a one-on-one interview, the participant read each survey item out loud, and verbalized interpretation of each item (Nápoles-Springer et al.; 2006; Willis, 2005). This cognitive interview technique was used to evaluate the ease of use, understandability of the LSQ and demographic surveys, and gave the participant an opportunity to suggest recommendations for improvement. One RN with labor and delivery experience participated. Prior to the interview, the procedure was explained to the RN and she verbalized understanding. She signed consent to participate (see Appendix E) and the interview was audio recorded.

The RN read each LSQ item out loud and then provided feedback on the wording as well as the question format in Survey Monkey. Her feedback included suggestions for punctuation and capitalization of some words in the survey items. Additional suggestions to refine the demographics portion of the questionnaire also were offered and the questions updated accordingly to improve clarity. For example, the question "have you personally experienced labor and birth?" was changed to "have you personally given birth?" The RN pointed out that personally experiencing birth does not mean actually having the baby. Overall feedback was positive and the RN stated that the items were clear

and easy to understand. The survey was updated in Survey Monkey per these recommendations. No changes were made to the LSQ item wording.

Instrument Testing: Pilot Study. A pilot study was conducted at a large Midwest hospital to further refine the survey and identify any additional issues with the electronic adaptation of the LSQ. IRB approval was obtained from the institution prior to the pilot study. Nurses were invited via email to participate in a pilot study to test the LSQ and demographic survey prior to its use in the dissertation research study. Four nurses participated and completed the questionnaire. One of the nurses noted that two of the demographic items did not include labels for the scale so they were unsure how to rank the items. The general response was that the questionnaire items were easy to understand and had clear directions. The survey was updated to include scale labels but no other changes were made to the instrument.

Procedure. The principal investigator (PI) contacted the nurse managers of the three intrapartum units to gain permission for the study and entry to the settings. Following Institutional Review Board (IRB) approval, the study was presented to the nurse managers and nursing staff (e.g., at a unit meeting or at a special meeting focused on the study). The enrollment process for nurses was described and written instructions for completion and submission of instruments were distributed. This information about the study also was distributed via email to maximize the number of nurses contacted. Instruments were accessible on Survey Monkey, along with detailed instructions for completion and submission.

All instruments were to be completed at the same time and participants were told it took approximately 30 minutes of their time.

The survey was available to the nurses over a seven-week period, rather than the planned 3 weeks, due to prolonged non-response. Reminders were provided in-person at unit meetings and via email, a technique that has been shown to double response rates (Kitzinger, 1994). Reminder emails were sent to the nurses on each unit after the first week and then every two weeks. They varied in format to promote interest and because the audience for these reminders differed (Dillman, Smyth & Christian, 2008). In addition, two weeks after the survey launched, the PI delivered a written reminder along with edible incentives to each unit to encourage participation. There was a very small increase in participation, 1-2 per study site over two weeks following delivery of the treat incentive. Thus, at the request of the nurse managers, additional treats were not brought to the units. The PI closed access to the survey on Survey Monkey 7 weeks after the start of the research because no new responses had been entered for 7 days. Preliminary analyses of the means of the LSQ dimensions for Part 1 and 2, and the comments regarding barriers were conducted to assist with the qualitative phase of the research.

Qualitative Research Methods

Focus Groups/Interviews. Preliminary evaluation of questionnaires and demographic characteristics was conducted prior to the first focus group meeting. This practice provided direction for questions for the focus groups and helped identify gaps that remained after evaluation of quantitative data. The initial focus

group interview guide (see Appendix F) was edited to elicit more information about the low scoring items and issues participants described in submitted comments about barriers in Part 3 of the questionnaire. Specific changes included adding questions about the nurse's role as patient advocate, interactions with doulas, and editing questions to provide greater clarity and less bias toward a specific answer.

Nurses were invited to participate in focus groups during the presentations to the nursing staff, providing a personal introduction in an attempt to help with recruitment (Shaha, Wenzel, & Hill, 2011). An invitation to participate also was included at the conclusion of the questionnaire on Survey Monkey. Focus groups can provide a safe setting for sharing due to the inclusion of familiar participants, they may reveal information that other methods do not, and they may include data on group norms (Kitzinger, 1994). A semi-structured format was used for the focus groups with a list of questions developed to guide the focus group discussion.

In an effort to encourage participation in the focus groups, a $10 gift card was provided to nurses as a token of appreciation for their participation. In addition, at the conclusion of the focus group meeting at each site, one participant was chosen through a random drawing to receive a $75 gift card. Field notes were made during and immediately after the interviews to record facial expressions, pauses, and other details that would be lost to audio transcriptions.

Procedure. Focus group meetings were scheduled at each site after consulting with the nurse manager regarding the best time for nurses' availability. The PI sent an email via the nurse managers to all unit nurses, inviting them to attend the focus group sessions. The invitation included the expected time commitment, date, and location, as well as assurance of confidentiality. Nurse managers also placed printed invitations in the nurses' break room and in the nurses' station. Focus group meetings were audio recorded and took place in a room within or adjacent to the intrapartum unit for the participants' convenience. A quiet room was utilized with attention to avoiding extraneous noise, a major pitfall of recording interviews (Easton, McComish, & Greenberg, 2000). All of the nurses who participated indicated that they had completed the LSQ and demographics survey.

The first focus group meeting was rescheduled after no one attended due to participants' inability to leave the intrapartum unit during a busy shift. Most of the participants who attended the remaining scheduled meetings were working on the unit at the time of the meeting. As a result, only two were group meetings; the remaining sessions were individual interviews due to inability of more than one staff member to leave the floor at one time. One interview had two participants for approximately one third of the meeting. Three participants who had just finished their shifts attended the other group meeting.

The PI provided introductions and described the purpose of the study. Intrapartum nurses' attitudes and intended behaviors regarding labor support and influencing factors were explored. Gift cards were distributed. After

introductions, the participants wrote their first name on a piece of paper the PI provided to enter the drawing for the $75 gift card. All of them were identical in size and shape to ensure consistency and limit recognition of an individual's entry. At the conclusion of all meetings at the site, in the presence of any available participants, the PI drew one name from the bag as the winner of the larger appreciation gift. The papers with the names were disposed of in a secure document disposal container.

Coding. All of the interviews were audio recorded and transcribed verbatim by a professional transcription service. The PI verified that the transcriptions were accurate by comparing transcripts to the recordings. Initial coding was performed on the aggregate responses using the LSQ dimensions for themes. Additional codes were added when necessary to capture additional themes not clearly represented by the LSQ dimensions. Related themes were grouped and names were established.

Subsequent analyses were conducted using varied approaches in an effort to better understand patterns and themes in the data. Quantitative evaluation was conducted to identify the predominant themes and LSQ dimensions represented in the data. The initial codes and themes were placed in a table and tallied based on the number of times they were represented in the data. This process revealed patterns based on frequency of various thematic comments, possibly indicating their importance to participants. Following the quantitative evaluation, the transcripts again were reviewed and coding revised to better reflect information shared by the participants. Then, transcripts were

reevaluated with careful bracketing of the LSQ dimension information to limit the influence of those themes in evaluation of the transcripts. With attention to bracketing, additional themes emerged and current themes expanded.

A reflexive journal and audit trail were utilized to improve objectivity and limit researcher bias in the analyses. In addition, peer debriefing was utilized to add rigor to the evaluation. Some minor discrepancies between the PI and peer reviewer were identified and agreement was reached after the second reviewer explained the rationale for her coding scheme and presented excerpts to support her scheme. Themes were adjusted accordingly with the addition of a subtheme, preparing women for labor and birth. Following the above transcript evaluation, the PI again reviewed the codes with previous themes bracketed in an effort to examine them with fresh perspective. The themes that emerged from the analysis were similar to previously identified themes, but greater depth and more patterns of connections between the themes became evident.

Establishing Rigor

Trustworthiness in qualitative research means that the findings are worth the reader's attention (Lincoln & Guba, 1985). It may be established through attention to procedures that ensure confirmability, dependability, credibility, and transferability (Lincoln & Guba, 1985). Each of these has a counterpart in quantitative research, indicated by the parentheses following the trustworthiness component.

Confirmability (objectivity or neutrality) means that the findings were supported by the data and not other influences, including researcher bias

(Lincoln & Guba, 1985). Dependability (reliability) characterizes the repeatability of the study and the quality of processes used. Credibility (internal validity) means that findings can be trusted, and if reviewed by participants, they would be recognized as true and adequately representing the data. Transferability (generalization) represents the potential to apply the findings to different groups or contexts. A variety of strategies were used in this study to meet these criteria for trustworthiness.

The PI used bracketing, a process of self-awareness, that helped limit bias and the influence of preconceived ideas on the research process (Ahern, 1999; Lauterbach, 2007; Tufford & Newman, 2012). Bracketing commenced prior to the start of data collection through careful consideration and recording of the PI's preconceptions (Tufford & Newman, 2012). It was a purposive endeavor of self-evaluation by the PI in an effort to identify presumptions that may lead to bias. After the initial self-evaluation, the PI continued to consider potential areas of bias and recorded them in a reflexive journal when they become apparent. These preconceptions were held aside during interpretation of findings during both the quantitative and qualitative analyses so they would not influence interpretation or investigator responses during the meetings. For example, no participants attended the first scheduled focus group meeting. The PI put aside negative feelings about the lack of attendance so it would not influence future interactions with the participants at that or other sites. The PI recorded areas of potential bias in a reflexive journal. This allowed examination of the potential

biases and promoted effective bracketing through awareness of influences on the research process and interpretations.

The PI also maintained an audit trail of processes and procedures to provide insights into the study and further improve identification of bias that could develop (Wolf, 2007). The audit trail included notes regarding the data analysis procedures, detailed notes regarding interpretations, field notes, personal notes, drawings or figures, and other items as deemed important by the researcher. The audit trail was made available for review by the dissertation chair and other committee members, upon request to provide evidence of methodological detail (Wolf, 2007). Practices of bracketing and maintaining a detailed audit trail contributed to the rigor of the study by revealing significant details about the study and potential biases so that they did not influence data analysis.

In addition, the PI used a reliable instrument to gather quantitative survey data that was used to enhance the interview guide. The interview guide was developed and edited following preliminary quantitative analysis of survey results in collaboration with experienced qualitative researchers on the dissertation committee. Attention was given to limiting bias in the wording of interview questions.

Purposive sampling techniques provided access to participants from varied study sites, enhancing transferability. Finally, data saturation was achieved even though it was not a specified goal of the qualitative investigation, meaning that nothing new would be added if additional participants were included (Green & Thorogood, 2009).

Human Subjects

Institutional Review Board approval (see Appendix G) was obtained prior to beginning the study. The IRB determined that a formal consent form was not necessary for this research, but instead an approved information sheet (see Appendix H) was sufficient for protecting human subjects. Data were aggregated by study site, and all individual data remained confidential. Respondents were identified by site only in order to connect site to survey responses. No master list was maintained to assist in protection of confidentiality.

Focus group and interview participants were instructed to maintain confidentiality regarding who participated and what was disclosed during the session. Survey data was maintained in a password-protected file on the PI's computer. Audio recordings and transcripts were maintained in a locked file cabinet in a secure office until the dissemination of the research study. They will continue to be maintained in this secure manner for five years after the final dissemination of the study. After five years have passed, the recordings will be destroyed and the documents will be shredded and disposed of in a confidential container. Computer files also will be maintained for five years after the study has concluded. After five years, they will be deleted.

Data Analysis and Management

Data from the questionnaires were evaluated using SPSS^{TM}21 for Windows (IBM, Inc., 2010). In order to meet the necessary assumptions for subsequent testing, range, mean, variance, and standard deviations were

determined for all study variables (Tabachnick & Fidell, 2007). In addition, data were checked for outliers and missing data. Four responses were missing half of the data and were deleted, two each from the urban and suburban sites. In addition, 9 individual item responses were missing and were replaced by the mean of the adjacent scores (Polit, 2010). The remaining data had no more than one missing value. Descriptive statistics and box plots were evaluated. Low scoring outliers were present in two LSQ dimensions in Part 1, and four dimensions in Part 2. Outliers were considered for removal but the principal investigator (PI) decided to retain them in the analyses because the responses were considered to represent participant opinions, rather than errors.

Descriptive statistics were used to analyze site characteristics, demographic data, and to describe the sample. Pearson correlations were used to evaluate for significant relationships. Differences in participant characteristics and LSQ results between sites were evaluated using Chi Square and ANOVA with Tukey post hoc testing if indicated. Significance was set at $p < .05$ for all statistical evaluations.

Data management for focus groups included the audio recording of all focus groups and verbatim transcriptions. Transcripts were checked with interview recordings to ensure integrity of the data. The PI evaluated interview transcripts and field notes immediately after they were recorded and transcribed. All data were collected by the PI and transcribed by trained transcriptionists. All identifying information was excluded from the report so that confidentiality was maintained.

Chapter 4 Results

The purpose of this exploratory, descriptive study was to describe nurse and organizational factors that influenced professional labor support (PLS). To achieve this purpose, quantitative survey data were collected and qualitative focus groups and interviews were conducted. Study findings will be presented in four sections: (1) sample characteristics; (2) Labor Support Questionnaire (LSQ) reliability data; (3) summary of qualitative analysis of focus group and interview data; and (4) research questions answered through synthesis and triangulation of quantitative and qualitative data.

Research Questions

1. What are nurses' attitudes regarding labor support?
2. What are nurses' intended behaviors regarding labor support?
3. What barriers to practice do nurses identify that impact the support they provide?
4. What are the relationships between attitudes and behaviors within and between three Midwest hospitals?
5. What are the relationships between attitudes, behaviors, barriers, and nurse and unit characteristics?

Sample Characteristics

Nurses working at three different Midwestern hospital Labor and Delivery units were invited to participate in the study. Sixty of the 105 (57.14%) Registered Nurses employed on these units participated in the study and completed the Labor Support Questionnaire (LSQ; see Appendix B) and Demographics Survey (see Appendix D) via Survey Monkey. Eleven participants

(5, 2, 4 from the 3 sites respectively) attended the focus group/interview sessions.

