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Breastfeeding while Employed Outside of the Home during the First Postpartum Year, a Grounded Theory:

Willfully Struggling to Maintain Daily Balance

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Breastfeeding While Employed Outside of the Home During the First Postpartum Year, A Grounded Theory: Willfully Struggling to Maintain Daily Balance

by

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DEDICATION

I dedicate this work first, to my late mother, Diana, for her generous support and love, and for her brave attempts at breastfeeding me, her first baby, during a time when infant formula feeding was favored over breastfeeding. This work is also dedicated to my four breastfed children, Tara, Marshall, Brian and Sophia for their infinite love and lifelong understanding of the necessity of their employed mother's attention to work, particularly during the work of this dissertation.

This manuscript is also dedicated to the late Susan Crane, VP, Neonatal Services, Seton Family of Healthcare, my employer and friend, who was an effective advocate of family centered care. Lastly, appreciation is also extended to all those who strive to support breastfeeding mothers, and to improve the world in which they live and work. Thank you all for your dedicated work and inspiration.

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I acknowledge the generosity of knowledge sharing and support from my faculty mentors at the School of Nursing during my education and work at The University of Texas. I wish to also express appreciation and acknowledge Dean Alexa Stuifbergen and Dr. Carole Taxis for their sincere ongoing expressions of support toward my progress in the doctoral program. The dedicated work of all of these individuals made significant contributions to my education.

Breastfeeding while Employed Outside of the Home during the First Postpartum Year, A Grounded Theory: Willfully Struggling to Maintain Daily Balance

Patricia Lee Hamilton-Solum, Ph.D.

The University of Texas at Austin, 2011

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The purpose of this study was to examine influences on the maternal process of maintaining lactation while employed outside of home during the first postpartum year as perceived by the mother. The American Academy of Pediatrics specifies human breast milk as the best source of nutrition during the first 12 months of life (Gartner, et. al., 2005). The United States Department of Labor reports (USBLS, 2009) that 56.4% of American women who have children less than 1 year of age, are employed. Employment is often cited as related to early weaning (Johnston & Esposito, 2007; McInnes & Chambers, 2008; Nichols & Roux, 2004; Rojjanasrirat & Sousa, 2010; Stewart-Glenn, 2008; Ryan, Zhou, & Arsenberg, 2006). This research was undertaken to address a significant gap in the empirical literature regarding mothers' self-description of the process of maintaining lactation upon return to the workplace.

Eleven breastfeeding mothers shared personal perspectives of the process that they face in their everyday work lives in semi-structured interviews. This qualitative study led to the development of a grounded theory of this process, which was labeled, '*Willfully Struggling to Maintain Daily Balance*'. Findings captured personal perceptions of critical

elements related to this process that may serve to inform the development of effective nursing interventions or policy in support of breastfeeding and employed mothers.

The study found that the breastfeeding and employed mothers began the process with a sense of willful self-determination to combine lactation with employment, the influence of role models, and basic breastfeeding knowledge. Mothers struggled with intervening variables that either bolstered or undermined their efforts during the process, such as adequate sleep and/or breast milk supply, and elements of support or non-support. Mothers developed individual strategies for use in maintaining a daily balance between their `breastfeeding and employment efforts and for addressing any intervening variables. The employed and breastfeeding mothers ultimately found ‘a way to make it work’ and/or ‘made their peace with’ resultant outcomes. The research addressed the question of what influences the maternal process of breastfeeding while employed outside of the home during the first postpartum year in a sample of central Texas women.

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CHAPTER ONE

Introduction

Considerable evidence of the maternal–child health benefits of breastfeeding is well reported in the literature (Ball & Wright, 1999; Heinrichs, Neumann, & Ehlert, 2002; Kramer & Kakuma, 2002; Quigley, Kelley, & Sacker, 2007; Wambach et al., 2005) and is supported by the American Academy of Pediatrics (AAP), the United Nations International Children's Education and Relief Fund (UNICEF), the United States Department of Health and Human Services (USDHHS), and the World Health Organization (WHO) (Gartner et al., 2005; UNICEF, 2010, 2011; USDHHS, 2006, 2010; WHO, 1991, 2001, 2003). The United States Breastfeeding Committee (USBC) emphasized directives for workplace support of breastfeeding through the postpartum period, urging supported development of related legislation in the Patient Protection and Affordable Care Act (USBC, 2011). The potential socioeconomic benefits to employers when support is provided to women who return to work while maintaining lactation are also outlined in the publication *The Business Case for Breastfeeding for Business Managers* (USDHHS, 2008).

The AAP and WHO recommend exclusive breast milk as the optimal source of infant nutrition through the first 6 months of life, with the gradual introduction of foods complementary to breast milk nutrition beginning at 6 months of age through 12 months

(WHO, 1991, 2001, 2003; Gartner et al., 2005; Scanlon et al., 2007). See Table 1 for current breastfeeding rates and targets (CDC, 2008, 2010, 2011; USDHHS, 2006, 2010).

In Table 1, *any breastfeeding* specifies the contribution of some portion of maternal breast milk to the infant's diet at any point in time, and *ever breastfed* includes mothers who breastfed only in the immediate postpartum period (Gartner et al., 2005; USDHHS, 2011). *Exclusive* breastfeeding specifies an infant diet that consists of breast milk as the only form of infant nutrition, without substitution of infant formula, water, juice, or any breast milk alternative for any feeding (Gartner et al., 2005; USDHHS, 2011). In summary, the breastfeeding rate data in Table 1 indicate that although rates of *ever breastfed* are close to target rates, none of the 3- to 12-months-of-age breastfeeding target rates have been achieved to date. In fact, the exclusive breastfeeding rates are currently reported at nearly half the target rates (CDC, 2010; USDHHS, 2011). In addition, there is some indication that rates of any breastfeeding at 3 and 6 months of age may be decreasing (CDC, 2011).

In addition to the new target rates, HP 2020 goals also include a new target goal for 38% of employers to report an on-site lactation mother's room (USDHHS, 2010). In January 2011, the United States Surgeon General issued a call to action in support of breastfeeding (USDHHS, 2011). The Surgeon General's directive followed the Healthy People (HP) 2010 report indicating that breastfeeding rates were less than target rates (USDHHS, 2011). The Surgeon General's call to action includes directives regarding employer support for breastfeeding mothers as well as attention to the need to revise

current national maternity leave policies and related funding (USDHHS 2011). The Surgeon General's report also emphasizes the critical importance of breastfeeding support research and improvements in monitoring of support of breastfeeding mothers in hospitals, childcare facilities, and the workplace (USDHHS 2011).

Multiple factors contribute to breastfeeding rates; however, full-time employment is associated with shorter duration of breastfeeding when compared with part-time employment outside the home or non-employment (Fein & Roe, 1998; Lewallen et al., 2006; Meek, 2001; Nichols & Roux, 2004; Ortiz, McGilligan, & Kelly, 2004; Taveras et al., 2003). The United States Department of Labor Bureau of Labor Statistics (USBLS) has projected that women's overall participation in the American workforce will account for 49% of the total labor force growth from 2006 to 2016, and that 75% of the 68 million currently employed women work full time (USDL, 2000, 2009). The USDL (2009) population survey reported that an approximate total of 56.4% of women with children less than 1 year of age were in the civilian labor force. Women typically earn less overall than men, and many women are faced with economic pressures to contribute to the family income particularly after the addition of a family member, which may influence a woman's decision to breastfeed (Guttman & Zimmerman, 2000; Johnston & Esposito, 2007; Kanotra et al., 2007; Ryan, Zhou, & Arsenberg, 2006).

In summary, the data for recent economic and labor trends show that increasing numbers of women of childbearing age are working outside of their homes during the first postpartum year. Many of these women also attribute work as a factor in their decisions about breastfeeding. Specifically, women who work outside of the home often

report employment as a rationale for discontinuing or decreasing their degree of breastfeeding their infants (Johnston & Esposito, 2007; Kanotra et al., 2007; McCarter-Spaulding, 2007; Rojjanasrirat, 2004; Rojjanasrirat & Sousa, 2010). The published empirical literature is based primarily on quantitative investigations of breastfeeding and employment. Current literature reviews of multiple health and social science databases indicate that there is scant literature exclusively addressing the mother's perspective in the breastfeeding and employment process (Britton, McCormick, Renfrew, Wade, & King, 2007; Callen & Pinelli, 2004; Dennis, 2002; Hauck, 2000).

Qualitative research conducted in the United States with a focus on the mother's personal perception of factors associated with her breastfeeding efforts as related to her employment is limited in its' number of studies (Avishai, 2007; Rojjanasrirat, 2004; Stevens & Janske, 2003). The present study of breastfeeding mothers employed outside of the home addressed an identified gap in the literature and specifically examined mothers' self-reports of factors that influenced them during breastfeeding while they were employed outside of the home. Specifically, interviews were held with mothers who were actively or recently immersed in breastfeeding while employed during the first postpartum year.

Table 1- Breastfeeding target rates and reported rates.