Sample characteristics were evaluated for differences between sites using Chi Square and Analysis of Variance (ANOVA). There was a significant difference between groups for working with Certified Nurse Midwives (CNMs) $X^2(2) = 45.64$; $p = .00$; although 78.33% of participants had current experience working with CNMs. There were no other statistically significant differences between participant characteristics or their personal birth experiences between study sites; therefore sample characteristics will be reported in aggregate form (see Table 12).

Participants were 100% female, primarily white (91.67%), had a bachelor's degree in nursing (63.33%), and worked with CNMs (78.33%). They held varied roles including staff RN (35.33%), staff or patient education (36.76%), and many also worked in a head nurse role (25.8%). Nursing experience of the entire sample ranged from 1-37 ($M = 16.07$; $SD = 9.65$) years of total nursing experience, with a range of 1-34 years ($M = 10.98$; $SD = 8.35$) of experience on the current (Labor and Delivery) unit. Participants were from all age groups; the 40-49 year age group was most frequently represented (31.67%) at all sites.

Sample characteristics were similar to the United States national nursing statistics reported for the years 2008-2010 (United States Department of Health and Human Services, Health Resources and Services Administration [USDHHS, HRSA], 2013). The largest age group was 46-55; similar to participants' reported

Table 12

Sample Characteristics of Survey Respondents Across Sites

Characteristic	*N*	(%)	*M*	*(SD)*	Range
Gender					
Female	60	(100)			
Race					
White	55	(91.67)			
Black	2	(3.33)			
Asian	1	(1.67)			
Prefer not to answer	2	(3.33)			
Ethnicity					
Not Hispanic or Latino	57	(95)			
Hispanic	2	(3.33)			
Prefer not to respond	1	(1.67)			
Age					
20-29	6	(10.00)			
30-39	14	(23.33)			
40-49	19	(31.67)			
50-59	17	(28.33)			
60 or >	4	(6.67)			
Years of experience					
Total in all settings			16.07	(9.65)	1-37
On current unit			10.98	(8.35)	1-34
Role (% time spent in role)					
Staff RN			78.78	(35.33)	
Staff or patient education			24.36	(36.76)	
Head nurse			13.24	(25.80)	
Other			5.11	(15.35)	
Highest educational level					
Diploma	8	(13.33)			
Associate Degree	13	(21.67)			
BSN	38	(63.33)			
MSN	1	(1.67)			
Additional Qualifications					
Currently in school	5	(8.33)			
Continuing education for PLS	30	(50.00)			
Specialty Certifications	19	(31.67)			
Worked with CNM[a]	47	(78.33)			
Personal Birth Experiences[b]					
Gave birth	51	(85)			
Labor			2.74	(1.16)	0-5
Vaginal birth			2.61	(1.24)	0-5
Cesarean birth			.39	(.88)	0-4
Epidural			.65	(1.02)	0-4
Analgesics (non-epidural)			1.08	(.92)	0-3
Non-pharmacologic only			1.40	(1.25)	0-4

Note. [a]CNM: Certified Nurse Midwife, significant differences between sites, $X^2(2) = 45.64$, $p = .00$;
[b]Participants indicated the number of times experienced, including zero.

ages, although a direct comparison was not possible due to collection of ages for this study in ranges that differed from the national survey. There was a higher proportion of BSN prepared participants (63.3 *vs*. 44.6%), and a lower proportion from minority groups (5 *vs*. 33.1%) in the study sample when compared with national nursing demographic statistics (USDHHS, HRSA, 2013).

Participants' personal experiences with labor and birth also were evaluated. Fifty-one (85%) of the participants who completed the survey had given birth themselves. The mean number of labor experiences was 2.74 (*SD* = 1.16). Most births were vaginal deliveries (*M* = 2.61; *SD* = 1.24), and the participants utilized a variety of pain management strategies. The most commonly used strategy was natural birth with use of only non-pharmacologic measures for pain management (*M* = 1.40; *SD* = 1.25).

Labor Support Questionnaire Reliability

As previously discussed, the Labor Support Questionnaire (LSQ) was used in previous studies and had acceptable reliability (see Table 11, p. 71). In this study, Cronbach's alpha reliability (see Table 13) for Part 1 and 2, as well as the 6 individual dimensions, approached or exceeded acceptable levels (Polit, 2010). The addition of Question 28 to the Informational Support dimension negatively impacted internal consistency, indicating that it was not a statistical fit with that dimension, in spite of being a conceptual fit. Therefore Question 28 was not included in the scale analyses. Cronbach's alpha for Part 3, subjective norms, was below acceptable levels.

Table 13

Reliability for the Labor Support Questionnaire (LSQ)

LSQ Dimensions	Cronbach's Alpha		
	Part 1	Part 2	Part 3
Combined scale, all dimensions	.93 (.92)	.93 (.92)	.71
Labor support dimensions			
Tangible Support	.71	.75	
Advocacy	.81	.77	
Emotional Support: Reassurance	.73	.73	
Emotional Support: Creating Control, Security, and Comfort	.72	.67	
Emotional Support: Nurse Caring Behaviors	.76	.73	
Informational Support	.65 (.29)	.73 (.53)	
Perceived Behavioral Control			.63
Subjective (Social) Norms			.02

Qualitative Results

The analysis of qualitative data from the focus groups/interviews resulted in the identification of one major theme, 5 subthemes and 17 categories (see Figure 3). Through an intensive process of coding, recoding, and peer debriefings, the major theme, subthemes, and categories were identified. Each is presented in a table with sample focus group/interview participant quotes (see Table 14) and described in detail in the following sections. The theme, subthemes, and categories were used for data triangulation and to answer each of the research questions.

Qualitative Theme, Subthemes, and Categories

Women-centered labor support. Women-centered labor support formed a major theme because all focus group/interview participants talked about how this guiding philosophy had an important influence on their attitudes and intended labor support behaviors and interventions. Focus group/interview participants

stated that they used their knowledge and experience with labor support, and perceptions of what women wanted, as the basis for their interventions. They described important goals such as helping women have the labor experience they wanted, and the outcome of healthy mothers and babies. Subthemes and categories were identified within this major *women-centered labor support* theme (see Table 14).

Subthemes that were identified included *preparing women for labor and birth; using presence as a nursing intervention* including categories: *presence* and *nonpresence*; and *taking charge as a nursing intervention* with categories: *helping women regain co*ntrol, and *redirecting others to focus on women in labor*. Additional subthemes were identified regarding enablers and barriers to labor support. Enablers included categories: *valuing collaboration with others: nurse manager, peers, and providers*; and *education and experience*. Barrier categories that were identified included: *staffing adjustments, time-consuming documentation*, and *high-technology interventions*. Three categories, *doulas*, providers (*physicians*), and *birth plans*, were included as both enablers and barriers due to mixed focus group/interview participant responses. Each theme, subtheme, and category was italicized in the remaining sections to highlight how the qualitative data was used to answer the research questions.

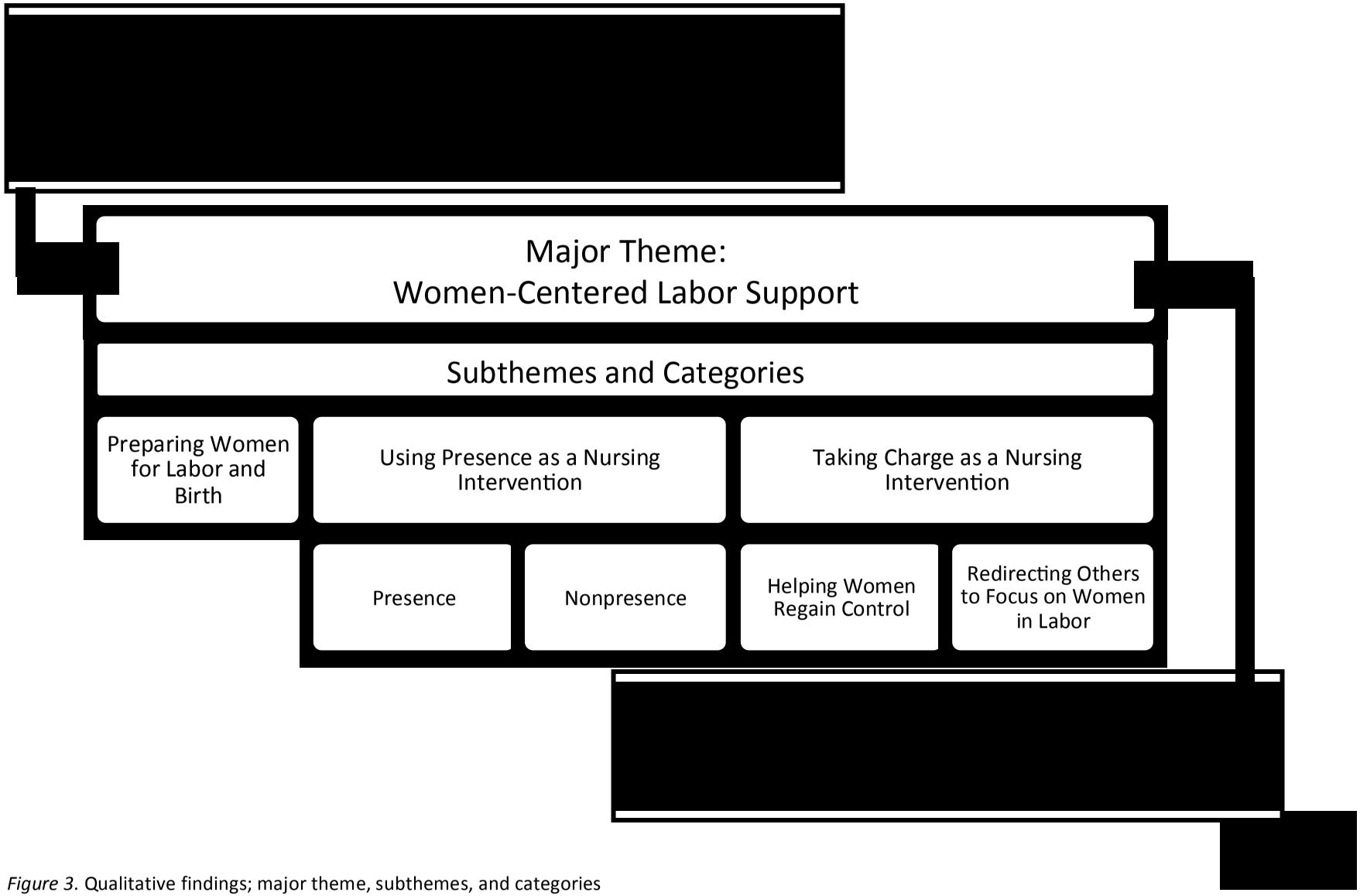

Figure 3. Qualitative findings; major theme, subthemes, and categories

Table 14

Women-centered Labor Support: Subthemes, and Categories

Major Theme	Subthemes	Categories	Selected Quotations
Women-centered Labor Support	Preparing women for labor and birth		I think that… one of my greatest skills and contributions is to realize that it is their experience; it's their birth experience. She's giving birth, we're not delivering the baby. I think it is really important because it empowers the woman and it keeps the focus where it needs to be. I think the most important thing is just being available to her and providing safe care and explaining things...being welcoming and answering her questions and just feel like you're enjoying caring for them, enjoying meeting them...making sure that they know who you are and really sup port them when they're in pain, before they get an epidural or pain medicines. Know that they can count on you. I think that what women want (from their labor nurse) is guidance on what is going on, what to expect. A lot of them don't educate themselves. They have no idea what's going to happen, especially the first-time baby. (For) the person without the epidural it's helping them (be) calm, helping and reassuring that things are ok, and they're going to get through, they're doing well, and encouraging; where with the epidural it's, is their condition stable because of all these interventions? Is their blood pressure okay? Is the baby tolerating these things okay? It's much more medical-like. It is about heling them get what they want, their ideal of what they think labor should be. And if they don't know what they want, it's to give them choices and options and to help them try to figure it out while they're laboring.

Major Theme	Subthemes	Categories	Selected Quotations
	Using presence as a nursing intervention		
		Presence	I think they want somebody to be with them at all times because they're afraid of what's going to happen. They want somebody there to hold their hand and not walk away.
		Nonpresence	When a woman has a lot of support I try to feel it out to see if I am interfering, do they want me in the room? And I talk to the patient frankly about it too. I will be here as much as you want me to be. I will step out if you need to spend time with your family. Let me know what you want...and they don't require the intense one-on-one nursing care with an epidural. They can rest if they have not been able to do that before.
	Taking charge as a nursing intervention		
		Helping women regain control	I talk them down; get into their face and calml tell them to breathe in and out and to stop screaming because it won't help...kind of get in their space with them and try to bring them back to center to just reassure them...this is normal, there's nothing wrong. Their baby is fine and healthy; they're fine and healthy. Let's take some slow breaths, slow the breathing down, relax between contractions, you're going to get a break in a minute.
		Redirecting others to focus on women in labor	They're having a party and she's struggling and they don't even care about what she's doing. You have to be more of an advocate for the patient then.
			I spend a lot of time educating family about things that they could do to help her. And then if dad has been really focusing and working hard, allow him to get something to eat. Making sure that they feel supported too.

Major Theme	Subthemes	Categories	Selected Quotations
	Enabling women-centered labor support	Valuing collaboration with:	
		-Nurse manager	We're very well staffed here and our boss is awesome. If we think we have a patient who does require more one-on-one care, our boss gives us the latitude within our staffing system to say we need some more help.
		-Peers	We are all working together to make sure the woman's experience is as close to the way she would like it to be...I feel that I can provide good (labor) support, especially with my co-workers. They all know how time-consuming it can be to give labor support. They will take up the slack that I am leaving in order for me to give good support.
		-Providers	I think our doctors that practice here are very open to our patients' wishes. They don't order things based on how they want things to go and so that makes it a lot easier for me to be the support person. The midwives are great, they're very open and encouraging, and even watching some of the midwives that like to stay in the room and do the labor support too, gives you some ideas.
		-Doulas	The doulas have been very respectful. They haven't tried to be the nurse. They've been the doula and the friend...and we've done more of the nursing tasks...they try at all costs to avoid any medical intervention.
		Birth plans	I like birth plans, we are one step ahead because they have already thought about it. Anytime I've been able to help a mom who comes in with a birth plan and we get to fulfill those wishes that's to me ideal and it's not always possible, but the closest you can get to things going the way mom kind of had planned in her head is really rewarding.
		Education and experience	I think the knowledge that I've gotten from different classes that I've taken, and experience, is what helps me be able to give good care.

Major Theme	Subthemes	Categories	Selected Quotations
	Barriers to labor support		
		Staffing adjustments	Probably the biggest barrier would be staffing assignments; if I am just staying in a room providing labor support, that could potentially put an extra strain on my colleagues.
		Time-consuming documentation	Charting is important. It's my least favorite thing to do. It hinders my interaction with patients but I know for legalities you have to have it.
		High technology interventions	We get caught up in the equipment, machines, and monitoring...with an epidural we settle them a bit and have them rest and sleep; then we leave them alone and sit at the desk and monitor them; it robs us of sharing this time with them.
			We have so many inductions and the doctors will say you aren't getting aggressive enough with the Pitocin, and the patient is waiting for the epidural and you kind of want to hold off for their sake and wait to turn up the Pitocin until that epidural is in and they are comfortable.
		Physicians	Physicians often do not support our efforts...they are quick to offer and encourage epidurals, often for their own convenience and not the patient's best interests.
		Doulas	While the doula is oftentimes very helpful, there are times when she has interfered with my ability to et up my own relationship with the patient and made me feel like I was vying for that labor support role. It's awkward.
		Birth plans	It depends on how extensive the birth plan is. They have these long, elaborate birth plans and you can't do a lot of it; they go out the window probably five minutes after they get here because we've broken a bunch of their rules already; some of the birth plans are like Murphy's Law, setting yourself up for failure because you're so rigid in what you want, that they are not necessarily a good thing.

***Preparing women for labor and birth*.** The focus group/interview participants frequently described their interest in making sure that women were prepared for labor and birth. They provided laboring women with education about procedures, available birth and labor options, and what to expect during the labor experience.

Presence as a nursing intervention. Another subtheme frequently discussed was being present with women during labor. The focus group/interview participants described deliberate choices about whether or not to be in the room with women based on their needs and assessment. According to focus group/interview participants' explanations, both presence and non-presence were utilized as nursing interventions.

Presence. Focus group/interview participants used presence as an opportunity to provide direct care as a component of their labor support. Many of them reported that they enjoyed being with women and developing a connection with them. Some focus group/interview participants explained that there was a benefit to having a connection with women before labor became too painful and before women were at risk of losing control.

Non-presence. Focus group/interview participants also described using non-presence as an intervention so that laboring women could rest and regain their strength for pushing. Usually, non-presence was associated with women who had epidurals or large support groups who were supporting them effectively. It appeared that focus group/interview participants did not stay in the room when

women, in their view, did not seem to want them present, or with women who had epidurals so that they could rest.

Taking charge as a nursing intervention. Focus group/interview participants described stepping in to help women regain control which may have been threatened by feelings of discomfort, emotional response, or interactions with significant others in the room. It involved the focus group/interview participant directing women's coping efforts and guiding significant others' efforts to support her until she regained strength and control.

Helping women regain control. During focus groups/interviews, participants talked about women experiencing significant pain and sometimes losing control. They described several nursing interventions they used in these situations, and they all included some form of specific directions and coping instructions. Focus group/interview participants commented that they would see that women were not coping well and then would become highly directive in an effort to help them regain control and to improve comfort.

Redirecting others to focus on women during labor. Focus group/interview participants also described the need to become highly directive when people in the room with women, usually by their choice, were behaving in such a way as to not be supportive. Then, focus group/interview participants talked about interacting with the significant other, family members, or friends, and redirecting them, so that women's needs during labor and birth would be met.

Enabling labor support. Focus group/interview participants at each site described similar fundamental elements needed for them to be able to provide

excellent support and meet the needs of women in labor. Examples of these necessary elements included *valuing collaboration* with other professionals such as the *nurse manager, peers*, *providers, and doulas*; *birth plans*; and *education and experience*.

Valuing collaboration: Nurse managers*.* Almost everyone who participated in the focus groups/interviews commented on their appreciation of the nurse manager's role in facilitating labor support. Specifically, focus group/interview participants stated that they appreciated the manager's efforts towards meeting the goal of 1:1 nurse to patient ratios for women in labor. Focus group/interview participants also recognized the challenges managers faced with staffing the unit adequately, but understood that they were advocating for staffing that would meet nurse and unit needs.

Valuing collaboration: Peers*.* Participants in the focus groups/interviews described the importance of teamwork, especially when the unit was busy and admissions arrived. They talked about working together to meet patient needs and how this facilitated labor support.

Valuing collaboration: Providers (physicians and CNMs). Focus group/interview participants' comments about providers varied, but most were positive and demonstrated trust and a shared focus on women's labor and birth experiences. Participants in the focus groups/interviews stated they believed that *physicians* trusted their assessments and suggestions. *CNMs* practiced at two of the sites and focus group participants regarded *CNMs* positively because they would spend time in women's rooms while they labored. Focus

group/interview participants also stated that the shared goals of healthy mothers and babies promoted positive relationships between them and the *providers; physicians*, and *CNMs*.

***Valuing collaboration: Doulas*.** Most focus group/interview participants described the positive impact of doulas. Focus group/interview participants viewed them as enabling labor support through being supportive to women using natural childbirth methods, and when they did not interfere with focus group/interview participants' nursing responsibilities.

***Birth plans*.** *Birth plans* were considered as enabling labor support because they showed that women had thought about their labor and birth options prior to the onset of labor. Focus group/interview participants stated that *birth plans* usually included strategies that were compatible with the site's usual care. Additionally, participants expressed feelings of fulfillment when women experienced labor and birth according to the wishes in their *birth plans*.

Education and experience. The importance of *education and experience* was recognized during focus groups/interviews. Focus group/interview participants stated that *education and experience* enabled them to provide appropriate labor support. Their own *education and experience* helped them trust their decisions about labor support interventions, and to know when to advocate for patients with physicians. Focus group/interview participants also described physician's trust in them as professionals because of their experience, as was previously mentioned.

Barriers to labor support. Focus group/interview participants identified several factors that interfered with the support that they provided to women in labor. These included *staffing adjustments, time-consuming documentation*, and use of *high technology interventions* in labor. *Physicians, doulas,* and *birth plans*, previously described as enablers, also acted as barriers to labor support.

Staffing adjustments. Nurse managers made an effort to ensure adequate staffing as noted previously but the focus group/interview participants described sometimes feeling overwhelmed when staffing goals were not met. Most focus group/interview participants said that they typically had 1:1 nurse-patient ratios for laboring patients. However, with admissions and changes in patient condition, sometimes that goal was not possible. When the staffing goal was not met, focus group/interview participants stated that it impacted labor support because their additional responsibilities reduced the time available to spend with laboring women.

Time-consuming documentation. Another barrier that was frequently identified in focus groups/interviews was the issue of spending time on documentation that took away from time spent on labor support. Focus group/interview participants recognized the importance of accurate documentation but were frustrated with the length of time it required. While two units utilized paper charting and one was in the process of converting to an electronic health record, focus group/interview participants from all sites identified documentation as a barrier to labor support.

High technology interventions. Technology impacted several areas of labor support for focus group/interview participants. They identified high technology intrapartum interventions, such as epidurals, manipulated the labor process. Therefore high tech interventions required, in their views, adjustments in labor support provided. Focus group/interview participants acknowledged that high tech interventions took the focus away from women coping with their labor and shifted it to a medical focus of evaluating their response to, and babies' tolerance of, labor. More frequent evaluations of vital signs were necessary, and women with epidurals typically remained in bed, limiting labor support strategies that focus group/interview participants may have chosen to promote labor. Epidurals influenced the amount of time participants spent with the patient, as described earlier, because the patient was comfortable. Focus group/interview participants said they did not need to use their creativity to help women with epidurals because pain had been controlled and therefore was no longer the priority of care. Use of *high technology interventions* was negatively described by all but one focus group/interview participant, who remarked that she relied on the fetal heart tracing to know how the baby was doing on a continual basis. Both perspectives required adjustments to care related to use of technological advances in labor support.

***Physicians*.** *Physicians* also were viewed as a barrier to labor support by focus group/interview participants, because they ordered use of various forms of technology. Further, focus group/interview participants viewed these interventions as often used for the convenience of the *physician*. Focus

group/interview participant comments reflected *physicians* as barriers to labor support, primarily related to the use of high technology to manage or manipulate labor and the *physicians'* lack of appreciation for nurses' roles in labor support.

Doulas. While most focus group/interview participants described positive relationships with *doulas*, several also indicated that they interfered with their labor support. Relationships between participants and *doulas* were sometimes awkward and some labor support responsibilities were not clearly differentiated. Focus group/interview participants expressed concern about *doulas* interfering with their ability to establish relationships with women in labor. They perceived that *doulas* sometimes tried to "be the nurse."

***Birth plans*.** Participants in focus groups/interviews also expressed mixed feelings about *birth plans*. They described women who had *birth plans* as being more likely to have interventions they did not choose because their *birth plans* were too restrictive. *Birth plans* were viewed as "bad luck" for the labor and as predictors of interventions, including cesarean delivery.

Summary of Qualitative Findings

Focus group/interview participants shared a lot of detail about their experiences while working in the labor and delivery setting. The major theme of *women-centered labor support* dominated most of the information shared by participants. Importance was placed on making sure *women were prepared*, on interventions such as *presence* or *nonpresence*, and *taking charge: helping women regain control,* and *redirecting support people to focus on the woman in labor*. Participants worked within a system that enabled them to provide expert

labor support through *nurse manager, peer, provider*, and *doula* support, and women's use of *birth plans*. Yet, barriers to labor support such as *staffing adjustments, documentation,* and *high technology* also were present. In addition, although *physicians, doulas,* and *birth plans* were considered *enablers of labor support*, they also acted as *barriers*.

The quantitative LSQ findings were triangulated with the major qualitative theme, subthemes, and categories to answer the research questions. Data from both sources also were evaluated for areas of consistency and inconsistency in describing labor support.

Research Question 1: What are nurses' attitudes regarding labor support?

Quantitative Findings

Participants' attitudes regarding the importance of professional labor support (PLS) behaviors were evaluated through responses to questions in Part 1 of the LSQ (see Table 15). The mean item scores are presented and provided a consistent comparison because they are all based on the same 0-5 Likert-type scale. Most items had high scores and limited variability.

Participants provided the highest ratings to the LSQ dimensions, Emotional Support: Nurse Caring Behaviors and Informational Support (see Table 3, p. 14 for definitions of the LSQ dimensions). Tangible Support was the lowest rated LSQ dimension, but the item mean was high, indicating it was still important. Item number 28, added to evaluate the participants' care of women

following an epidural received the lowest rating and had a wide range of responses, including several ratings of zero.

Table 15

LSQ Part 1 Attitudes: Importance

LSQ and Dimensions	Item Mean (*SD*)
Part 1 total score	4.68 (.29)
Labor support dimensions	
Emotional Support: Nurse Caring Behaviors	4.85 (.37)
Informational Support	4.82 (.39)
Emotional Support: Creating Control, Security, and Comfort	4.76 (.49)
Emotional Support: Reassurance	4.72 (.53)
Advocacy	4.71 (.51)
Tangible Support	4.41 (.86)
Q28	3.95 (1.23)

Note: possible range on scale = 0-5

Qualitative Findings

Women-centered labor support was the major theme of the qualitative comments (see Table 14). This theme highlighted values and attitudes held by focus group/interview participants that the experiential aspects of labor and birth were a goal that was viewed as important to the outcome of healthy mothers and babies. Focus group/interview participants described the importance of individualizing labor support based on their perceptions of women's wants or needs in keeping her as central to the process of labor and birth. However, there were mixed attitudes expressed about women's *birth plans*, a potential contradiction to the focus on *women-centered labor support*.

The subtheme of *preparing women for labor and birth* through providing information and support was clearly linked to the importance of women-centered care. The subtheme of *presence as a nursing intervention* was central to meeting women's expectations of intrapartum care in the hospital settings. Finally, the subtheme of *taking charge as a nursing intervention* revealed the importance of helping women regain control when they were at risk of losing it, and interacting with support people to keep the focus on women and their labor experience. In the words of one focus group/interview participant,

> *It is important for women to have the kind of delivery they want; if they want to stay in bed that's fine; if they've not had any education and have preconceived ideas about what to expect...I try to get through to them; they want to know the truth, to be prepared, and to know what is going to happen.*

Attitudes expressed in the subtheme *using presence as a nursing intervention* were distinctly different when the participants were speaking of labor support for women who labored with epidurals. Focus group/interview participants more often described the importance of *nonpresence,* leaving women alone to rest following the initiation of epidural analgesia. In addition, attitudes regarding the importance of behaviors shifted from support and reassurance, to the medical and/or monitoring aspects of the epidural. A number of the focus group/interview participants described leaving women alone to rest. As one participant stated,

> *Epidurals are much easier; when women have more control and they feel like they are in more control of their bodies; they are relaxing and want to sleep and rest so we are not at the bedside as much.*

Triangulation

Importance ratings for the LSQ Part 1 related to attitudes towards labor support. They were clearly reflected in the major theme, *women-centered labor support;* and the subtheme, *preparing women for labor and birth.* The relatively low rating of the Tangible Support LSQ dimension, which included an item about the importance of presence, corresponded with the use of *nonpresence* that was frequently described by focus group/interview participants. The LSQ did not include any items that represented the subtheme *taking charge as a nursing intervention,* or the categories *helping women regain control* or *redirecting others to focus on women in labor.*

Attitudes towards *birth plans,* a category of both the *enabling labor support* and *barriers to labor support* subthemes, were measured in the LSQ Advocacy dimension. While the score for the dimension was high, it was the second lowest-rated dimension for importance; in agreement with the varied attitudes towards importance expressed by focus group/interview participants.

Participant attitudes regarding labor support were different for women who had epidurals and also were reflected in the subthemes *presence as a nursing intervention*; and *high-technology interventions,* and the category *birth plans* as part of the *barriers to labor support* subtheme. Findings from the LSQ were consistent with themes derived from focus groups/interviews and indicated a lower importance of support behaviors for women who used epidurals for pain management during labor.