	Breastfeeding target rates:				
	Ever breast fed	**Any breast feeding through 6 (mos) of age**	**Any breast feeding through 12 mos of age**	**Exclusively breast fed through 3 mos of age**	**Exclusively breast fed through 6 mos of age**
Healthy People (HP) 2010 ***target rates***	**75%**	**50%**	**25%**		
HP 2010 **revised** ***target rates*** (added **exclusive** breast feeding rates)				**60%**	**25%**
HP 2020 new ***target rates***	**82%**	**61%**	**34%**	**46%**	**26%**
	Reported breastfeeding rates				
HP 2010 early midcourse review ***reported rates***	***73%***	***39 %***	***20%***		
HP 2010 ***reported rates*** (through 2006)	***74%***	***43%***	***21%***	***32%***	***12%***
Center for Disease Control (CDC) Pediatric Nutrition Surveillance data 2008/2009/2010 ***reported rates***	***62% (2008)*** ***62%(2009)*** ***63%(2010)***	***27% (2008)*** ***27% (2009)*** ***25% (2010)***	***19% (2008)*** ***19% (2009)*** ***17% (2010)***		

Note: All rates rounded to the nearest tenth percent (CDC, 2008; USDHHS 2006, 2010).

Purpose

The purpose of this research was to explore and describe the personal perceptions of American mothers, who were breastfeeding while employed outside the home during the first postpartum year and to develop a grounded theory of the process of breastfeeding during employment. The central focus was on the mothers' perspectives regarding the critical factors that they encountered when breastfeeding during employment, factors that

affect the outcome and/or direction of their experience in breastfeeding. The study's findings also serve to inform nursing and workplace policy related to breastfeeding and employment.

This study's design was qualitative, with a grounded theory method of inquiry based on the philosophy and conceptual framework of symbolic interactionism. This research perspective was selected because of the social interactions involving self, role, and group inherent in the social process of breastfeeding among mothers employed outside of the home (Blumer, 1969; Charon, 1989; Hewitt, 1976; Strauss & Corbin, 1990). The breastfeeding employed mother participates in dynamic social roles while interacting with her family, her workplace, and society as a whole. Breastfeeding during employment outside of the home implicates many social relationships.

Background and Significance

The AAP (Gartner et al., 2005) and WHO (WHO, 2001, 2003) have provided specific directives regarding the importance of newborn exclusive breastfeeding and recommend the withholding of cow's milk from the infant's diet until 12 months of age, with the gradual introduction/addition of solid foods complementary to breast milk during the second 6 months of life. The data in Table 1 indicate that the AAP and WHO breastfeeding recommendations for optimal infant nutrition from 3 to 12 months of age are not being met in the United States (Gartner et al., 2005; WHO, 2001, 2003).

An extensive review of the literature from developed and developing areas of the world has described the benefits of breastfeeding, which include a significantly lower

incidence of infant gastrointestinal infections and decreased severity of lower respiratory tract infections as well as an absence of nutritional or health risks associated with 6 months of breastfeeding by healthy mothers (Kramer & Kakuma, 2002). A UNICEF action report includes the hypothesis that breastfeeding the world's children less than 2 years of age holds the "greatest potential of child survival of all preventive interventions"(UNICEF, 2010, p. 2). The promotion of breastfeeding is a high priority in current public health discussions of infant health and nutrition worldwide (Ip et al., 2007; Quigley et al., 2007). In summary, due to the reported evidence of the positive health benefits of breast milk and less than optimal reported rates of breastfeeding, worldwide efforts are being undertaken to support the promotion of breastfeeding.

The support of continued lactation in mothers returning to the workplace outside the home is being promoted in many ways. Protecting the rights of and promoting breastfeeding support for women in the American workforce is a priority goal of the U.S. Breastfeeding Committee (USBC, 2011). Health promotion efforts in the workplace and in breastfeeding-friendly hospitals are cited in the current literature, yet breastfeeding rates remain well below HP2010 targets (Brown, Poag, & Kasprzycki, 2001; CDC, 2010, 2011; USDHHS, 2010, 2011).

The employed mother's self-reported perspective on her lactation efforts while employed has been described in the literature rarely, although employment is often cited as a factor contributing to early weaning (Ahluwalia, Morrow, & Hsia, 2005; Ball & Wright, 1999; Cardenas & Major, 2005; Cohen, Lange, & Slusser, 2002; Corbett-Dick & Bezek, 1997; Kurinij, Shiono, Ezrine, & Rhodes, 1989; Labbock, 2001; Ryan, Zhou, &

Acosta, 2002). Stress, logistics of time, space, social support, equipment, education, and maternal roles are among the factors that can potentially influence the lactation and working experience (Dunn, Zavela, Cline, & Cost, 2004; Groer, Davis, & Hemphill, 2002; Heinrichs et al., 2002; Johnston & Esposito, 2007; McGovern et al., 2007; Mezzacappa & Katkin, 2002; Mezzacappa, Tu, & Myers, 2003; Nichols & Roux, 2004).

The maternal–infant benefits of breastfeeding education and support during the course of the mother's postpartum experience have been shown by research (Hannan, Li, Benton-Davis, & Grummer-Strawn, 2005; Wambach et al., 2005). Reported low rates of lactation duration in the employed mother population indicate a potential gap between the needs of this population and effective social and nursing support or interventions available to meet those needs (Abdulwadad & Snow, 2007; Couto de Oliveira, Bastos-Camacho, & Tedstone, 2001). The relationship between support for the working and lactating mother and the duration of breastfeeding has been reported by Britton et al. (2007) in a systematic review of the related literature that lists 34 trials from 14 countries. These authors found that professional and lay lactation support correlated positively with prolonged duration of breastfeeding; they recommended further investigation of specific types of support, and indicated a need for support training. Britton et al. found few studies reporting maternal satisfaction.

In summary, multiple factors are involved in breastfeeding by mothers employed away from home. Despite the known benefits of breastfeeding and widely disseminated recommendations that mothers breastfeed infants, mothers are not breastfeeding at the recommended rates and often attribute their return to work as contributing to this.

Supportive intervention design and appropriate policy shaping is dependent on acquiring knowledge from those directly involved in the process of breastfeeding while employed away from home. The lactating employed postpartum mother is the expert on her breastfeeding experience while employed, and her perspective is the focus of this research.

Conceptual/Theoretical Framework

The conceptual framework for this study (see Figure 1) was developed by the author as a heuristic device for organizing the research related to breastfeeding during employment outside of the home into categories of influence (Heath, 2006; Hickey, 1997). An extensive literature has addressed a wide range of issues pertaining to breastfeeding during employment (Britton et al., 2007; Callen & Pinelli, 2004; Dennis, 2002; Guise et al., 2003; McInnes & Chambers, 2008; Wambach et al., 2005). This conceptual model (Figure 1) incorporates intrinsic factors, psychosocial factors, and resources reported in the literature that mothers may encounter while engaged in breastfeeding while employed outside of the home.

Intrinsic factors. Intrinsic factors are inherent, relatively fixed elements in the mother not amenable to any significant alteration during the postpartum period or, in the case of some elements, ever (Dennis, 2002; Li, Darling, Maurice, Barker, & Grummer-Strawn, 2005). Examples include demographic factors such as age, education, and health history (Dennis, 2002; Jacknowitz, 2006; Li et al., 2005; Rojjanasrirat, 2004; Ryan et al., 2002; Visness & Kennedy, 1997; Wright, 2001). The health histories of the mother, baby, and household members are also intrinsic factors with potential influence on the mother's

decisions related to breastfeeding and employment outside of the home (Ahluwalia et al., 2005; Labbock, 2001; Ryan et al., 2002). Health situations such as infant gestational age or chronic health conditions present in the mother or immediate family members impact the mother's experience in terms of her assessing and balancing her own needs, those of her baby, and those of her family (Dennis, 2002; Dillaway & Douma, 2004; Wambach et al., 2005).

Psychosocial factors. Psychosocial factors are aspects of support for or barriers to breastfeeding in the mother's immediate family network and workplace culture (Dennis, 2002; DiGirolamo, Thompson, Martorell, Fein, & Grummer-Strawn, 2005; Kanotra et al., 2007). Psychosocial factors also include personal attributes such as self-confidence, as well as the mother's role, expectations, or satisfaction in breastfeeding while employed. Proximal psychosocial factors include the influence of peers', family members', and employers' opinions about breastfeeding and working outside of the home within the mother's close social networks (Cohen et al., 2002; Dennis, 2002; DiGirolamo et al., 2005; Dunn et al., 2004; Grassley & Eschiti, 2007; Hauck, 2000; Humphreys, Thompson, & Miner, 1998; Kanotra et al., 2007; Moore & Coty, 2006; Sikorski, Renfrew, Pindoria, & Wade, 2003). Cultural aspects of mothers' lives are also significant in their breastfeeding decision making (Dodgson, Duckett, Garwick, & Graham, 2002; Gill, Reifsneider, Mann, Villarreal, & Tinkle, 2004; McCarter-Spaulding, 2007).

Maternal psychological processes of potential influence during this process include a mother's personal decision-making style, locus of control, personality, behavioral characteristics, and cognitive abilities (O'Brien, Buikstra, & Hegney, 2008;

Rojjanasrirat, 2004; Schlickau & Wilson, 2005). Juggling the multiple roles of breastfeeding mother, household manager, and employee is complex, and the mother engaged in breastfeeding during employment is assimilating new or additional roles (Avishai, 2007; Nichols & Roux, 2004; Stewart-Glenn, 2008). Role strain or conflict adds potential maternal stress and anxiety to the mother breastfeeding during employment (Cardenas & Major, 2005; McGovern et al., 2007).