Summary of Research Question 1

Participants' attitudes regarding professional labor support clearly focused on the importance of *women-centered labor support*. Fundamental components included *preparing women for labor and birth, using presence as an intervention, and taking charge: helping women retain control of the labor process* and *redirecting others to focus on them.* Attitudes were impacted by women's use of epidurals for pain control. Support was considered less important for those women because they were not in pain and due to the participants' perception that they needed to rest. Participants' attitudes towards tangible support indicated that it was least important to participants for women with or without epidurals.

Research Question 2: What are Nurses' Intended Behaviors Regarding Labor Support?

Quantitative Findings

Part 2 of the LSQ focused on the intended use of specific labor support behaviors. As shown in Table 16, behavioral intent was highest in the LSQ dimensions Emotional Support: Nurse Caring Behaviors and Informational Support. These findings were consistent with participants' ratings of attitudes towards the importance of LSQ dimensions as described in the prior section. The lowest rated LSQ dimensions were intent to provide Tangible Support and Advocacy, consistent with respondents' LSQ importance rating for these two dimensions. Participants also gave low ratings to item #28 (several of them gave it a zero), indicating limited intent to provide labor support to women with epidurals.

Table 16

LSQ Part 2 Intended Use

	Item Mean (*SD*)
Part 2 total score (SD)	4.54 (.40)
Labor support dimensions	
Emotional Support: Nurse Caring Behaviors	4.77 (.48)
Informational Support	4.71 (.49)
Emotional Support: Reassurance	4.64 (.60)
Emotional Support: Creating Control, Security, and Comfort.	4.61 (.65)
Tangible Support	3.29 (1.05)
Advocacy	2.18 (.62)
Q28	3.77 (1.35)

Note: possible range on scale = 0-5

Qualitative Findings

Women-centered labor support, the major qualitative theme, also was represented in the focus group/interview participant descriptions of intended behaviors, or their plans to use interventions, when providing labor support. Focus group/interview participants explained that they intended to provide individualized labor support based on their assessment and perception of women's needs or requests. Intended behaviors also included honoring women's birth plans, in keeping women central to the entire process.

Focus group/interview participants' description of their intent to provide information to women and their families represented the subtheme of *preparing women for labor and birth*. For example, they stated that they intended to provide women with broad information about the labor and birth process, including labor and birth options, and answered questions in order to give women more control over their experience.

The subtheme *using presence as a nursing intervention* was clearly related to intent to provide labor support. For example, presence provided the opportunity to *prepare women for labor and birth,* and to *take charge* when the focus group/interview participants perceived that women needed to *regain control* or when support people needed *redirection to focus on women in labor*. A focus group/interview participant said,

> *I teach the women (in labor) and refer to the take charge routine they are taught in childbirth classes; getting close to the mom, eye contact, at their level, soft spoken, but firm enough to calm and reassure her about herself and baby.*

Focus group/interview participants were asked directly about intended behaviors associated with being a patient advocate. They described following women's birth plans, supporting their decisions, speaking on women's behalf, and maintaining the women-centered focus of the labor experience. One focus group/interview participant described intended advocacy behaviors by stating the following,

> *I like to advocate for patients that they have a right to ask what the intervention is, if it is urgently necessary, and empower the patient that she has the right to say no; sticking up for the patient, advocating with visitors, and directing things in the patient's best interests.*

Focus group/interview participants explained that intended behaviors represented by the subtheme *using presence as a nursing intervention* were clearly different for women who labored with epidurals. *Nonpresence* was frequently the intended behavior because focus group/interview participants perceived that women were comfortable, and could rest in preparation for pushing. The emphasis of intended behaviors also shifted from support and

reassurance to the medical aspects of the epidural. As one focus group/interview participant commented,

> *Without an epidural I am at the bedside more often, more hands on, touching them, helping them get through contractions, encouraging them; with an epidural they are relaxing and we can be a little more hands off, settle them a bit and have them rest.*

Triangulation

The intended use ratings for the LSQ Part 2 were clearly related to the qualitative findings including the major theme *women-centered labor support,* and subtheme *preparing women for labor and birth*. *Using presence as a nursing intervention* was addressed by one LSQ item, in the Tangible Support dimension; presence was referred to as companionship. Low ratings on the Tangible Support LSQ dimension were compatible with frequent mention of nonpresence in focus group/interviews. The subtheme, *taking charge as a nursing intervention* was not represented in the LSQ items, so it was not evaluated quantitatively.

The lowest scoring LSQ dimension, Advocacy, included items about intended behaviors in following birth plans. The low rating on the LSQ Advocacy dimension was inconsistent with focus group/interview participants' descriptions of their intent to follow and support women's birth plans. In addition, when asked specifically about advocacy, focus group/interview participants described it as going beyond following birth plans, to maintaining the women-centered emphasis throughout the intrapartum experience

Intended use of labor support behaviors represented by *using presence as a nursing intervention* was different for women who used epidurals for pain

management during labor. Survey and focus group/interview participant responses corresponded and indicated a lower intent to use labor support behaviors for women using epidural anesthesia.

Summary of Research Question 2

Participants' intended behaviors regarding professional labor support promoted *women-centered labor support* and represented the subthemes *preparing women for labor and birth, using presence (or nonpresence) as a nursing intervention, and taking charge as a nursing intervention*. Participants' intended behaviors towards women who had birth plans were unclear because qualitative and quantitative data were contradictory. Intended labor support behaviors were different for women with epidurals, focusing more on medical monitoring and rest. Participants' intent to use tangible support behaviors was consistent with the subtheme *nonpresence* for women with or without epidurals.

Research Question 3: What barriers to practice do nurses identify that impact the support they provide?

Quantitative Findings

Analysis of responses to Part 3 of the LSQ, as shown in Table 17, revealed that most of the participants perceived barriers to professional labor support. Perceived Behavioral Control (PBC) indicated personal or environmental factors that impacted care participants were able to provide and included paperwork and staffing. Other barriers, supportive care not valued by the client or peers, were elements of perceived social norms on the unit.

Perceived social norms indicated participants' perception of the value others place on professional labor support.

Participants also had the option of adding written comments in the online LSQ survey about additional barriers that they experienced. Comments were consistent with those identified in the following section on qualitative results, and focused on staffing, physicians, documentation, high technology interventions, doulas, and birth plans. In addition, two comments were included that supported

Table 17

LSQ Part 3: Barriers to Providing Labor Support

Participants responding "yes"	N	%
Barriers present	41	68.3
Perceived Behavioral Control		
Paperwork	34	56.7
Staffing	31	51.7
Lack of experience	0	0
Perceived Social Norms		
Supportive care not valued by client	10	16.7
Supportive care not valued by peers	5	8.3
Supportive care not valued by manager	0	0

perceived social norms as barriers. One comment indicated that charge nurses did not value participants' labor support efforts, and the other indicated that young nurses do not spend time in the room with women during labor.

Qualitative Findings

Barriers to labor support described by focus group/interview participants included *staffing adjustments, time-consuming documentation, high-technology interventions, physicians, doulas, and birth plans. Staffing adjustments* was the

most commonly described barrier and occurred primarily when the unit was busy and unexpected admissions arrived. *Time-consuming documentation* was recognized as important, but focus group/interview participants described it as taking time away from labor support for women. *High-technology interventions* such as epidurals changed the focus of labor support to medical monitoring that was important following an epidural. Focus group/interview participants described three items as both barriers and enablers; *physicians, doulas,* and *birth plans*. Perceptions varied due to specific behaviors and characteristics. For example, *physicians* created *barriers to labor support* through their lack of appreciation of nurses, and ordering *high technology interventions*. However, physicians' trust in the focus group/interview participants' knowledge and judgment was an example of how they enabled labor support. Focus group/interview participants described barriers to labor support as follows.

> *Sometimes physicians want things to go a bit quicker than what nature intended; for providers who are more intervention-driven, there is less time for labor support because you are...dealing with all of the intervention cascade that comes with an aggressive management style.*
>
> *Paperwork is a barrier; you spend two minutes with your patient and three hours writing about it.*

Triangulation

Participants' responses on the LSQ items and written comments on barriers on the LSQ were consistent with focus group/interview findings. Barriers identified in the analyses included *staffing*, *paperwork*, *physicians*, *doulas*, and *birth plans*. PBC elements, *staffing* and *paperwork*, were clearly identified as barriers in both qualitative and quantitative data. The LSQ perceived social norm

components (labor support not valued by client or peers) also were identified as barriers in written comments on the LSQ. Focus group/interview participants described *physicians*, *doulas*, and *birth plans* as both *barriers* and *enablers* of labor support.

Summary of Research Question 3

Barriers to labor support included *staffing, documentation,* and *high technology interventions*. *Physicians* and *doulas* were perceived as both *enablers* and *barriers to labor support*, depending on the specific situation and interactions with focus group/interview participants. *Birth plans* also were perceived as *enablers* and *barriers*; with restrictive birth plans described as a predictor of interventions, such as epidurals and cesarean deliveries. *Staffing* and *documentation*, two of the PBC elements, were the most common barriers identified by participants. Labor support not valued by patient or peers, two elements of perceived social norms, were less frequently identified as barriers.

Research Question 4: What are the relationships between attitudes and behaviors within and between three Midwest hospitals?

Quantitative Findings

One-way ANOVA was conducted to examine differences in participants' responses on the LSQ, based on hospital site. There were no statistically significant differences between participants' hospital affiliation for total LSQ score or for any of the scale dimensions for Parts 1-3. Due to small and disparate sample sizes and lack of differences in sample characteristics and survey responses between sites, groups were combined for the remaining statistical

analyses to take advantage of the larger sample size and improve validity (Polit, 2010). Due to small and dissimilar sample sizes, within site differences were not assessed.

In each setting the responses to items on Part 1 and Part 2 of the LSQ were directly related. There was one exception. The LSQ dimension Advocacy was rated highly for attitude towards importance yet it received the bottom rating for intended use. As was previously described, the Advocacy dimension focused on participants' attitudes towards the importance and intended use of birth plans.

Qualitative Findings

Focus group/interview participants at the three sites shared details about their attitudes and intended behaviors regarding professional labor support in similar ways. Qualitative data analysis and comparison of responses revealed that attitudes and behaviors expressed by focus group/interview participants were similar across sites. The major theme of *women-centered labor sup*port was evident in all focus group/interviews, as were the subthemes, *preparing women for labor and birth*, *using presence as a nursing intervention*, and *taking charge as a nursing intervention*. However, focus group/interview participants at all sites provided mixed descriptions of *birth plans*. Focus group/interview participants described negative attitudes towards birth plans but explained that they usually followed them as part of women-centered labor support. Attitudes and intended behaviors were related as described by a focus group/interview participant,

One-on-one interaction is the most important; women lead us to what they want during labor and we work hard to make it what women would like.

Birth plans usually are not good but it depends on how extensive it is. We try to follow them as best we can but mom and baby safety come first.

Triangulation

Labor support behaviors that were rated highly regarding attitudes toward their importance, also were rated highly for behavioral intent both in LSQ ratings and descriptions during focus groups/interviews. Attitudes and behavioral intent regarding the LSQ dimension Advocacy were an exception. The LSQ dimension Advocacy received a high rating for attitudes towards importance, and a low rating for behavioral intent. Focus group/interview participants' remarks reflected the opposite relationship. During focus groups/interviews, participants described more negative attitudes towards the importance of birth plans, but remarked that they usually honored birth plans as part of women-centered labor support.

Summary of Research Question 4

Attitudes and intended behaviors were similar on the LSQ and verified by focus group/interviews across the three hospital settings. There was a direct, positive relationship between attitudes towards importance of labor support behaviors and behavioral intent for using them for labor support, with the exception of the LSQ dimension Advocacy. Inconsistencies in quantitative and qualitative data highlighted participants' diverse attitudes and intended behaviors regarding Advocacy and birth plans.

Question 5. What are the relationships between attitudes, behaviors, barriers, and nurse and unit characteristics?

Quantitative Findings

Because there were no statistically significant differences between sites for attitudes, behaviors, barriers, and participant characteristics, these variables were aggregated to combine the findings from all sites. Pearson correlations were then performed on the aggregate data to evaluate the relationships between participant characteristics, and variables measured on the LSQ: attitudes, intended behaviors, and barriers.

Attitude towards the importance of Advocacy dimension behaviors was positively correlated with the participant being currently enrolled in school (r (48) = .31, p = .01), as well as the participant's use of analgesics during her own labor (r (48) = .36, p = .01). Importance of Tangible Support also was positively correlated with participants' use of analgesics during her own labor (r (48) = .34, p = .02).

Intent to use behaviors in the LSQ dimensions Tangible Support (r (45) = .43, p = .00), Emotional Support: Reassurance (r (45)= .36, p = .01), and Informational Support (r (45) = .31, p = .04) were directly correlated with the participant's use of only non-pharmacologic pain management during her own labor. Intent to use Tangible Support also was positively correlated with participants' personal birth experiences, including number of labors (r (50) = .29, p = .04), vaginal births (r (49) = .31, p = .03) the participant herself experienced, and use of analgesics during her own labor (r (48) = .33, p = .02).

Direct correlations were identified with participants' perception of barriers to labor support in her current work setting. Participants' personal birth experiences, including use of epidurals (r (48) = .32, p = .03), or use of only non-pharmacologic measures (r (45) = .34, p = .02) during labor, current employment experience with CNMs (r (60) = .34, p = .01), and interest in participating in the research focus groups (r (58) = .36, p = .01) were associated with increased perception of barriers to labor support. An inverse correlation was found between perceptions of barriers to labor support and participants' current enrollment in school (r (59) = -.31, p = .01). Participants from two sites were currently enrolled in a BSN (3), or graduate degree (2) program.

Qualitative Findings

Focus group transcripts were reviewed by site for relationships between attitudes, intended behaviors, and barriers. Comparisons were not performed on nurse characteristics because they were not collected during focus groups/interviews. There were no differences found in qualitative data when compared by site. The major theme of *women-centered labor support*, and the subthemes, pr*eparing women for labor and birth, using presence as a nursing intervention*, and *taking charge as a nursing intervention* were clearly evident in remarks during focus groups/interviews at all sites.

Additionally, focus group/interview participants described similar barriers and included the subthemes *staffing adjustments*, *time-consuming documentation*, and *high technology interventions*. Enablers of labor support also were similar and included *valuing collaboration with nurse managers*, *peers*,

and *providers, and education and experience.* Categories that were both enablers and barriers also were similar at all three sites and included *physicians*, *doulas*, and *birth plans*.