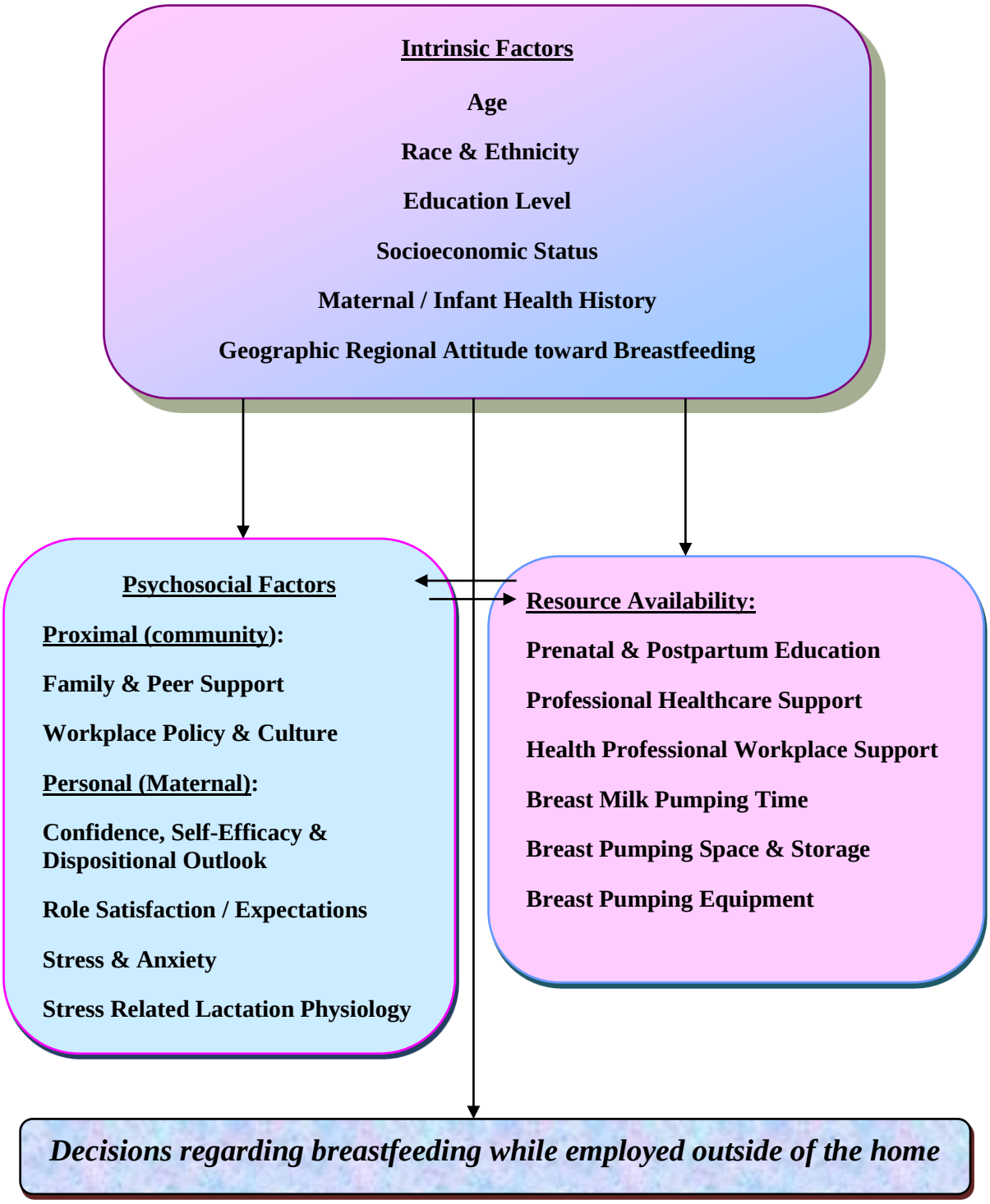
Personal psychosocial factors such as individual dispositional outlook or stress management style also influence the mother's decision-making and/or selection of resources related to management of her breastfeeding and employment experience (Ahluwalia et al., 2005; Dennis, 2002; Ertem, Votto, & Leventhal, 2001; Guttman & Zimmerman, 2000; McKinley & Hyde, 2004; Tiedje et al., 2002). The physiology of the human stress response during lactation or weaning is tied to a mother's stress management style and plays a role in influencing maternal decision making (Groer et al., 2002; Heinrichs et al., 2002; Labbock, 2001; Mezzacappa & Katkin, 2002; Mezzacappa et al., 2003; O'Brien et al., 2008)

Resource availability. Resource availability includes intangible or physical aspects of support to the breastfeeding and employed mother such as breastfeeding education and workplace pumping space, time, and equipment (Britton et al., 2007; Dennis, 2002; Kanotra et al., 2007; Wambach et al., 2005). The availability or lack of such resources and the ease of access to them impact the mother's decisions about breastfeeding and employment outside the home. Resources include anticipatory preparation activities that mothers participate in regarding the upcoming experience of

breastfeeding and employment. Mothers anticipating breastfeeding while employed outside the home often access classroom instruction, training, and written and/or digital educational materials (Couto de Oliveira et al., 2001; Declerq, Sakaia, Corry, & Applebaum, 2006; Dennis, 2002; Gill, Reifsnider, & Lucke, 2007; Kanotra et al, 2007; Lewellen et al., 2006; Roe, Whittington, Fein, & Teisl, 1999). Many mothers also seek ongoing professional breastfeeding support such as lactation consultation or professionally prepared breastfeeding peer counseling (Clifford & McIntyre, 2008; Dennis, 2002; Dillaway & Douma, 2004; Hauck & Irurita, 2003; McInnes & Chambers, 2008; Moore & Coty, 2006; Nelson, 2006; Nichols & Roux, 2004; Wambach et al., 2005).

The breastfeeding and employment experience is also influenced by workplace-related human resource policies such as maternity leave criteria, degree of work setting flexibility, and provision of breast pumping space and milk storage space (Cardenas & Major, 2005; Flower, Willoughby, Cadigan, Perrin, & Randolph, 2008; Hauck, 2000; Nichols & Roux, 2004; Payne & James, 2008; Stevens & Janske, 2003; Wyatt, 2002) . The level of workplace support resources and workplace policy depends on multiple variables such as company size, assets, and experience with a breastfeeding employee population (Abdulwadud & Snow, 2007; Gatrell, 2007; USBC, 2011). In turn, the breastfeeding mother can access only the resources that are available to her during the process of returning to work outside of home and maintaining employment while breastfeeding (Abdulwadud & Snow, 2007; Bai, Peng, & Fly, 2008).

(Figure 1) Breastfeeding While Employed Outside of the Home Literature Review Diagram



Research Design

The grounded theory approach generates thematic categories and concepts upon examination of a substantive issue of human behavior, in the present instance the mother's experience of breastfeeding and employment (Corbin & Strauss, 2008; Glaser & Strauss, 1967; Strauss & Corbin, 1998). The personal perspectives of breastfeeding and employed mothers are critical contributions to the evolution of central meaning and theory regarding breastfeeding and working outside of the home in the U.S. Ultimately, the mother assigns individual meaning to the breastfeeding and employment experience and manages her experience accordingly. It is the aim of this study to explore a group of American mothers' perceptions of their experiences of the process of breastfeeding and employment outside of the home during the first postpartum year in an effort to build a grounded theory that elucidates the current context of this experience.

Research Questions

This qualitative study addresses the following question: What influences the maternal process of breastfeeding for a mother employed outside of the home during the first postpartum year?

The following sub-questions explore more specific elements of the experience in order to enable interpretation of the findings.

1. What does the mother describe as challenges or facilitators during this process?
2. How do mothers respond to challenges during the process?
3. What affects the mother's decision making during this process?

Assumptions

1. The mothers' self-reported data were honestly stated.

2. Participants possessed the cognitive ability to reflect on their experience.

3. Participants were able to verbally articulate their perceptions of the experience.

Limitations

1. The findings are limited by the ability and willingness of the mothers to openly share the critical elements of this intimate and personal experience.

2. The findings are limited to the research questions in the methodology design.

2. Access to this sample was constrained by scheduling issues that may have limited the sample size. However, every effort was made to reach a diverse group of breastfeeding and working mothers, including those who discontinued breastfeeding, and to accommodate data collection to their schedules.

Definitions

The following definitions are used in this study:

Breastfeeding is the activity of the mother feeding her infant or child directly from her breast or with expressed breast milk, also known as mother's milk (Taber's, 2005).

Any breastfeeding specifies the contribution of some portion of maternal breast milk to the infant's diet at any point in time, specified in Table 1, including at birth (*ever*). (Gartner et al., 2005; USDHHS, 2011).

Exclusive breastfeeding specifies an infant diet that consists of breast milk as the only form of infant nutrition, without substitution of infant formula, water, juice, or any breast milk alternative for any feeding (Gartner et al., 2005; USDHHS, 2011).