Two focus group/interview participants described the impact of their own personal experiences on their attitudes and intended behaviors towards labor support. They stated:

> *I try to make sure that people get what they want in a safe way… it's important for the woman to have the experience she would like; because I remember it was important to me.*
>
> *Patients are so much more at ease when they have their family nearby. I know I wanted my husband there with me.*

Triangulation

Attitudes and intended use of behaviors, and perception of barriers to labor support, as measured by the LSQ, were most often correlated with participants' own personal birth experiences. Focus group/interview responses were consistent across sites. However, only two focus group/interview participants described the influence their own personal birth experiences had on their attitudes and intended behaviors regarding professional labor support. Correlations revealed through the quantitative analysis, perception of barriers to labor support, and current experience with CNMs, willingness to participate in focus groups, and the inverse correlation with current enrollment in school, were not discussed during the focus groups/interviews.

Summary of Research Question 5

The relationships between attitudes, intended behaviors, and barriers; and nurse and unit characteristics, were primarily related to participants' own personal birth experiences. However, the importance of personal birth experiences was only briefly recognized during focus groups/interviews. Perception of barriers was influenced by current work experience with CNMs, willingness to participate in focus groups, and inversely related to current enrollment in school. Additional information about those relationships was not retrieved during the focus groups/interviews, and details about them remained unclear.

Summary of Findings

Women-centered labor support was the major theme revealed in this mixed-methods study of PLS. Sixty labor and delivery nurses from three different hospital settings in the Midwest participated in the quantitative phase and completed the LSQ online. Eleven of them also participated in focus groups/interviews that were held at each site. Data triangulation revealed that attitude and intent to use behaviors represented by Labor Support Questionnaire (LSQ) dimensions Emotional Support: Nurse Caring Behaviors and Informational Support were extremely important and almost always used by participants. These LSQ dimensions were congruent with the major theme, *women-centered labor support*, and subthemes, *preparing women for labor and birth, using presence as a nursing intervention, and taking charge as a nursing intervention*.

Participants rated the LSQ dimension Tangible Support behaviors lowest in importance, also consistent with focus group/interview participant responses. Focus group/interview participants described regular use of *nonpresence* and rarely mentioned specific efforts to meet women's physical needs during labor. Participants' low rating on the LSQ for intended use of Advocacy was inconsistent with the major qualitative theme, *women-centered labor support*. Participants' attitudes and behaviors regarding professional labor support were significantly correlated with the participants' own personal birth experiences. However, only 2 of 11 participants discussed the impact of their birth history on their intrapartum care. Perception of barriers to PLS also was directly correlated with personal birth experiences, enrollment in school, current work experience with CNMs, and willingness to participate in focus group meetings. However, those relationships were not explored during focus groups/interviews.

Conclusions

The major theme of this study, *women-centered labor support* was revealed through data triangulation. W*omen-centered labor support* was impacted by several factors, including participants' personal experiences with labor and birth. Ratings were consistent for Part 1 and 2 of the LSQ. The LSQ dimensions given the highest ratings for Part 1, attitudes towards importance, also were given the highest ratings for Part 2, behavioral intent. The qualitative data supported these findings. The lowest rated LSQ dimensions also were consistent for importance and intended use. However, intent to use advocacy, the lowest rated LSQ dimension, was not compatible with qualitative data. There

were no significant differences in nurse characteristics, attitudes, and intended behaviors across hospital sites. Similar barriers to PLS also were present. The major qualitative theme *women-centered care* appeared to influence participants' attitudes and intended behaviors toward labor support at all study sites.

Chapter 5 Discussion

Nurses have the potential to impact labor experiences and outcomes through the professional labor support they provide women. Studies have shown that support from a non-nurse during labor may improve outcomes, such as fewer epidurals, cesareans, and other interventions (Hodnett et al.. 2012). The same benefits have not been identified in the literature when nurses provided labor support. Therefore, to better understand reasons for the discrepancy between outcomes based on source of labor support, increased knowledge is needed about intrapartum nursing care and elements that may influence care provided.

The purpose of this study was to describe intrapartum nurses' attitudes and behaviors regarding professional labor support and correlated factors. Findings following data triangulation revealed that attitude and intent to use behaviors represented by Labor Support Questionnaire (LSQ) dimensions Emotional Support: Nurse Caring Behaviors and Informational Support were extremely important to participants. Tangible support behaviors were ranked last in importance and intended use, a fit with focus group/interview responses that did not frequently include mention of specific efforts to meet women's physical needs during labor. Participants' low rating for intended use of Advocacy was inconsistent with the qualitative data that supported the focus on women-centered care, meeting their needs, and an appreciation for birth plans. Nurses' attitudes and behaviors regarding professional labor support were significantly correlated with participants' personal birth experiences. Perception of barriers to

PLS were correlated with personal birth experiences, as well as current enrollment in school, current work experience with Certified Nurse Midwives (CNMs), and willingness to participate in focus group meetings.

This chapter is organized into six sections. The first section includes interpretation of findings and comparison to previous research, organized by research question. Next, (2) integration and fit with the theoretical framework, (3) clinical significance of the findings, and (4) implications for nursing practice, research, and education will be presented. Limitations of the study (5) and suggestions for future research (6) also are presented.

Interpretation of Findings

Research Question 1: What are nurses' attitudes regarding professional labor support?

Research Question 2: What are nurses' intended behaviors regarding professional labor support?

Participants' attitudes and intended behaviors were discussed together in one section because they were so closely related. Participants' attitudes and intended behaviors regarding professional labor support were women-centered and emphasized providing women with the experience each wanted. Priorities included *preparing women for labor and birth*, *using presence* (or *nonpresence*), and *taking charge* when needed, all with the goal of good outcomes including healthy mothers and babies.

Participants' emphasis on women-centered labor support in this study was consistent with findings of prior research. Bowers (2002) found that women expected caring and emotional support during labor in the form of presence,

emotional support, and relevant information about the labor process. Findings from a Delphi study also revealed nurses' priority of meeting women's expectations with the ultimate goal of healthy mothers and babies (Miltner, 2000). When a laboring woman experiences a complexity or technologic intervention, the priority of meeting her expectations of labor support may be in conflict with the needs of the nurse to focus on the health of women and their babies. Both were important for participants in the current study. Specific information about how intrapartum nurses prioritized labor support was not collected for this study, but may have clarified participants' opinions and intentions, and how they would deal with such conflicts.

Inconsistencies in the data were identified when comparing participants' survey and interview responses regarding advocacy. Participants in this study indicated negative attitudes through low ratings on items within the LSQ dimension advocacy that focused on birth plans. Negative opinions about birth plans also have been found in other nursing studies (Carlton, Callister, Christiaens, & Walker, 2009). Comments in focus groups/interviews were mixed, but the majority of participants praised birth plans rather than criticized them. The differences between LSQ responses and focus group/interview remarks may have been due to higher representation in focus groups/interviews of participants who had positive attitudes towards birth plans. Responses to interview questions may have been biased due to the presence of the interviewer (Polit & Beck, 2010). Other potential explanations included participants feeling more comfortable being honest on the anonymous online LSQ survey. However,

privacy may add to validity (Hulley, Cummings, Browner, Grady, & Newman, 2007), meaning that questionnaire responses may have better reflected participants' honest opinions. Due to inconsistencies in the data, participants' opinions about the importance and intended use of birth plans and advocacy (as defined by the LSQ) were unclear.

Focus group/interview participants also were asked directly about advocacy. They described supporting women's decisions, speaking on their behalf if needed, and maintaining the women-centered focus of labor experiences, as well as following birth plans. These responses differed from participants' LSQ responses for this dimension, indicating that focus group/interview participants' interpretation of the meaning of advocacy may have varied from the LSQ. Expert nurses, acting as the woman's advocate while providing labor support, let the woman be in charge of her own labor (James, Simpson, & Know, 2003). Findings from this study suggest that in terms of labor support, advocacy went beyond birth plans and focused on women's entire intrapartum experience.

Human presence was a key factor for improving outcomes, as identified by Hodnett et al. (2012) in a systematic review of labor support. Specifically, improvements in benefits from labor support increased as the length of time spent with women in labor increased (Scott et al., 1999). In this study, participants made a conscious, deliberate decision to use their *presence* or *nonpresence* based on their perception of women's needs. Findings from this study did not establish how participants determined what women needed; none

of them described using assessment parameters or reported asking patients what they wanted. None of the focus group/interview participants mentioned the meaning or value of continuous labor support. Bowers (2002) also found that nurses decided when presence was needed. Continual presence of intrapartum nurses with women in labor may be important to include as an expectation of usual labor support for all women (Gagnon, Waghorn, & Covell, 1997), as a component of evidence-based practice, rather than based only on perceptions of women's needs.

Payant, Davies, Graham, Peterson, and Clinch (2008) similarly found that 37% of the nurses surveyed did not know about research evidence that women and their babies benefitted from continuous labor support. These researchers found that nurses' intent to provide support was lower for women who had epidurals. Participants in this study stated that they provided different care and chose *nonpresence* following epidurals, often describing it as providing rest for the woman post anesthesia. This finding was consistent with that of previous investigators (Carlton, et al., 2009; Payant et al., 2008). While participants in this study did not specifically indicate that they did not provide labor support for women with epidurals, this opportunity would be limited if participants frequently chose nonpresence as a nursing intervention.

Participants in this study described that they provided directive labor support when they perceived it was needed. Participants described remaining close and maintaining eye contact with women when needed to redirect energy to a positive goal of promoting labor progress. Participants also redirected

others, such as family members, to keep women central to the labor experience, and to help them cope during labor. Interventions participants in this study described were similar to the Take Charge Routine developed by Penny Simkin (2008). The Take Charge Routine was designed to help partners do everything possible to help the woman regain her inner strength. Suggested actions included being close face-to-face, speaking loudly if needed, and giving encouragement with every contraction. Some focus group/interview participants' descriptions of taking charge suggested that they took over decision-making for women who were at risk of losing control due to pain or ineffective coping strategies, when indicated. "Taking over" was not part of the Take Charge routine (Simkin, 2008), but was described by some participants in this study as a part of labor support they provide. The use of "taking over" was inconsistent with women-centered labor support. It was not clear how participants in this study decided when to "take over" rather than continue the focus on women-centered labor support.

The relative importance and intended use of labor support behaviors in this study were similar to actual behaviors observed in Miltner's (2002) observational study of intrapartum nursing care. More than half (53.27%) of the interventions observed in Miltner's study targeted emotional support, including praising and reassuring. Both focus group/interview participant remarks and high ratings for the LSQ dimension Emotional Support: Nurse Caring Behaviors in this study reflected similar priorities. Informational support accounted for 27.46% of interventions observed by Miltner and also were important for this study, as

reflected by focus group/interview remarks and high rating for the LSQ dimension Informational Support. Tangible support accounted for 19.4% of the interventions in Miltner's study. Participants in this study rated the LSQ dimension Tangible Support lowest in importance and second lowest for behavioral intent. However, ratings indicated that Tangible support was very important and often used in participants' usual labor support routines. Therefore, in this study, participants indicated that the labor support behaviors they usually utilized were those that they deemed important and were consistent with behaviors observed in previous research.

Research Question 3: What barriers do nurses identify that impact the labor support they provide?

In this study, participants identified barriers to labor support including staffing, paperwork, interventions, and care that was not valued by patient or peers. Additional barriers listed in the open-ended survey question on the LSQ included doulas and families. Patients, family, and support people were included in this discussion as challenges to care rather than barriers because participants described techniques to alleviate problems, in order to reduce the impact on the patient experience.

Staffing. Participants indicated on the survey and during focus groups/interviews that staffing was a barrier to providing labor support. Focus group/interview participants described their inability to provide adequate attention to their patients in labor when staffing did not meet the goal of 1:1 care. During interviews, participants also were quick to point out that inadequate staffing was

infrequent, and teamwork helped them get through times when they had to care for more than one woman in labor. Collaborative relationships with nurse managers facilitated their ability to provide good intrapartum care, and all focus group/interview participants stated that they were able to provide effective labor support for their patients. While staffing was a barrier, it was intermittent, and with manager and peer support, focus group/interview participants were able to work together until additional help could arrive. Staffing also was a common barrier identified in previous studies (Carlton, Callister, Christiaens, & Walker, 2009; Davies & Hodnett, 2002; Sleutel, Schultz, & Wyble, 2007). One-on-one care required sufficient staffing; for these participants inadequate staffing was not a common occurrence. However it remained clear that adequate manager and peer support was necessary for nursing labor support.

Paperwork. Paperwork took focus group/interview participants' attention away from the patient and placed it on the required documentation. Some sites were instituting an electronic health record and participants had to deal with learning the new system in addition to documenting necessary information. Paperwork was a commonly identified barrier in a previous study but was not a dominant theme (Sleutel, Schultz, & Wyble, 2007). Participants in this study recognized that documentation was necessary but longed for an easier system that would take less time. Some of them remarked that once they learn the new electronic system, documentation would not be as burdensome. This focus on paperwork took participants' attention away from women in labor and limited

women-centered focus that participants described as important to their labor support.

High Technology Interventions. Sleutel, Schultz, and Wyble (2007) found that high technology interventions were the most frequent barrier to labor support and described the interference in nursing care that resulted. In this study, participants also viewed frequent interventions, in particular epidurals, as a barrier to labor support. Participants in this study viewed women's expectations of a pain-free labor and an epidural as soon as they were admitted to the labor unit as a part of the chain of events that led to more interventions. These expectations averted the focus from women-centered labor support and coping with labor-associated discomfort, to a highlighted medical focus on the intervention.

Focus group/interview participants described women who needed to rest after an epidural, and it was at that point that the support they provided changed dramatically. It appeared that participants in this study believed patients with epidurals no longer needed their full range of labor support skills since they were no longer in pain. Other studies had similar findings that labor support was viewed as not necessary because pain had been relieved with the epidural (Barrett & Stark, 2010; Payant et al., 2008). A common misperception among nurses is that patients who do not experience pain do not need emotional support, even though they may be very distressed (P. Simkin as cited in Ruhl, 2006). Hodnett et al. (2002) found that nurses' efforts in providing labor support, even when it was continuous, may not lead to improved outcomes in high

intervention environments, but mothers would choose continuous labor support if given the option. It was later suggested that nurses got preoccupied with attending to technology, documenting, and monitoring, rather than providing women with labor support and comfort (Hodnett et al. (2012).