Contraindications (to breastfeeding) refer to medically described situations where mother's breast milk or breastfeeding is not recommended at all, such as some maternal disease processes, or is temporarily restricted in situations such as exposure to a medication or substance ingestion, which may be known to pass through breast milk and pose a possibility of health risk to the infant (Taber's, 2005).

Lactation is the biological activity of milk production and release from the mother's breast, whether by infant suckling at the breast or via a breast pump or any combination of these two methods of breast milk expression (Taber's, 2005).

Weaning refers to the mothers either reducing or eliminating breastfeeding/breast milk in the infant's diet; this includes the gradual or abrupt cessation of lactation (Taber's, 2005).

Parity refers to the number of viable infants to which a woman has given birth (Venes et al., 2005). *Primipara* refers to a woman who has given birth for the first time to a fetus of at least 500 g or more than 20 weeks gestation. *Multiparous* indicates a woman who has had carried more than one fetus to a viable state of gestation (Taber's, 2005).

Postpartum refers to the period of time occurring after childbirth (Taber's, 2005). In this study, it is the 12-month period following childbirth.

Employment outside of the home was defined for this study as maternal gainful occupation that requires the mother and infant to be physically separated for an extended portion of the 24-hour day.

Summary of Chapter One

Breast milk is identified as the optimal source of infant nutrition during the first 12 months of life, yet actual breastfeeding rates are reported as below optimal recommendations. U.S. labor statistics indicate that a large proportion of American women are separated from their infants while at their places of employment during the first 12 months following childbirth. Mothers who are employed outside the home often discontinue breastfeeding early during the postpartum period. A number of preexisting sociodemographic factors and psychosocial factors, as well as the availability of supportive resources, may affect the process of combining breastfeeding with employment. This research explored participating mothers' personal perspectives on their experiences with the process of breastfeeding while employed outside of the home.

CHAPTER TWO
Literature Review

Introduction

This review of the literature is organized according to the study's conceptual model, Breastfeeding While Employed Outside of the Home (see Figure 1). The model's main constructs are (a) intrinsic sociodemographic factors, (b) psychosocial factors, and (c) available resource factors in breastfeeding support. These factors have either a direct or an indirect influence on the mother's decisions regarding breastfeeding while she is employed outside of the home.

Intrinsic factors are relatively fixed or non-modifiable (Callen & Pinelli, 2004; Dennis, 2002). They may influence the psychosocial factors and the selection of available resources. Psychosocial factors may vary in relation to other influential factors. The individual psychosocial factors predicate and shape strategies that the mother selects in both preparing for and adapting to her return to employment while breastfeeding (Callen & Pinelli, 2004; Dennis, 2002; McInnes & Chambers, 2008; Wambach et al., 2005). Available resources include professional and workplace support, education, and the availability of supplies. Resource availability comprises the factors most likely amenable to nursing intervention (Britton et al., 2007; Guise et al., 2003; Wambach et al., 2005). The resources may be used to educate, support, and shape the mother's breastfeeding decisions. Maternal access to resources affects the ultimate outcome of the experience of breastfeeding while the mother is working away from home.

The literature reviewed here includes a range of breastfeeding issues related to employment outside of the home setting, but it is presented and cited in chronological order of publication within each section whenever that is logical. The sources are primarily American publications, with the inclusion of some research from other western cultures.

The review is sorted into quantitative and qualitative sections. Due to the volume of quantitative literature related to this topic, the quantitative section is further sorted according to the categories represented in the conceptual model. The discussion begins by focusing on personal intrinsic factors, then psychosocial factors, and finally an examination of resources mothers use when breastfeeding while employed outside the home. The limited amount of qualitative literature specific to this topic is discussed in more general terms related to the categories in the conceptual model.

Quantitative Literature

Intrinsic Factors

Many of the sociodemographic intrinsic factors related to employment and breastfeeding have changed historically over time (Jacknowitz, 2006; Visness & Kennedy, 1997). Therefore, the literature related to intrinsic factors is presented with some attention to chronological or historical significance to help illustrate the changing perspectives of the employed breastfeeding mother. Common intrinsic factors include the mother's and/or family's level of education, socioeconomic status (SES), nuclear and extended family values related to work and/or breastfeeding, personal and family role

expectations of the maternal role, and the recent health history of the mother and infant.

Maternal age, ethnicity, race, education level, and SES. In 1997, Visness and Kennedy reviewed 10 years of the related published literature and cited maternal age, education, and SES as predominant factors associated with mothers' initiation and duration of breastfeeding. Their findings were based on an analysis of the 1988 National Maternal and Infant Health Survey (NMIHS), which sampled a total of 26,355 mothers and included a final tally of 9,087 cases of complete data. Maternal education, age, marital status, and higher income level were the strongest predictors of breastfeeding initiation in a logistic regression model. Multivariate linear regression was used to examine duration of breastfeeding; higher education and income level were found to be associated with longer duration of breastfeeding.

Variation was present when women of White and Black race were compared with White professional women demonstrating longer duration of breastfeeding (Visness & Kennedy, 1997). Longer duration of maternity leave also correlated with longer duration of breastfeeding. The analysis of the NMIHS data showed that White, older, well-educated women with higher incomes were the group most inclined to initiate breastfeeding. In both racial groups, initiation of breastfeeding was not significantly associated with employment; however, women not returning to employment were found to breastfeed longer, with the strongest association in White women.

Ten years later, Jacknowitz (2006) described overall increased breastfeeding rates in terms of similar demographic variables such as maternal age, education, employment, race, and ethnicity. Jacknowitz also included a comparative examination of the data from

several data sources: the Ross Laboratories Mothers Survey (RMS), the NMIHS data described by Visness and Kennedy (1997), the National Health and Nutrition Examination Survey (NHANES), the National Survey of Family Growth (NSFG), and the Food and Drug Administration's Infant Feeding Practices Survey (FDA-IFPS). Comparative analyses consistently showed an increase in overall breastfeeding initiation rates from approximately 53% in 1988 to approximately 69% in 2002 in all data sets except the FDA-IFPS. The FDA-IFPS data set was ultimately excluded by Jacknowitz due to the high percentage of White, older, married, and higher income women in the sample as opposed to the more heterogeneous makeup of the other data sets.

Jacknowitz (2006) used descriptive techniques to examine the demographic variables of maternal age, education, race, ethnicity, and income level from the 2002 RMS, in conjunction with birth data from the 2002 National Vital Statistics Report (NCHS). Jacknowitz compared the actual breastfeeding rate with "estimated breastfeeding rate for a given demographic characteristic" (p. 86) in order to examine whether changing demographic elements of breastfeeding rates at birth significantly contributed to increasing rates of breastfeeding initiation and rates of breastfeeding at 6 months postpartum. Jacknowitz found that 9.8% of the increases in initial breastfeeding rates were associated with increased maternal age and 11.5% with higher levels of maternal education. Maternal age accounted for 10.2% of increased rates of breastfeeding at 6 months and maternal education accounted for 9.0%. However, the breastfeeding rates related to race and ethnicity did not change significantly over time.

Limitations related to the original data sets included limited birth weight data and

the limited representative samples in the data sets in comparison with the census-like scope of the national birth statistics data (NCHS) (Jacknowitz, 2006). Birth weight data are important to include in examinations of breastfeeding rates due to feeding difficulties often associated with low birth weight and/or premature infants. Finally, the aggregated nature of the data and descriptive analysis allowed the potential for overestimation in the findings. Jacknowitz concluded by recommending the consideration of and/or control for demographic factors such as maternal age and education in the evaluation of policies and programs related to health behaviors such as breastfeeding intervention design.

In a historical examination of American breastfeeding trends, Wright (2001) found a post-WWII gradual decline from a baseline rate of approximately 66% in the 1900s to the lowest breastfeeding rate of 22% in 1972. Breastfeeding rates rose to 33.4% in 1975, followed by a gradual increase to approximately 60% initiation of breastfeeding and 20% continued breastfeeding at 6 months in 1995. Higher maternal income levels and education as well as White race were positively correlated with increased breastfeeding rates in the 1970s. Breastfeeding rates increased at significantly faster rates from 1986 to 1995 in Black and Hispanic women and among participants in the Women, Infants, and Children (WIC) national program than in non-WIC participating White women. White women continued to demonstrate an overall higher rate of breastfeeding. Wright also described a lower birth rate among White women than among Black women during the second half of the 20th century and subsequently emphasized that recent national increased rates of breastfeeding cannot be entirely attributed to White well-educated women.

Breastfeeding rates have been noted as gradually rising over the past 20 years (Visness & Kennedy, 1997; Jacknowitz, 2006; Wright, 2001), and although this trend was initially seen in predominantly older, educated, White women with higher incomes, rates have also risen slightly in non-White populations with lower levels of education. In summary, an inverse bell curve of breastfeeding rates was observed in the 20th century, falling to an all-time low in approximately 1975, with rates returning close to the late 19th century baseline at the turn of the 21st century (USDHHS, 2010). Demographics are noted as significant factors related to breastfeeding rates in this literature (Jacknowitz, 2006; Visness & Kennedy, 1998; Wright, 2001).

The potential impact of maternal employment outside the home on breastfeeding initiation and duration has received inconsistent attention in the literature. Wright (2001) presented a chart of MEDLINE citations on breastfeeding and human milk by decade, which illustrated an increase from 408 citations in 1960 to 6,269 citations by 1999. Yet although this increase in breastfeeding-related publications suggests a greater interest in breastfeeding research, the influence of employment on breastfeeding rates is addressed inconsistently in the literature. A retrospective review of breastfeeding and employment patterns from 1968 through 1986 found that women most often ceased breastfeeding during the postpartum month when employment began (Lindberg, 1996). However, from 1983 through 1986, employed women maintained breastfeeding at twice the rate for the previous 3-year period (Lindberg, 1996). Lindberg recommended further research focused on the identification of significant factors related to this emerging trend.

An empirical review of data collected from 1993 through 1994 regarding

breastfeeding while employed was used to examine the relationship of maternal work leave and work intensity to breastfeeding duration (Roe et al., 1999). This study was a secondary analysis of a survey of maternal demographic characteristics and behaviors related to infant feeding in a sample of 1,550 mothers. A subsample of 712 women employed in the prenatal period who had initiated breastfeeding reported that they had intentions of returning to work within 12 months postpartum. Structural equation modeling analysis revealed that mothers' education, age, and prenatal birthing class attendance as well as length of work leave were positively related to breastfeeding duration.

Specifically, mothers with less than a high school education breastfed an average of 17 weeks less than did those with a high school education, and high school graduates breastfed 9 weeks less than did college-educated women. Findings further indicated that each 1-year increase in the mother's age equaled a 0.78-week increase in breastfeeding duration (Roe et al., 1999). Limitations in this study included the predominance of higher average income and education in the subsample than that found among the general American population. Another potential limitation described by the research team was that due to the subsample inclusion criteria of breastfeeding women planning to return to work, the women in the subsample might have been more inclined to attempt combining employment with breastfeeding as well as have more flexibility in employment-related decisions (Roe et al., 1999). Conclusions included recommendations for closer examination of breastfeeding patterns of lower income women as well as employment and maternal characteristics of the breastfeeding and employed population.

Dennis's (2002) review of the published literature regarding breastfeeding initiation and duration from 1990 to 2000 included primarily Western literature with preference for randomized controlled trials, meta-analyses, and studies with large representative samples. The reference list included 189 sources. The data synthesis highlighted that weaning prior to 6 months was associated with younger maternal age, lower income, ethnic minority group, and full-time employment. Another literature review of breastfeeding initiation and duration in developed western countries examined six Canadian studies, six American studies, five European studies, and five Australian studies published primarily in the mid to late 1990s through 2001 (Callen & Pinelli, 2004). This review found that Europe and Australia had a higher rate of breastfeeding initiation as well as longer duration of breastfeeding than did Canada and the U.S., with Australia's rates reported as having the longest duration comparatively. Characteristics associated with breastfeeding initiation and longer duration in all the studies included older maternal age, higher level of education and family income, and marital (i.e., married) status. The findings from these two reviews (Callen & Pinelli 2004; Dennis, 2002) demonstrate the importance of women's intrinsic sociodemographic factors in their breastfeeding choices.

Li et al. (2005) examined the 2002 U.S. National Immunization Survey (NIS) to determine the duration and exclusivity of breastfeeding rates by maternal sociodemographic characteristics. The Centers for Disease Control (CDC) administers the NIS in two parts: first, a telephone interview in households with children 19 to 35 months old, and second, a postal mail follow-up survey to health care providers to

validate immunization data. Breastfeeding questions were added in the second half of 2001 to yield breastfeeding duration information from a sample size of 3,439 infants.

Breastfeeding rates were measured at 7 days, and 1, 3, 6, and 12 months in relationship to maternal sociodemographic characteristics. Breastfeeding rates at 6 months and exclusive breastfeeding at 6 months were lowest among the non-Hispanic Black children. Higher rates of both maintaining breastfeeding and exclusive breastfeeding at 6 months of age were associated with higher maternal education, socioeconomic status, and age. Although employment statistics were not directly collected in this data set, children 6 months old who attended daycare had lower breastfeeding rates in all breastfeeding categories (Li et al., 2005).

A limitation in Li et al.'s (2005) study was the dependence on retrospective maternal recall regarding breastfeeding at all points of data collection, thus allowing for potential bias in recall. Family income and residence data current at the time of telephone interview were collected, which may differ from the actual time points of breastfeeding. The research team concluded with recommendations to continue close monitoring of breastfeeding rates with focused research on sociodemographic and psychological factors, particularly in populations with demonstrated racial, ethnic, and economic disparities as well as employed mothers with infants in daycare.

A secondary analysis (Ryan et al., 2006) of the Ross Laboratories Mothers Study (RMS) breastfeeding data collected in 2003 focused specifically on the relationship of demographic variables such as maternal age, education level, ethnic background, and WIC participation to breastfeeding and employment status. The RMS has been conducted

since 1954. RMS sampling technique since 1997 consists of a monthly postal mail survey to new mothers until 12 months postpartum to help minimize retrospective recall issues.

The RMS sample is drawn from a commercial database pool of approximately 1,300,000 new mothers out of approximately 4,000,000 annual U.S. births/newborns with a broad cross section of national demographic subgroups. A total of 228,000 surveys were returned in 2003, of which 125,782 were included by Ryan et al. (2006) on the basis of the initial inclusion criterion of breastfeeding in the hospital. Employment categories included *not employed*, *part-time employed*, and *full-time employed*. Stepwise multiple regression analysis showed three significant predictors of breastfeeding at 6 months of age: WIC nonparticipation, maternal non-employment, and maternal education level. One out of three mothers in this study worked outside the home, and 17% of those worked part time. Mothers employed full time were more likely to be older than 30 years, college educated, primiparous, and nonparticipants in WIC. At 6 months postpartum, 26.1% of full-time employed mothers, 35% of nonworking mothers, and 36.6% of part-time employed mothers' maintained breastfeeding. The lowest rates of breastfeeding at 6 months occurred in mothers who were in one or more of the following groups: Black, less educated, WIC participants, mothers who were less than 20 years of age, and mothers with low-birth-weight infants (Ryan et al., 2006).

In summary, the demographic elements of age, education, ethnicity, and socioeconomic status are reported in the literature as significantly related to breastfeeding rates. In general, low-income, non-White, less educated younger women demonstrate the lowest rates of breastfeeding. Historical trends also indicate that breastfeeding rates

decreased significantly over time since WWII, with a recent rise in rates only in some groups. Demographic variables alone do not account for the overall low rates of breastfeeding, and demographic variables of significance are not consistent in the study findings.

Maternal and infant health history. Immediate maternal postpartum health needs may take precedence over breastfeeding support in terms of care planning in the postpartum unit and may ultimately affect milk supply if lactation consultation support is not provided. A review of lactation consultant practice from 1985 to 2005 that utilized CINAHL, MEDLINE, and the Cochrane Database of systematic reviews found 227 related evidence-based publications on postpartum health problems (Wambach et al., 2005). The foremost maternal health challenge was found to be adequate milk supply or the perception of insufficient milk supply. Sore nipples and breast engorgement were among the four most common postpartum health concerns (Wambach et al., 2005). Lactation mastitis was reported for 9.5% to 23.7% of mothers across the descriptive studies (Wambach et al., 2005).

The Pregnancy Risk Assessment and Monitoring System Data (PRAMS) database collects maternal behavior information in 31 states and New York City via a postal mail questionnaire at 2 to 6 months postpartum. A secondary analysis of the 2000 and 2001 PRAMS found sore nipples, breastfeeding difficulties, and insufficient milk supply as priority maternal health concerns and the rationale given for breastfeeding cessation prior to 6 months postpartum (Ahluwalia et al., 2005). These findings are consistent with the Dennis (2002) review. In addition, maternal sleep deprivation, feelings of limited time for

self, maternal sadness, and isolation were associated with breastfeeding cessation (Dennis, 2002).

The health issue of maternal smoking history has been shown to affect breastfeeding initiation and duration. Dennis (2002) found a rate of 25% of pregnant women smokers in developed countries. Maternal smoking behavior studies demonstrate lower initiation and duration rates of breastfeeding among smokers, and those who ceased smoking during the prenatal period often ceased breastfeeding upon resuming pre-pregnancy smoking habits (Ahluwalia et al., 2005; Dennis, 2002).

Certain extreme maternal and infant health situations, such as maternal HIV or a critically ill and hospitalized infant or toddler on restricted feedings, may temporarily or permanently contraindicate breastfeeding. Such infant feeding situations are complex in management, with continually emerging evidence regarding best practice. The literature regarding HIV and lactation is inconclusive, with some recommendations for withholding breastfeeding in HIV-positive mothers (Labbock, 2001) and with conversely emerging literature that reported breastfeeding up to 3 months as having an infant protective effect against acquiring the mother's HIV infection (Dennis, 2002).

The Agency for Healthcare Research and Quality (AHRQ) sponsored a systematic review on maternal health and infant outcomes in developed countries, which included findings from an analysis of a total of 86 individual studies and 29 meta-analyses or systematic reviews published in English (Ip et al., 2007). Ip et al. reported associations between lactation and reduced maternal incidence of Type 2 diabetes, breast cancer, and ovarian cancer. Maternal health findings also included early cessation of breastfeeding, or

not breastfeeding, as significantly associated with a risk of postpartum depression.