Corbett and Callister (2000) found no difference in laboring women's perceptions of the helpfulness of nursing actions based on use or nonuse of epidural analgesia. Even though women who chose epidurals may not be experiencing pain, they rated emotional, informational, and physical support as very helpful. Interestingly, participants in this study described their sites variously as high or low intervention, yet site statistics were similar for epidurals with at least 50% epidural rates. This number was lower than a 27-state epidural rate of 61% in 2007 reported by the Centers for Disease Control, the most recent statistics available (Osterman & Martin, 2008). Wisconsin statistics were not included in the report and were not recorded in vital statistics reports.

Social Norms. The LSQ included rating perceptions of social norms such as supportive care not valued by manager, peer, or patient, as potential barriers. While none of the participants identified the manager, some did indicate that lack of value by peers and patients were barriers to providing labor support. One response, a comment on the open response item on the LSQ, indicated that young nurses were not spending time in rooms with patients. An additional comment was that participants did not want to spend time in rooms because peers would think they were avoiding other work and not helping out. Payant et al. (2008) also found that nurses caring for patients who have an epidural may be

expected not to stay in the room, but instead help other nurses with their responsibilities or cover patients so that nurses can take breaks. Peers may actually criticize other nurses for spending time in the patient's room (Sleutel, Schultz, & Wyble, 2007). Few (8.3%) participants in this study identified social norms as a problem, indicating that social norms may not have presented a barrier to labor support in this study. The open response survey comment that young nurses sit in the nurses' station to monitor their patients may have indicated social norms vary for different age groups, however there were no significant differences for these questions when evaluated by age group. Negative remarks about peers from the survey may have been due to participants' bias. Nursing care not valued by patients or peers was not discussed during focus groups/interviews. Participants who entered those comments may not have participated in the focus groups/interviews.

Doulas. Doulas were present at the patient's request and were considered helpful members of the labor support team by most participants. Yet, some participants described doulas as interfering with nursing responsibilities. During focus groups/interviews, participants usually described doulas as helpful and valued their collaboration. However, some comments were consistent with the open-ended survey responses and described doulas as interfering with the nurse-patient relationship. Focus group/interview participants described doulas as helpful, but also as awkward because the responsibility for labor support interventions was not clear. Women-centered care would suggest that participants should respect the presence of a doula, if so chosen by the mother.

Doula care also may improve outcomes (Hodnett, Gates, Hofmeyr, Sakala, & Weston, 2011; McGrath & Kennell, 2008; Scott et al., 1999), making them a valuable member of the intrapartum team. Participants may not have been aware of the evidence that women who received labor support from a doula were more likely to have a vaginal delivery following a shorter labor and less likely to have forceps or cesarean delivery (Hodnett et al., 2011; Scott, et al., 1999; Zhang, Bernasko, Leybovich, Fahs, & Hatch, 1996). Bianchi and Adams (2004) found that labor outcomes improved, including shorter duration of labor, following a labor support training session provided by doulas for labor and delivery RNs. Doulas could be helpful to the nurse by providing an extra set of hands, and supporting family members during the labor process (Ballen & Fulcher, 2006); working together may allow the best of both types of care to coexist.

Additional Findings. Several important factors were present that allowed participants in this study to provide effective labor support. They included collaboration with others, including the manager, peers, provider, and doulas, as well as experience and expertise. Collaboration with doulas was presented in the previous section along with discussion of doulas as barriers.

Nurse managers provided excellent staffing on the intrapartum units whenever possible. Managers usually were able to meet the staffing goal of one patient per nurse for women in active labor. However, participants indicated that sometimes staffing was inadequate, and they were not able to give the care that they thought should be given to patients. Focus group/interview participants also valued teamwork with managers, peers, doulas, and providers. They were able

to develop collaborative relationships through recognition of each other's skills and expertise. Participants utilized their experience and expertise to help guide intrapartum support and were able to provide effective care because providers trusted their judgment. Sleutel, Schultz, and Wyble (2007) had similar findings in a study of nursing labor support; teamwork, collaboration, nursing experience and autonomy, and the facility culture were important factors that helped nurses to provide intrapartum care. Davies and Hodnett (2002) found that manager support was an important influence on providing labor support, and that while teamwork facilitated labor support, negative staff attitudes acted as barriers to providing labor support. Participants working together and with members of the team facilitated effective labor support in this study.

Research Question 4: What are the relationships between attitudes and behaviors within and between three Midwest hospitals?

Barrett and Stark (2010) found that birth environment influences the nursing care women receive. In this study participants were employed at three different hospitals (rural level 1, suburban level 2 and urban level 3). There were no differences between sites for nurse characteristics or responses on the LSQ. Unit characteristics were similar with all units having greater than 50% epidural anesthesia rates. The hospital sites used for this study were intentionally diverse in location and level of care in order to sample a wide spectrum of care. However, their epidural and cesarean rates were similar, a possible explanation for lack of differences in responses by site. Participants at one site described their high intervention rates, they did not mention it at another site, and at the

third site they were proud of the low intervention style of care. Perceptions varied but the statistics revealed more similarities than differences between the three hospital study sites.

Attitudes and intended behaviors ratings corresponded for most LSQ dimensions, indicating that participants intended to use behaviors they deemed very important. However, the opposite was true for advocacy. The Advocacy dimension on the LSQ focused on following and supporting women's birth plans, and interpreting women's wishes to other staff. While nurses rated Advocacy as very important, they reported lower intent to use it. These responses, while inconsistent, reflected the focus group/interview discussion that included a wide range of attitudes regarding birth plans as was previously discussed.

Research Question 5: What are the relationships between attitudes, behaviors, and perception of barriers and nurse characteristics?

Personal experiences were known to shape attitudes and intended behaviors (Ajzen & Fishbein, 2002; Fishbein & Ajzen, 2010). Personal birth experiences also may be a barrier to labor support (Carlton et al., 2009). In this study participants' personal birth experiences were correlated with responses to LSQ dimensions indicating attitudes and intended behaviors regarding professional labor support. The number of labors and choice of pain management strategy were correlated with the importance of the LSQ dimensions Advocacy and Tangible Support. In addition, personal birth experiences were correlated with intended use of behaviors in the LSQ dimensions, Tangible Support, Emotional Support: Reassurance, Informational Support, and Emotional Support: Creating Control, Security, and Comfort.

Participants may not have recognized this influence because only one of them mentioned it during the focus groups/interviews. Although previous research findings identified the influence of age and experience on labor support behaviors (Barrett & Stark, 2010); a relationship was not revealed in the findings of this study.

Answering “yes” to barriers to professional labor support being present was correlated with personal birth experiences, use of non-pharmacological methods only, epidurals, current work experience with certified nurse midwives, willingness to participate in focus groups, and inversely correlated with enrollment in school. Again, personal birth experiences may have shaped the participants’ view of labor support and could have included perceived barriers. Certified nurse-midwives were recognized as providing outstanding labor support and spending time with women during labor, as well as being present for the birth. Perhaps observing the care CNMs provided negatively influenced participants’ judgments of usual nursing because it was compared to a more ideal model of labor support. Participants commented that CNMs spent a lot of time with patients and utilized natural methods to promote labor. This view was in contrast to usual care on these units where epidurals were experienced by more than half of the patients.

Participants who indicated willingness to attend focus groups were more likely to recognize barriers to PLS. This finding may reflect their willingness to attend a group and share concerns about the barriers. However, participants presented a positive view of care they provided. They described contributions of

a variety of staff, including managers, providers, and peers in giving effective support. This outcome could be an effect of social desirability in responses; with participants saying what they perceived was expected, especially when in focus group meetings as compared to interviews. Participants also may have wanted to present a socially desirable impression of their units.

Theoretical and Practical Implications

The LSQ (Sauls, 2004) was based on the Theory of Reasoned Action ([TRA] (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2010). Background factors, including previous experiences influenced attitudes, perceived social norms, and perceived behavioral control. Together, they influenced a person's behavioral intention, the strongest predictor of actual behavior.

The most frequently identified correlations with attitudes and intended behaviors were the participants' personal birth experiences. This finding was consistent with the TRA that identifies the influence of background factors, including past experiences, on attitudes, perceived norms, and perceived behavioral control. Together, they impacted intent to provide labor support. In addition, ratings on the individual dimensions were consistent for both attitudes and behaviors, with the exception of advocacy, as previously noted. It would be expected that dimensions with high attitude ratings also would have high intent to act ratings.

Previous studies identified the importance of social norms and perceived behavioral control (PBC) as contributors to behavioral intent to provide PLS (Sauls, 2007). Both of these factors were measured in the barriers section on

the LSQ. Perceived barriers identified in this study included staffing and paperwork; perceived social norms were labor support not valued by peers or patient. In this study neither were significantly correlated to attitudes or behavioral intent on the LSQ dimensions. The study may have lacked adequate sample size and power, increasing the risk of a type II error. Due to the exploratory and descriptive design, an apriori power analysis was not completed. It is also possible that the overlapping and at times confusing LSQ definitions can make clear categorizations difficult.

All focus group/interview participants expressed the ability to provide professional labor support, and that they had the support they needed to do so. The LSQ may not be able to accurately measure participants' perceived behavioral control or social norms via one question. A single question on the LSQ addressed whether (a) perceived behavioral control, as indicated by staffing, paperwork, lack of experience, or (b) perceived social norms, represented by supportive care not valued by manager, peers, or patients, were barriers. Representing them as dichotomous questions on a survey may limit their usefulness for evaluation by this method. In addition, other unidentified factors may be present that were not included as options on the instrument. Participants had the option to add comments to an open format question about barriers, but these responses were infrequent and not able to be included in statistical analyses. For example, support not valued by physicians or charge nurses were identified as barriers in written comments. If those options had been

included in the perceived social norms section, more participants may have identified them as barriers.

Practical implications are that professional labor support may not be best measured via a survey because it is a dynamic interaction between women in labor and their nurses that was impacted by many factors. The TRA provided a credible explanation for behaviors, but it may not be something that can be measured through this survey. Interview questions that were designed to capture this information may have aided in discerning the impact of social norms and perceived behavioral control on the participants' attitudes and intended behaviors related to PLS.

Summary

Participants focused intrapartum care on women's needs but they did not discuss specific actions they used to promote labor or comfort. Much of the discussion focused on doing what women wanted participants to do, without reporting support for decisions that the participating nurses actually made. Additional research about nurses' knowledge about labor support and how to implement it in decision-making, while considering women's needs, may have revealed clues as to why nursing labor support may not have the same positive outcomes as doula and lay support. The TRA provided some understanding about the relationship of participants' personal birth experiences and their attitudes and intended behaviors. A more sensitive and specific instrument, with clearer definitions, as well as a larger more diverse sample may provide further understanding in this area.

Clinical Significance

In this study, participants stated that they were able to provide adequate support in their current work environments. Most participants believed that social norms were in place that valued the labor care provided, and that barriers were present, but they generally could be at least partially overcome.

Presence, a key variable in studies that revealed improved outcomes from labor support, was a choice, not a necessity for participants in this study. They chose nonpresence based on their perception of patient need. This decision was based upon presence of supportive family/doula/CNM, and/or women having epidural analgesia. As previously discussed, participants may not be aware of research findings that support the importance of presence during labor, both in terms of laboring women's experiences and outcomes. Nonpresence may be one of the keys to the lack of significant findings on improved outcomes from nursing labor support. Other key findings of this study, the central focus on laboring women, preparing women for the labor experience, and taking charge, all were important behaviors consistent with findings in the literature (Carlton et al., 2009; Miltner, 2002; Simkin, 2008; Sleutel, 2007).

Implications for Nursing Practice

Intrapartum nurses and nurse managers would benefit from examining their personal birth experiences for potential impact on labor support. They should develop and maintain awareness of evidence-based practices to support or enhance their intrapartum nursing care. For example, participants in this study

did not routinely provide continuous presence, even though it was identified as a key element for improving outcomes (Hodnett et al., 2012) and helpful for women (Bowers, 2002; Corbett & Callister, 2000). Nurses' priority goal of good outcomes for women and their babies may be best accomplished through interventions based on evidence to maintain continuous labor support.

Implications for Nursing Education

Nurse educators may include an activity that involved exploration of students' past health care experiences, including labor history, to enlighten students to the impact that they can have on their attitudes and intended use of labor support behaviors. Bringing feelings and memories to the surface for examination may help limit their unconscious influence. Nurse educators also may be encouraged to stress the importance of using evidence-based practice and include vital information such as the importance of presence as a factor in improving outcomes. Nurses' knowledge of current evidence-based practices is essential so that it can be applied in practice. The nurses in this study used presence as an intervention; a deliberate choice made by the nurse to be with or not be with women during labor. Research findings support presence as a key variable, a fact the participants in this study may not know. Including presentation and discussion of current research findings in nursing education begins a solid foundation for intrapartum care based on the best evidence. Continuing education for intrapartum nurses and nurse managers could emphasize current evidence and ways to integrate it into practice. Decision-

making strategies that incorporate best practice as well as consider what women want could be taught and discussed.

Implications for Nursing Research

This study was a step in understanding professional labor support. The findings of this study provided increased knowledge of nurses' attitudes, intended behaviors, and perception of barriers. The influence of personal factors, including birth experience, on labor care deserves further attention and exploration. Future research directions might include further exploration regarding the impact of personal birth experiences on labor support attitudes and actual behaviors. Other suggested directions for future studies include evaluating nurses' decision-making regarding labor support, in a manner that would reveal strategies used, as well as information considered, with attention to intrapartum outcomes. In addition, evaluation of nurses' knowledge about current evidence regarding professional labor support may reveal gaps in knowledge and possible explanations for care provided.

Implications for Vulnerable Populations

Pregnant women are considered vulnerable (DHHS, 2009). Historically women depended on family members, friends, and midwives to watch over them during labor and birth (Brodsky, 2006). Most women now deliver babies in hospitals, so women depend on nurses to attend to their interests. Participants in this study focused their care on women's needs, with the goal of healthy mothers and babies. They took charge when women needed help, until they

could regain their inner strength, or the family needed redirection to support women's efforts. They provided education so women would have the knowledge they needed regarding choices and labor progress. Participants' approaches to intrapartum care, centered on women and their needs, may help to decrease women's vulnerability during labor and birth and encourage their input into their care.

Strengths and Limitations

Strengths

Strengths of this study included the use of a valid and reliable tool, the Labor Support Questionnaire (Sauls, 2004). The instrument was based on the Theory of Reasoned Action (TRA) to explain relationships between attitudes, intended behaviors, and barriers including social norms and perceived behavioral control. The TRA also was used as the foundation for this study, providing theoretical consistency. The administration of the survey, via Survey Monkey assured a uniform delivery system. The cognitive interview and pilot study conducted prior to the start of this research study also added to the strength of the study through identifying areas for improvement in the online LSQ format and the wording of the demographics items. Strategies to establish the credibility of the qualitative findings included peer debriefing, triangulation, and achievement of data saturation. Data triangulation provided support for the consistency of findings between methods, indicating that internal validity was maintained and decreasing the likelihood of a type II error.

Limitations

There were a number of limitations with this study. The cross-sectional design was limited by collection of data at a single point in time (Hulley et al., 2007). Participants' responses may have varied based on patients they cared for most recently. A difficult or easy work shift could potentially have influenced completion of the LSQ and information shared in focus groups/interviews.

Low variability in responses and lack of significant differences between study site participants also were limitations. Lack of variability indicated a homogeneous sample, threatening statistical conclusion validity and limiting external validity (Polit, 2010). Varied sample sizes also may limit validity. However, because participants from the various sites were not statistically different, data from all sites were combined for most analyses. Selection bias was a threat to internal validity (Polit, 2010). Survey response was 63% and there was no way to know if the nurses who participated were different from those who did not. Eleven nurses, 12% of the sample, attended the focus groups, and it was also unknown if they differed from those who did not participate. They also may have had additional insights that were not captured.

Evaluation of the questionnaire responses was conducted prior to the focus group meetings so that the interview guide would target areas that needed additional information to improve understanding. The initial evaluation of descriptive statistics revealed several areas for additional exploration such as birth plans, doulas, and advocacy. The correlations between the participants' personal birth experiences and several LSQ dimensions on attitudes and

intended behaviors were discovered following completion of the meetings. Understanding these relationships may have been enhanced if they had been included in the interview guide. However, preliminary analyses also may have led to overemphasis on a few specifics such as doulas, birth, plans, providers, and advocacy.

Survey research has limitations including the social desirability response bias (Polit & Hungler, 1999). Participants may have misrepresented themselves through responses to LSQ items that reflected their perception of the way they should answer, rather than their true opinions. Anonymity of response may have reduced this problem. The acquiescence response set (Polit & Hungler, 1999) may be reflected by the consistent responses indicating very important or always intend to use a behavior. The LSQ responses were all in the same direction with "low importance" or "do not use" on one end and "high importance", "use all the time" on the other end. This pattern of consistent responses could have been limited through counterbalancing positive and negative responses (Polit & Hungler, 1999). The LSQ was an instrument with acceptable reliability and validity so it was not altered for this research study.

The LSQ definitions overlapped and may have been confusing to participants. For example, the LSQ included a dimension with the word "reassurance" in the title, yet other dimensions included "reassurance" in the behaviors. Clear, concise, and specific definitions that distinguished each dimension may have added to understanding and conclusions based on LSQ results. In addition, the restricted available responses on the Likert scale used in

the study limited variability. Cronbach's alpha for the Part 3, perceived social norms was below acceptable levels in this study, limiting conclusions based on those responses.

The focus group and interview process was associated with several limitations. Trust and conversational intimacy may have led to pitfalls in the process, including threats to confidentiality as well as the potential to elicit powerful emotions (Corbin & Morse, 2003; Kitzinger, 2006). These threats may have limited participants' willingness to share during the focus groups/interviews. Inconsistencies such as negative survey responses related to birth plans and positive interview responses also may be due to reluctance to share negative stories with a stranger and the desire to present a positive impression.

Focus groups and interviews were used due to nurses' inability to leave the unit at the same time. Different information may have been shared depending on the format. Interview data is limited to what people say and may not reflect what they do (Green & Thorogood, 2009). It is shaped by the context and not necessarily truth about what the participant believes (Green & Thorogood, 2009). The PI may have impacted some responses due to previous professional relationships with some of the respondents. Those nurses may have shared different information because they felt more or less comfortable in the interview/focus group interaction. More specific connection of the interview guide to the LSQ dimensions may have elicited detailed information that could have more effectively enriched the quantitative results. Having the meetings on the nursing unit and during busy shifts may have influenced responses; nurses

may have hurried or had different opinions because they were busy. A less busy time or an off-site, non-working schedule may have yielded different results. However, the impact on focus group attendance would remain a concern.

Other limitations included the PI's lack of experience in conducting focus groups or interviews. A more skilled interviewer may have been able to elicit a wider range of information to add to understanding of professional labor support.

Suggestions for Future Research

Future research should investigate the influence of personal factors, including birth experience, on labor care. Nurses' knowledge of labor support and the current best evidence needs to be studied, as well as their decision-making strategies. Information the nurse considers when making a practice decision should be evaluated to identify how previous experiences, knowledge, attitudes, behavioral intent, barriers, and social norms contribute to the process.

A different survey, the Labor Support Scale (Sleutel, 2002) used a unique approach to evaluating nursing labor support by asking nurses to rate their actual use of various behaviors. The included behaviors were more specific than those in the LSQ such as using breathing to help mothers cope, walking to promote labor progress, and using positioning in creative ways. Developing and using a questionnaire that incorporated concepts from both of these instruments may reveal additional information about the support the nurses gave to women in labor. Correlation of nurses' report of actual use of specific behaviors and behavioral motivations covered in the LSQ, may reveal relationships that

increase understanding of nursing labor support and explain the lack of impact nursing labor support has had on outcomes.

Future research should include observational methods as well as surveys designed to collect nurses' report of actual use of behaviors in addition to their attitudes and intended use of the behaviors. Including observation in the design may reveal additional information that cannot be captured through use of self-report data collection strategies only. In addition, evaluating nurses' knowledge of evidence-based labor support practices, such as continuous presence, would add to understanding the support they provide to women in labor. To date, no studies have included self-report of these variables, or combined them with observation.

Although the inclusion of sites in one Midwestern area that differed on level of care and location (city, suburb, rural) was intended to provide variability, the site characteristics were not distinctly different. Using a more variable population may reveal relationships that were not found in this study.

Summary

The findings of this study added to understanding nursing labor support. Participants' personal birth experiences were correlated with attitudes and intended behaviors regarding labor support. Attitudes and intended behaviors for the dimensions on the LSQ were rated similarly, indicating that participants' perception of the importance of a labor support behavior was associated with their intent to use the behavior. The relationships were consistent with the Theory of Reasoned Action, but perceived behavioral control and social norms

were not correlated with attitudes or behaviors in this study. Participants placed the greatest importance on providing care that was women-centered, but they did not incorporate evidence-based practices. Future study that includes observation along with self-report may add to understanding the complex interactions and interventions of professional labor support. Continued research may lead to changes in nursing practice that could improve outcomes for mothers and their babies.

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Appendix A

Abbreviations

Term	Abbreviation
Certified Nurse Midwife	CNM
Doulas of North America	DONA
Emotional support	ES
Labor Support Questionnaire	LSQ
Neonatal Intensive Care Unit	NICU
Perceived behavioral control	PBC
Principal investigator	PI
Professional labor support	PLS
Registered Nurse	RN
Theory of reasoned action	TRA

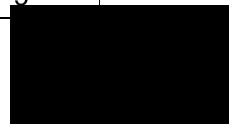
Appendix B

Labor Support Questionnaire (Sauls, 2004)

Directions: There are 3 parts to this questionnaire. Part1-Described below are 27 labor support behaviors that intrapartum nurses could use in providing professional labor support. For each behavior please rate each according to the importance of the behavior, on a scale from 0 to 5, from not important (0) to extremely important (5). Please circle the number that best reflects your perceptions of the importance of the particular labor support behavior. Feel free to express your true thoughts and feelings. Part 2- Then in the next column "Intended Use of Behavior" please rate each according to how often you intend to use the behavior, on a scale from 0 to 5, from would never use (0) to would always use (5). Please circle the number that best reflects your intended use of the particular labor support behavior. Feel free to express your true thoughts and feelings.

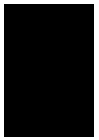
POINT: You could believe that a labor support behavior is important but not necessarily intend to use it in your practice. Please keep this in mind when you examine each behavior. Please respond to all items. Do not leave any items blank.

PART 1:	IMPORTANCE OF BEHAVIOR[a]					
LABOR SUPPORT BEHAVIORS[b] To provide professional labor support to a laboring woman the intrapartum nurse:	Not important					Extremely important
1. Provides encouragement during the labor process, such as "you're doing a great job", and "that's very good."[3]	0	1	2	3	4	5
2. Provides massages between contractions to help the woman relax such as: backrubs, leg rubs.[1]	0	1	2	3	4	5
3. Supports the woman's decisions for her birth plan, when consistent with standard of care.[2]	0	1	2	3	4	5
4. Reinforces previous instructions such as breathing, relaxation, or pushing techniques[6]	0	1	2	3	4	5
5. Creates a sense of security by frequently checking-in on the woman, answering call lights promptly.[4]	0	1	2	3	4	5
6. Manipulates the environment to remove distressing factors such as: limiting visitors, removing obnoxious odor, when appropriate.[4]	0	1	2	3	4	5
7. Gives or arranges for pain medication as requested by client.[4]	0	1	2	3	4	5
8. Provides explanations to the client as to what is occurring with the labor process and what will happen next.[4]	0	1	2	3	4	5
9. Assists with movement and position changes.[1]	0	1	2	3	4	5
10. Shows concern for laboring woman.[3]	0	1	2	3	4	5
11. Instructs the woman on breathing, relaxation and pushing techniques, if	0	1	2	3	4	5



PART 1:	IMPORTANCE OF BEHAVIOR[a]					
LABOR SUPPORT BEHAVIORS[b] To provide professional labor support to a laboring woman the intrapartum nurse:	Not important					Extremely important
needed.[6]						
12. Acts on the client's behalf to insure her birth plan is followed.[2]	0	1	2	3	4	5
13. Interprets the couple's wishes to other hospital staff.[2]	0	1	2	3	4	5
14. Listens to and respects the client's opinion and wishes concerning her birth plan.[2]	0	1	2	3	4	5
15. Maintains eye contact with the woman during conversations and during her contractions, when culturally appropriate.[3]	0	1	2	3	4	5
16. Helps the woman to feel at ease by orienting her to the labor room and explaining hospital policies.[3]	0	1	2	3	4	5
17. Helps the woman to feel at ease by explaining the procedures to the woman prior to the performance of the procedure.[3]	0	1	2	3	4	5
18. Helps the woman to feel at ease by explaining equipment being used, such as the fetal monitor, dynamap, and IV pumps.[4]	0	1	2	3	4	5
19. Provides companionship by staying with the woman, if requested to do so.[1]	0	1	2	3	4	5
20. Provides distraction techniques, such as: light social conversation, having her watch TV or listening to music, during the early phase of labor if appropriate.[1]	0	1	2	3	4	5
21. Appears calm and confident in her interaction with the client.[5]	0	1	2	3	4	5
22. Provides information or advice, such as discussing alternatives with the woman concerning her birth plan.[2]	0	1	2	3	4	5
23. Assists with breathing and relaxation techniques prior to an epidural or during natural childbirth.[6]	0	1	2	3	4	5
24. Provides physical comfort through the use of hot/cold therapy such as, compresses, warm blanket to relieve discomforts of labor.[1]	0	1	2	3	4	5
25. Provides physical comfort for a dry mouth, such as providing ice chips, sips of water, wet washcloth, and oral hygiene.[1]	0	1	2	3	4	5
26. Provides reassurance and praises such as: telling the client she is doing well; or that labor is progressing normally.[5]	0	1	2	3	4	5
27. Demonstrates understanding and caring.[5]	0	1	2	3	4	5
28. [c]Assists with breathing and relaxation techniques following an epidural.[6]	0	1	2	3	4	5

Note. [a]Indicates importance on a continuum from not important to extremely important; [b]Dimension represented by question: [1]Tangible support dimension, [2]Advocacy, [3]Emotional support-reassurance, [4]Emotional support-creating control, security, and comfort, [5]Emotional support-nurse caring behaviors, [6]Informational support; [c]Item #28 was added to evaluate nursing care following an epidural.