Low birth weight is shown to be a significant predictor of early weaning or lack of breastfeeding initiation in the studies utilizing the NIS or RMS data large sets (see Li et al., 2005; Ryan et al., 2002; Ryan et al., 2006). Research evidence for the health benefits of human milk in comparison with commercial preterm formula feeding for the delicate premature physiology includes vastly improved gastrointestinal health, neurodevelopment benefits, and increased host defense through passive immunity (Wambach et al., 2005). The association of low breastfeeding rates with low birth weight and/or prematurity when compared with the evidence-based human milk health benefits to the premature infant presents a striking health disparity. The premature or low-birth-weight infant also often requires tube feedings and/or supplementation of expressed breast milk, which in turn can affect the establishment of sufficient maternal milk supply. These situations often benefit from intensive lactation consultant support in order to assist the mother–infant dyad with a successful breastfeeding experience before, during, and/or after the mother's return to work (Wambach et al., 2005).

Although lactation consultants are on call in pediatric healthcare settings, lactation support is not always a priority in care planning, particularly during pediatric health crises (Wambach et al., 2005). The challenges of milk expression and/or milk supply maintenance in health crisis situations may require an intensity and consistency of breastfeeding support that is difficult to locate, because many healthcare professionals have inconsistent or insufficient training in lactation and breastfeeding support (Ahluwalia et al., 2005; Dennis, 2002).

Maternal prescription medications present a dilemma to breastfeeding mothers, particularly those without consistent primary care providers and with inconsistent direction and support (Wambach et al., 2005). A majority of maternal prescription medications are considered safe to use during breastfeeding (Ahluwalia et al, 2005). A need for consistent, noncontradictory, or less confusing professional healthcare advice, as well as direction in medication use and all matters related to breastfeeding, has been cited consistently in much of the literature (Ahluwalia et al., 2005; Dennis, 2002; Wambach et al., 2005).

In summary, maternal and newborn health affects the breastfeeding experience and breastfeeding rates. Mother infant dyads with particularly challenging health situations require intensive expert lactation support. Well-trained lactation consultants provide consistent expert support in difficult situations; however, they may not be readily available during the postpartum period following hospital discharge. Separation of the mother and infant imposed by maternal employment outside of the home also affects the breastfeeding experience and suggests the ongoing importance of postpartum lactation support.

Regional/geographical culture of breastfeeding. Visness and Kennedy (1997) suggested the existence of regional clusters of breastfeeding related to culture and found a significant association with geographic region of residence. Subsequent studies concurred with regional breastfeeding rate variation and have cited significantly higher overall rates of breastfeeding at 6 months of age in the Pacific and Mountain regions of the U.S., with an average of approximately 44%–46%; the rate in the east south central

region was 19.4%–20.3%, and in the south Atlantic region, 29%–33.5% (Li et al., 2005; Ryan et al., 2006). New England has also been cited as a midrange region of breastfeeding support as measured by 6 months postpartum duration rates of 38% and 37% (see Li et al., 2005; and Ryan et al., 2006, respectively). Li et al. utilized the NIS data and Ryan et al. (2006) utilized the RMS data with an approximate 1% rate difference between the two data sets overall. Mothers employed full time at 6 months were also shown to have differences in regional rates in the RMS study, with rates of 17.6% and 34.6% in the south Atlantic and Pacific regions, respectively (Ryan et al., 2006). These regional differences in breastfeeding rates may have been attributed to local values and norms related to breastfeeding concurrently with employment, acceptable family structure, and/or role expectations for the mother.

Summary of intrinsic sociodemographic factors. The literature reviewed with regard to intrinsic factors for breastfeeding and employment has included factors such as the mother's age, level of education, race, ethnicity, and prenatal health history, which are relatively unchangeable during pregnancy or the first postpartum year. Additionally, the prenatal and even pre-conception period has been shown to be a critical time when many breastfeeding decisions are made (Ahluwalia et al., 2005). Maternal and infant health issues may be intrinsic factors present during the prenatal period and postpartum period. Maternal and infant health status significantly impact the breastfeeding and employment experience of the mother. Intrinsic sociodemographic factors are often relatively fixed or unchangeable and influence personal and family/community social factors. Some intrinsic factors such as SES and regional or geographic place of residence

can change during the course of a pregnancy or postpartum, which may in turn affect mothers' breastfeeding decisions regarding return to work. Intervention designed in support of breastfeeding mothers should include consideration and assessment of intrinsic factors, such as demographics, maternal–infant health history, and regional breastfeeding culture of the target population.

The gaps in the literature on intrinsic factors are insufficient demographic diversity in samples, as well as the lack of a specific focus on the influence of demographics on the breastfeeding and employment process from the mother's perspective. The aspect of maternal employment, examined from the mother's perspective, is largely absent. There are very few qualitative studies of maternal employment during breastfeeding that include groups of mothers with a varied cross section of demographics, particularly in the United States. The continued disparity between the recommended and actual rates of breastfeeding mandates further research in this area regarding maternal employment.

Psychosocial Factors

Psychosocial factors are those that are related to either social or psychological characteristics of the process of breastfeeding during employment. In the following section, psychosocial factors are sorted into proximal community characteristics and personal or individual maternal characteristics.

Proximal community psychosocial factors: Family and peer support. The regional or geographical cultural context for breastfeeding rates described in the previous

section constitutes a large portion of the social processes affecting the breastfeeding process that the mother encounters. For example, breastfeeding-friendly local hospital practices and local public breastfeeding laws may impact some of the public aspects of the mother's breastfeeding experience, but her private breastfeeding experience largely takes place within immediate social and family circles. This section addresses social processes that the breastfeeding and employed mother may encounter directly within her proximal or local social circle of influence.

An experimental study of a breastfeeding program focused on fathers found that 69% of the program families' infants were still breastfeeding at 6 months and had an overall average of 8 months of breastfeeding for all infants in the program (Cohen et al., 2002). A majority of the mothers (65%) indicated that the father was a significant influence in breastfeeding decisions. Cohen et al. also suggested that the "mother's social framework is a stronger predictor of breastfeeding duration than [the] mother's demographics" (p. 61). In a study on predictors of continued breastfeeding, DiGirolamo et al. (2005) described the mother's social network, including the father, maternal grandmother, and close friends, as impacting maternal feeding choices. Dennis's (2002) extensive review of the North American literature from 1990 to 2000 found the mother's partner to be a strong influence in her breastfeeding initiation.

In their systematic review of breastfeeding support literature including 20 trials in 20 countries with a total of 23,712 mother–infant pairs, Sikorski et al., (2003) found a positive effect of extra support (professional or lay) on duration of breastfeeding. Professional support beyond standard local healthcare practices was found to have a

strong effect on any breastfeeding continuation, and lay support had the greatest effect on duration of exclusive breastfeeding. The original studies were conducted in developed western nations, but half of the later studies were done in developing nations, which limits the generalizability of the findings. Sikorski et al recommended that qualitative research was needed to further explore breastfeeding support strategies.

The effect of peer social contacts on breastfeeding intention was examined in a study of 1,001 low-income pregnant women, which found that the attitudes and beliefs of the mother's immediate social network had a stronger effect than did healthcare professionals' influence on her decision to breastfeed (Humphreys et al., 1998). This finding is consistent with Dennis's (2002) finding that continuation of breastfeeding was more common among women whose members of their social network supported their decision and/or had also breastfed. Dennis also reported the results of 10 studies of peer support (mother to mother) and found a significant association with breastfeeding duration up to 3 months postpartum particularly in mothers with socio-economic disparities.

In summary, the mother's family members' and friends' opinions, cultural practices, personal experiences, and/or knowledge about breastfeeding often play significant roles in affecting the mother's breastfeeding and employment experience. As illustrated by examples in the reviewed literature, the initial private personal process of breastfeeding at home incorporates some social or more public aspects of the breastfeeding process upon the mother's postpartum return to the workplace. Regional differences in social support for breastfeeding, particularly while a mother is employed,

may affect her decisions about breastfeeding. Differences in local community and/or workplace culture may exert powerful psychological influences on the mother's decisions about breastfeeding when she is employed outside the home.

Proximal community psychosocial factors: Workplace policy and culture. The mother's workplace is an important social setting that can influence her breastfeeding practices. In a literature review of 38 publications, Stewart-Glenn (2008) examined the knowledge, perceptions, and attitudes toward breastfeeding among managers, coworkers, and employed mothers. Elements of a supportive workplace environment were also identified, including the workplace's organizational culture. Stewart-Glenn also cited evidence of covert breastfeeding discouragement in workplace culture, as well as fear of workplace discrimination by some breastfeeding mothers.

In a questionnaire survey of Midwestern U.S. urban employers, Libbus and Bullock (2002) found that although 35% of employers expressed agreement with workplace changes in support of employed breastfeeding mothers, only 18% to 25% recognized any value of breastfeeding promotion in the workplace environment. A total of 156 questionnaires were distributed to a predominately male (60%) population of attendees at community business meetings. The final sample of returned surveys was obtained from primarily White women (69%), with 81.2% of the total sample reporting college education. Another study of businesses in 23 Colorado counties (Dunn et al., 2004) used the results of 157 completed Worksite Infant Feeding Surveys. This research team's eight-item mixed methods survey included questions from the Colorado Employer Survey and the Attitudes Toward Breastfeeding Questionnaire, with two of eight items

written as open-ended qualitative questions. In this study, 70.5% of employer participants responded that they would support the needs of breastfeeding employees. The qualitative responses demonstrated a common theme of breastfeeding as a matter of choice, with formula bottle-feeding the culturally expected norm for infants. A limitation in the study was that the participants were predominantly from a single large urban area of businesses.

Calnen's (2007) literature review regarding paid maternity leave and impact on breastfeeding in the U.S. described multiple limitations of the current (unpaid) Family Medical Leave Act (FMLA) and compared this U.S. policy with that of 140 other nations that have paid maternity leave policies. Calnen found that the U.S. had considerably shorter paid maternity leaves than those in many western developed nations. This review, in the U.S. publication *Breastfeeding Medicine*, illustrates the incongruity between the current American workplace demands on the breastfeeding employed mother and the American Pediatrics Academy's recommendations for breastfeeding through 12 months of age. Calnen, a physician, called for increased activity in physician-driven advocacy efforts with regard to the American workplace and for parental leave policies in support of employed breastfeeding women. Maternity leave as a broader issue of global and national policy, although closely related to breastfeeding and employment, is largely beyond the control of the mother. It may, however, influence the breastfeeding mother's decisions about breastfeeding, and therefore it is mentioned here. However, it is beyond the intent of this chapter and study to address the extensive literature on maternity leave policy.

In summary, workplace policy and local attitudes toward combining breastfeeding

and employment may influence the mother's decisions about breastfeeding as well as breastfeeding rates (Calnen, 2007; Dunn et al., 2004; Libbus & Bullock, 2002; Stewart-Glenn, 2008). In times of economic uncertainty, mothers may be forced to weigh the risks of potential workplace retribution for breast milk pumping time against maintaining employment or facing unemployment. Consideration of such maternal concerns regarding breastfeeding and employment, which may be beyond an individual mother's control, is important. Yet research focus on such maternal concerns is lacking in the current empirical literature.

Personal psychosocial factors: Maternal confidence, self-efficacy, and dispositional outlook. A two-part Australian study (O'Brien et al., 2008) identified seven major psychological influences on mothers' breastfeeding initiation and duration. This study included an extensive literature review, the use of standardized scales, and three new scales developed by the study's research team. A total of 375 women completed a questionnaire within 14 days postpartum and participated in a telephone interview 6 months later. The average participant was 30 years old and had completed an average of 13.6 years of education, was multiparous, was married or cohabiting, and had an expectation of returning to full or part-time employment. The study controlled for sociodemographic factors and found that the following psychological factors were significantly associated with breastfeeding duration: level of optimism, breastfeeding self-efficacy, faith in breast milk, breastfeeding expectations, anxiety, planned breastfeeding duration, and timing of the infant feeding decision. O'Brien et al. also concluded that a set of "individual psychological differences" had more predictive value

than did commonly cited sociodemographic factors (p. 405). The authors also noted that breastfeeding duration was significantly correlated with maternal self-efficacy.

Maternal confidence and maternal belief in the infant's feeding method preference were the two factors most closely associated with duration of breastfeeding in a longitudinal study of 64 low-income, primarily ethnic minority mothers in the Northeastern U.S. (Ertem et al., 2001). However, perceived support was not found to be related to breastfeeding duration. Accurate breastfeeding knowledge about breastfeeding maintenance was reported by only 30% of the participants. Finally, 77.4% of the women in the study discontinued breastfeeding before their infants were 2 months old.

Dennis (2002) concluded that perceived difficulties with breastfeeding were significantly associated with early weaning, lack of social support from family and peers, and low maternal confidence levels or self-efficacy. Similarly, Schlickau and Wilson's (2005) review of 25 studies of health promotion breastfeeding behaviors in Hispanic mothers found that self-efficacy was significantly associated with breastfeeding initiation and duration in 7 of the 25 studies.

A positive maternal attitude sometimes referred to as *dispositional outlook* was found by Ahluwalia et al. (2005) to be related to breastfeeding initiation and duration. Women in their PRAMS study were more likely to breastfeed for at least 4 weeks if they were determined to have a positive disposition toward breastfeeding. Similarly, Dennis (2002) found evidence of greater breastfeeding initiation and success rates in mothers with positive outlooks as opposed to mothers with negative, anxious perspectives.

In summary, personal maternal psychosocial factors such as self-efficacy and

positive or negative dispositional outlooks have been shown to be associated with duration of breastfeeding. It is a logical assumption, then, that one should examine similar potential associations with the process of combining employment with breastfeeding.

Personal psychosocial factors: Role satisfaction/expectations. A secondary analysis of a larger study of postpartum employed mothers utilized the McCubbin theoretical resiliency model of family stress, adjustment, and adaptation to explore the self-reported experiences of 74 employed American women working within 12 months postpartum (Nichols & Roux, 2004). The findings were divided into categories of resiliency building (positive aspects) and resiliency challenges (negative aspects) as outcomes of postpartum employment. Maternal role satisfaction, positive adaptation, social support, and career role satisfaction were found to be resiliency building, and role conflict/overload, family stress, family child issues, finances, and psychological issues were identified as resiliency challenges.

According to Nichols and Roux (2004), over two thirds of the participants reported difficulty in combining multiple roles. They also reported twice as many resiliency challenges in contrast to resilience building factors. The psychosocial issues included fatigue, feeling depressed, and a desire to breastfeed longer. The study's limitations included limited demographic diversity, including higher than average SES and education level in the sample. However, given the overall abundance of resources in this sample, the preponderance of resiliency challenges is interesting. This finding warrants more heterogeneity in sample characteristics in further research of this nature.

In a study comparing models of personal attitudes (PA) and structural factors (SF) related to the duration of breastfeeding, McKinley and Hyde (2004) used data from the longitudinal Wisconsin Maternity Leave and Health Project sample. That project followed 570 women from the prenatal period through 12 months postpartum. Data from 379 women were used to test models to predict breastfeeding duration with the feminist assumption that "breastfeeding should be constructed in terms of equity" (p. 398). The SF model assumed that structural variables predicted breastfeeding duration more accurately than did personal attitudes of the mother. The SF model included measurements of maternity work leave and workplace flexibility. The PA model suggested that personal attitudes were a more significant predictor of breastfeeding duration over structural factors such as employment. The PA model measured work and family salience, breastfeeding enjoyment, and gender-role attitude.

McKinley and Hyde (2004) concluded that both women's personal attitude and structural factors played significant roles in determining breastfeeding duration in employed mothers. Limitations listed by the authors included the limited number of variables included in the design of the PA and SF models. Efforts were made to recruit a sample with diverse demographics, although ethnic diversity was not present; 93% of the sample was described as European American.

Cardenas and Major (2005) examined the mother's attempts to balance the roles of employee and breastfeeding mother within the conceptual framework of a work–family conflict. This review showed evidence of considerable conflicts, which Cardenas and Major divided into categories of time-based, strain-based, and behavior-based

conflict areas. Time-based conflicts involved postpartum timing of returning to employment, time to pump milk during the workday, and time present at work, as well as family and childcare time. Behavior-based conflicts included similar time-based conflicts, but these were centered within workplace structure and policy; behavior-based conflicts also included mothers' ratings of the conflicts as major or minor. Strain-based conflicts were focused on stress and anxiety in relation to incompatible role expectations in the breastfeeding mothers' work and/or family roles. Cardenas and Major suggested future research on the specific role challenges that working and breastfeeding mothers encounter in order to design appropriate intervention and support.

A study of a group of 661 Midwestern working American women reported fatigue to be persistent at three points of examination during the postpartum period (McGovern et al., 2007). Poor health symptoms were significantly correlated with stress related to role balance and limitations. Although 50% of the women had returned to work by 11 weeks postpartum, all the women who reported more control over job and home role function and less job stress were found to have better physical and mental health symptom scores than those of women with role conflicts, despite the presence of persistent fatigue. Health status outcomes were rated by responses to an established general health scale, which included a physical component summary, a mental component summary, and postpartum symptoms score.

Mothers in McGovern et al.'s (2007) study who returned to work maintained breastfeeding at a rate of 40.1%, as compared with 64.4% in mothers still on work leave at 11 weeks postpartum. Limitations of the study included generalizability concerns due

to the predominance of married Caucasian participants with an average age of 30, and the absence of scale(s) measuring household tasks/work/childcare support. This study, however, did find correlations between stress, role balancing, and health in the postpartum employed mother. Stewart-Glenn (2008) reviewed literature that also addressed the concept of role in the employed and breastfeeding mother. Role overload difficulties, commitment, and maternal guilt were the most common factors cited in this review. Role overload was translated as balancing the roles of good mother and good employee while breastfeeding and employed (p. 426).

In summary, balancing multiple roles is challenging for the mother who breastfeeds while she is employed. The degree of difficulty in balancing multiple maternal roles and subsequent health outcomes seems also to be associated with the amount of available support and resiliency within both the individual mother and her immediate support system at home and in the workplace.

Personal psychosocial factors: Maternal stress and anxiety. In a single publication, Mezzacappa and Katkin (2002) reported the results of two stress response studies related to lactation. They utilized three psychological scales—cognitive and perceptual changes in motherhood; the perceived stress scale; and the state–trait personality inventory—to compare stress response in two separate groups of bottle-feeding and breastfeeding mothers over a period of 1 month. The breastfeeding mothers reported significantly less stress than did the bottle (formula) feeders. The first study controlled for maternal age, parity, work status, and time postpartum.