PART 2	INTENDED USE OF BEHAVIOR					
LABOR SUPPORT BEHAVIORS[a] To provide professional labor support to a laboring woman the intrapartum nurse:	Never use	Infrequently use	Occasionally use	Often use	Almost always Use	Always Use
1. Provides encouragement during the labor process, such as "you're doing a great job", and "that's very good."[3]	0	1	2	3	4	5
2. Provides massages between contractions to help the woman relax such as: backrubs, leg rubs.[1]	0	1	2	3	4	5
3. Supports the woman's decisions for her birth plan, when consistent with standard of care.[2]	0	1	2	3	4	5
4. Reinforces previous instructions such as breathing, relaxation, or pushing techniques[6]	0	1	2	3	4	5
5. Creates a sense of security by frequently checking-in on the woman, answering call lights promptly.[4]	0	1	2	3	4	5
6. Manipulates the environment to remove distressing factors such as: limiting visitors, removing obnoxious odor, when appropriate.[4]	0	1	2	3	4	5
7. Gives or arranges for pain medication as requested by client.[4]	0	1	2	3	4	5
8. Provides explanations to the client as to what is occurring with the labor process and what will happen next.[4]	0	1	2	3	4	5
9. Assists with movement and position changes.1	0	1	2	3	4	5
10. Shows concern for laboring woman.[3]	0	1	2	3	4	5
11. Instructs the woman on breathing, relaxation and pushing techniques, if needed.[6]	0	1	2	3	4	5
12. Acts on the client's behalf to insure her birth plan is followed.[2]	0	1	2	3	4	5
13. Interprets the couple's wishes to other hospital staff.[2]	0	1	2	3	4	5
14. Listens to and respects the client's opinion and wishes concerning her birth plan.[2]	0	1	2	3	4	5
15. Maintains eye contact with the woman during conversations and during her contractions, when culturally appropriate.[3]	0	1	2	3	4	5
16. Helps the woman to feel at ease by orienting her to the labor room and explaining hospital policies.[3]	0	1	2	3	4	5

PART 2	INTENDED USE OF BEHAVIOR					
LABOR SUPPORT BEHAVIORS To provide professional labor support to a laboring woman the intrapartum nurse:	Never used	Infrequently use	Occasionally use	Often use	Almost always Use	Always Use
17. Helps the woman to feel at ease by explaining the procedures to the woman prior to the performance of the procedure.[3]	0	1	2	3	4	5
18. Helps the woman to feel at ease by explaining equipment being used, such as the fetal monitor, dynamap, and IV pumps.[4]	0	1	2	3	4	5
19. Provides companionship by staying with the woman, if requested to do so.[1]	0	1	2	3	4	5
20. Provides distraction techniques, such as: light social conversation, having her watch TV or listening to music, during the early phase of labor if appropriate.[1]	0	1	2	3	4	5
21. Appears calm and confident in her interaction with the client.[5]	0	1	2	3	4	5
22. Provides information or advice, such as discussing alternatives with the woman concerning her birth plan.[2]	0	1	2	3	4	5
23. Assists with breathing and relaxation techniques prior to an epidural or during natural childbirth.[6]	0	1	2	3	4	5
24. Provides physical comfort through the use of hot/cold therapy such as, compresses, warm blanket to relieve discomforts of labor.[1]	0	1	2	3	4	5
25. Provides physical comfort for a dry mouth, such as providing ice chips, sips of water, wet washcloth, and oral hygiene.[1]	0	1	2	3	4	5
26. Provides reassurance and praises such as: telling the client she is doing well; or that labor is progressing normally.[5]	0	1	2	3	4	5
27. Demonstrates understanding and caring.[5]	0	1	2	3	4	5
28. [b]Assists with breathing and relaxation techniques following an epidural.[6]	0	1	2	3	4	5

Note. [a]Dimension represented by question: [1]Tangible support dimension, [2]Advocacy, [3]Emotional support-reassurance, [4]Emotional support-creating control, security, and comfort, [5]Emotional support-nurse caring behaviors, [6]Informational support; [b]Item #28 was added to evaluate nursing care following an epidural.

Part 3: Are there things that prevent you from doing what you believe is professional labor support? Yes No

If yes, which of the following are barriers to supportive care?

Staffing _____	Supportive care not valued by my supervisors _____
Paperwork _____	Supportive care not valued by my peers _____
Lack of experience _____	Supportive care not valued by the client _____
Others (Please list)	

Appendix C

Author's Consent to Use Labor Support Questionnaire

October 11, 2011

Dear Ms Ann Aschenbrenner,

You have my permission to use the *Labor Support Questionnaire* (LSQ) in your dissertation study. If need be, you may also adapt it. I just ask that I receive a copy of the study, reliability coefficients (total and dimensions), means and SD of the LSQ, and a copy of the LSQ if it was adapted.

If you have any further questions, please don't hesitate to contact me.

Sincerely,

Donna J. Sauls

Donna J. Sauls, Ph.D, RN
Associate Professor
Online Ph.D. Program Coordinator
940-898-2406
dsauls@twu.edu

Demographics Questionnaire

To assist me to better analyze the results of this study, please help me understand more about you professionally and personally. The findings of these questions also will be treated confidentially.

- Please tell me about your experience as a labor and delivery nurse. Indicate the number of years, with partial years rounded to the closest whole number.
    - Total in all settings
    - On current unit
- Please indicate percentage of your time spent in each role in your current position as a labor and delivery nurse. Please enter the number without a % sign and enter 0 if your answer for that role is zero.
    - Direct patient care-Staff RN
    - Staff or patient education
    - Head nurse
    - Administrator/manager
    - Other
- Have you personally given birth?
    - Yes
    - No (If no, please skip to question 36)
- If you answered “yes” to number 34, please indicate the number of times you have experienced each of the following (please enter 0 if your answer for an item is zero)
    - Labor
    - Vaginal birth
    - Cesarean birth
    - Epidural analgesia
    - Analgesics (non-epidural)
    - Non-pharmacologic measures only
- Highest educational level attained: indicate degree earned
    - Diploma
    - Associate Degree
    - BSN
    - MSN
    - CNM (working as a labor and delivery nurse)
    - DNP
    - PhD
- Specialty certifications (for example, ANCC certification in perinatal, or advanced perinatal nursing) If “yes”, please indicate certification
    - Yes
    - No
    - Please list certifications
- Do you have experience working with Certified Nurse-Midwives during labor and birth in your current position?
    - Yes

    - No
- Are you currently enrolled in school?
    - Yes
    - No
    - If yes, please describe
- Have you participated in any continuing education for labor support?
    - Yes
    - No
- Please indicate your ethnicity below.
    - Hispanic or Latino
    - Not Hispanic or Latino
    - Prefer not to answer
- Please indicate your race below (check all that apply)
    - American Indian or Alaska Native
    - Asian
    - Black or African American
    - Native Hawaiian or Other Pacific Islander
    - White
    - Prefer not to respond
- What is your age?
    - 20-29
    - 30-39
    - 40-49
    - 50-59
    - 60 or more
- What is your gender:
    - Female
    - Male
    - Prefer not to respond

Appendix E

Cognitive Interview Consent

AUDIO RECORDING CONSENT

Please read the following paragraphs and, if you are in agreement, sign where indicated.

I consent to audio recording ~~of being~~ of this session and to the use of the recording to refine the online format of the Labor Support Questionnaire (Sauls, 2004) and the content/format of the demographics questionnaire.

I consent to the excerpts from these recordings, or descriptions of them, being used by Ann Aschenbrenner for the purpose of research. This may include use of excerpts in written materials submitted for publication in professional journals.

I understand that Ann Aschenbrenner will edit identifying information out from these recordings.

Dated 7-23-12 Signed ...

I undertake that, in respect of any audio recordings made, every effort will be made to ensure professional confidentiality and that any use of audio recordings, or descriptions of recordings, will be for professional purposes only and in the interest of research. Every effort will be made to protect anonymity.

Dated 7-23-12 Signed Ann Asch

Appendix F

Focus Group Interview Guide

Note: this is to function as an initial guide only. The group will be encouraged to discuss labor support. Leading questions will be used to direct conversation to the labor support.

Greeting: Hello, my name is Ann, I am glad you are able to meet with me today.

Friendly question: How are you doing? (Share with participants the reason for the focus group, i.e. to find out more about intrapartum nursing care and factors that positively and negatively affect the care provided.)

Questions: (I do not intend to use every question with every group, but I will use the ones that are needed to get the whole story)

- Share a story of the most ideal birth you attended and the reasons why you chose that story. (I want to start with this because I think it will reveal the nurses' values in providing intrapartum support.)

- Please give me an example of a negative labor situation and how you might re-tell it to make it a positive story. (Again, I think this will reveal values)

- Describe the labor experience from the woman's point of view. (I would like to get the nurses' perspective on the woman's point of view because it may reveal why they do not think that the women value the support that the nurses provide.)

- How does the experience compare for women with and without epidurals? (I would like to find out how the nurses view the experience with/without epidurals and hope they share what they do differently. If not, I will use follow up questions.)

    - Describe how the epidural influences the labor support you provide.

- Tell me about caring for a woman who is uncomfortable and not coping well. (I hope to find out how they evaluate the woman and decide how to intervene; medical vs non-medical management as well as how they show concern)

- Tell me about caring for a woman who is coping well.

- What might help you provide the best support?
- What interferes with things going well? (barriers)
- How does the provider (physician) influence your nursing care? (Further evaluation of barriers but with more information about the physician's influence)
- What are the most or least important things that you "do"? Why?
- Please share your experience with doulas and how they impact the labor support you provide for your patients.
- Tell me about women who have a birth plan.
- Tell me about being a patient advocate during labor.
- Tell me about spending time with the woman in labor:
  - when she has support people in the room
  - when she is alone
  - before an epidural
  - after an epidural

Revised Focus Group Interview Guide

Note: this is to function as an initial guide only. The group will be encouraged to discuss labor support. Leading questions will be used to direct conversation to the labor support.

Greeting: Hello, my name is Ann, I am glad you are able to meet with me today.

Friendly question: How are you doing? (Share with participants the reason for the focus group, i.e. to find out more about intrapartum nursing care and factors that positively and negatively affect the care provided.)

Questions: (I do not intend to use every question with every group, but I will use the ones that are needed to get the whole story)

- Please share with me, a story where you feel that your labor support was ideal.
- Please give me an example, where you were not able to provide the support you wanted to and you feel this lead to a negative experience for the woman.
- What do you think women want from their nurse in terms of labor support?
- How does your labor support compare when you care for women without versus those with an epidurals.
- Can you share with me how you provide labor support to a woman who is out of control?
- Tell me how you generally provide labor support for a woman who is coping well.
- Do you feel you are able to provide effective labor support to your patients?
- If yes, what factors make that possible?
- If no, what factors interfere with your ability to provide effective labor support?
- How does the provider (physician) influence your labor support?

- What are the most or least important things that you “do” when caring for a woman during labor and birth? Why?
- Please share your experience with doulas and how they impact the labor support you provide for your patients.

- Tell me about women who have a birth plan and how this might impact your labor support.

- Tell me about being your role as a patient advocate during labor and birth.

- Tell me about your ability to spend time with the woman during labor:
  - when she has support people in the room
  - when she is alone
  - before an epidural
  - after an epidural

Appendix G

IRB Approvals

MARQUETTE UNIVERSITY
Be The Difference

Office of Research Compliance
[illegible]
P. [illegible]
F. [illegible]
[illegible]

July 10, 2012

Ms. Ann Aschenbrenner
Nursing

Dear Ms. Aschenbrenner:

Thank you for submitting your protocol number HR-2446 titled, "*The relationship of nurse attributes and selected organizational characteristics to labor support attitudes and behaviors: a mixed methods study.*" On July 9, 2012, the Marquette University Institutional Review Board granted exempt status for this protocol under Exemption Category #2: Educational Tests, Surveys, Interviews, or Observations.

Your IRB approved informed consent form is enclosed with this letter. Use the stamped copies of this form when recruiting research participants. Each research participant should receive a copy of the stamped consent form for their records.

You may proceed with your research. Your protocol has been granted exempt status as submitted. Any changes to your protocol affecting participant risk must be requested in writing by submitting an IRB Protocol Amendment Form which can be found here: http://www.marquette.edu/research/compliance/research/irb/irb-forms.shtml. These changes must be reviewed and approved by the IRB before being initiated, except when necessary to eliminate apparent immediate hazards to the human subjects. If there are any adverse events, please notify the Marquette University IRB immediately.

Please submit an IRB Final Report Form once this research project is complete. Submitting this form allows the Office of Research Compliance to close your file.

If you have any questions or concerns, please do not hesitate to contact me. Thank you for your time and cooperation.

Sincerely,

Amanda J. Ahrndt, RN, MS, MSN, CIM, CIP
IRB Manager

cc: Dr. Christopher Okunseri, IRB Chair
Dr. Lisa Hanson, Nursing
Mr. Carl Wainscott, Graduate School

Enclosure
AA/tr

Appendix H

Information Sheet for Participants

INFORMATION SHEET

Relationship of Intrapartum Nurse Attributes and Selected Organizational Characteristics to Labor Support Attitudes and Behaviors: A Mixed Methods Study

Ann Aschenbrenner
Marquette University School of Nursing

You have been invited to participate in this research study. Before you agree to participate, it is important that you read and understand the following information. Participation is completely voluntary. Please ask questions about anything you do not understand before deciding whether or not to participate.

PURPOSE: The purpose of this exploratory, descriptive study is to describe intrapartum nurses' attitudes and behaviors regarding professional labor support; identify factors that impact their attitudes and behaviors; the relationship between attitudes and behaviors; and comparison of findings within and between three Midwestern hospitals. Follow up focus groups will be conducted at each location to add to a rich description of professional labor support by registered nurses. You will be one of approximately 30 participants in this research study.

PROCEDURES: You will complete a demographics form and a questionnaire about attitudes and behaviors, the Labor Support Questionnaire and will have an opportunity to participate in focus group discussions. You will be audio taped during the focus group portion of the study to ensure accuracy. The tapes will later be transcribed and destroyed 5 years beyond completion of the study. For confidentiality purposes, your name will not be recorded.

DURATION: Your participation will consist of approximately 30 minutes to complete the written portion: the demographics and Labor Support Questionnaire. Focus groups will last 1.5-2 hours.

RISKS: The risks associated with participation in this study are no more than the participant would encounter in everyday life.

BENEFITS: The benefits associated with participation in this study include improvement of nursing care of women in labor.

CONFIDENTIALITY: All information you reveal in this study will be kept confidential. All your data will be assigned an arbitrary code number rather than using your name or other information that could identify you as an individual. When the results of the study are published, you will not be identified by name. The data will be maintained in a locked file cabinet or in a password protected file in the principal investigator's (PI), Ann Aschenbrenner, home and will be destroyed by shredding paper documents and deleting electronic files 5 years after the completion of the study. Recordings of focus groups will be transcribed verbatim and deleted 5 years after completion of research. Focus group participants will remain confidential and no identifiers will be used in the research report. All focus group participants are instructed to keep discussions confidential. However, the researcher(s) cannot guarantee that all focus group participants will respect everyone's confidentiality. The data may be used by the PI in future

research. Your research records may be inspected by the Marquette University Institutional Review Board or its designees, and (as allowable by law) state and federal agencies.

COMPENSATION: There is no compensation for participating in the questionnaire portion of this study. Focus group participants will receive a $10 Starbucks gift card and an opportunity to enter a drawing for a $75 Visa gift card.

VOLUNTARY NATURE OF PARTICIPATION: Participating in this study is completely voluntary and you may withdraw from the study and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. Once the questionnaire is submitted on Survey Monkey, retrieval will not be possible. Similarly, once participation in focus groups has been completed, the confidential transcript will not be alterable.

CONTACT INFORMATION: If you have any questions about this research project, you can contact Ann Aschenbrenner, ann.aschenbrenner@mu.edu or Lisa Hanson, lisa.hanson@mu.edu If you have questions or concerns about your rights as a research participant, you can contact Marquette University's Office of Research Compliance at (414) 288-7570.