The second study in Mezzacappa and Katkin (2002) showed similar results, in

that breastfeeding mothers reported less perceived stress than did bottle-feeding mothers. Data were collected during the prenatal and postpartum periods, and the study controlled for personality state–trait anxiety, anger, and curiosity. Results were consistent with other findings of buffered stress response in lactating mothers attributed to physiological neuroendocrine effects and distinct from individual personality differences (Groer et al., 2002; Heinrichs et al., 2002; Labbock, 2001). Mezzacappa and Katkin recommended further research regarding the neuroendocrine and psychosocial aspects of maternal stress response.

O'Brien et al. (2008) found a significant relationship between maternal anxiety and breastfeeding duration. Psychological variables were measured with standardized scales at two points during the first 14 days postpartum in a sample of 345 women. Anxiety was reported in 21.8% of the women and found to be a significant predictor of early weaning behavior.

A review of the breastfeeding and work literature by Hauck (2000) showed that earlier postpartum returns to work were associated with earlier weaning. The stress literature described maternal antidepressant effects of oxytocin during lactation contrasted with a higher level of anxiety during weaning (Groer et al., 2002; Heinrichs et al., 2002; Labbock, 2001; Mezzacappa & Katkin, 2002).

In summary, maternal anxiety may be associated with early weaning, but there is also evidence of depressive effects during weaning, particularly upon return to work. Lactation and weaning also appear to be associated with some complex, or at least currently unclear, endocrine activity in some research (Groer et al., 2002; Heinrichs et al.,

2002; Labbock, 2001, Mezzacappa & Katkin, 2002). Definitive multidisciplinary research examining relationships between lactation or weaning and anxiety, stress, or depression among postpartum mothers who return to work was not found in this review.

Stress-related physiology of lactation. Evidence of a breastfeeding stress-protective effect of lactation is that oxytocin and prolactin have been found to mediate the stress response by affecting hypothalamic-adrenal-pituitary (HPA) axis activity in animals (Heinrichs et al., 2002; Mezzacappa et al., 2003). In a literature review of postpartum stress response, Groer et al. (2002) described findings of lower plasma levels of stress response hormones and lower blood pressure in breastfeeding mothers than in matched groups of nonlactating mothers exposed to physiological stress tests and crying infant audio tapes. Emerging research on elevated brain levels of oxytocin showed concomitant effects of sedation, lower blood pressure and corticosteroid levels, positive mood, and prosocial behavior in humans. Oxytocin blood levels were elevated during lactation and suspected to be related to a stress-buffering effect in breastfeeding mothers.

Groer et al.'s (2002) literature review of 50 studies focused on postpartum stressors found that the most commonly reported maternal stressors were fatigue, early postpartum discomfort, regulation of multiple role demands, and emotional tension. Also found was a diminished stress response in breastfeeding mothers associated with the neuroendocrinology of lactation. The physiology of lactation-buffered maternal physiological response to stress suggested a calming effect of lactation.

Conversely, controlled experimental weaning studies demonstrated heightened response to stress and self-report of depressed mood and psychological symptoms

(Mezzacappa et al., 2002). An experimental design study of 24 lactating women demonstrated stress buffer effects when the stress was psychosocial and occurred more than 1 hour after nursing, as measured by plasma cortisol levels (Heinrichs et al., 2002). An extensive review of the related psychology literature regarding human lactation-related stress physiology and behavioral response found that reduced responses to acute psychological stressors occur in lactating women, particularly after breastfeeding (Heinrichs et al., 2002). These results also suggested that lactation-related, elevated serum oxytocin and prolactin levels have a stress response buffering effect, which in turn could have a positive impact on maternal health.

Labbock's (2001) review of 79 publications related to biological effects of lactation on mothers found postpartum endocrine effects associated with mood and depression. The highest rates of postpartum depression were found to occur at 3 months postpartum in countries with a pattern of short breastfeeding duration, whereas postpartum depression rates peaked at 9 months postpartum in countries where longer breastfeeding duration was the norm. Labbock recommended a closer examination of biological influences such as weaning on postpartum depression.

Breastfeeding produces an endocrine-triggered side effect of relaxation and calming associated with stress buffering. Conversely, the finding of negative behavioral stress response to weaning is of particular concern when this response is considered in relationship to the likelihood of at least some weaning behavior upon return to employment. These findings also raise questions about the risk potential for maternal postpartum depressive behavior when weaning is combined with the stress of resuming

work. Further study of mothers weaning their infants while employed outside the home may provide insight regarding potential postpartum stress and/or depressive behavior and related support needs in this population.

In summary, the studies above describe evidence of multiple psychosocial issues related to breastfeeding while employed, and illustrate the multifaceted nature of this experience. Mothers observed in this research were strongly influenced in their decisions by their immediate or proximal circle of friends, family, and co-workers. In addition, the mothers' decisions were affected by personal psychological aspects of their behavior, such as their levels of confidence in their ability to continue breastfeeding while working, as well as their perceptions and dispositional outlook. A combination of negative dispositional maternal outlook with maternal perceptions of stress and anxiety was often associated with weaning. Balancing expectations and the multiple roles of mother and employee was a challenge for the mothers in several of these research studies. The demographic homogeneity of many of the samples, however, limits the generalizability of the findings.

Gaps in the psychosocial literature comprise the absence of demographic diversity in samples, as well as of stress and anxiety studies specifically related to breastfeeding of mothers employed outside of the home. There is also an absence of qualitative research conducted in the United States specific to the mothers' perceptions of the influence of psychosocial factors on breastfeeding while employed outside of the home.

Resource Availability

Resource availability in support of breastfeeding mothers who return to work begins with education in the prenatal and early postpartum period. A review of prenatal and postpartum interventions to support extended breastfeeding duration by Couto de Oliveira et al. (2001) excluded interventions in the immediate postpartum period. The most effective interventions during the postpartum period were home visits and individual education sessions that included problem solving related to mothers' stated needs and that involved family members. Group education was effective only in the prenatal period. Roe et al. (1999) found that prenatal breastfeeding class attendance increased breastfeeding duration by 5 weeks.

In their systematic review, Sikorski et al., (2003) found that supportive interventions were most effective at 2 months postpartum, particularly those using personal visits as opposed to telephone calls. Dennis (2002) also found positive influences on breastfeeding duration from postpartum telephone support via lay peer support in an examination of 10 studies. In addition, Dennis found positive results from prenatal classes and early postpartum education, which were reported to be helpful to breastfeeding mothers.

Nichols and Roux (2004) found that preparation for breastfeeding and employment was "an important but neglected issue" (p. 470). Abdulwadud and Snow (2007) conducted a rigorous and comprehensive systematic review of four major databases in addition to hand searches of over 67 journals as well as the CDC guide to breastfeeding interventions and found no randomized controlled or quasi-randomized

controlled trials of postpartum workplace interventions for breastfeeding and employed women. The present review identified a significant gap in evidence-based research in this area.

Intervention developments focused on the support of breastfeeding mothers working outside the home are often described as recommendations but have not been empirically tested. Recommendations for successful breastfeeding while employed include prenatal education, needs assessment, adequate diet, relaxation and rest, milk expression, leakage and storage guidelines, supplementation, direct breast feeding schedules, day care, and social support suggestions (Cardenas & Major, 2005; Hauck, 2000; Nichols & Roux, 2004; Wyatt, 2002).

A non-experimental corporate lactation program described by Slusser, Lange, Dickson, Hawkes, and Cohen (2004) was found to support twice daily breast milk expression in mothers of 3- and 6-month-old infants. A similar study found corporate lactation programs to have positive results with support of breast milk expression in the workplace (Cohen et al., 2002). These program evaluation studies were limited by an absence of control groups, potential bias because the employer conducted the studies, and homogeneity of the samples, which were mostly White, older, educated, and middle class. Greater use of occupational health nurses in the workplace was also suggested in the maternal support literature, although it was rarely available at places of employment (Abdulwadud & Snow, 2007; Wyatt, 2002).

Pettis and Miller's (2007) program evaluation concluded that recent educational breastfeeding campaigns in the media were ineffective; they attributed this to extreme

informational messages delivered by healthcare professionals instead of actual breastfeeding mothers. Pettis and Miller, who are social psychologists, recommended science-based programs and research with actual mothers engaged in breastfeeding and employment in order to gain "fundamental insight" into maternal expectations and perceptions that would aid development of appropriate policy (p. 45). Research data often serve to drive policy, particularly in situations lacking policy, which may be argued with respect to the experience of the breastfeeding, employed American mother.

Many researchers have discussed the use of healthcare professionals to support breastfeeding mothers, but empirical evidence for effective intervention design is lacking. Wright's (2001) review of the U.S. literature found no evidence that postpartum healthcare providers provided increased support for breastfeeding. Dennis (2002) presented a summary of studies in which the majority of nurses were reported as lacking adequate breastfeeding knowledge and/or the clinical time or interest in support of breastfeeding. A mixed method study of breastfeeding education in pediatric primary care settings described inconsistent and unsupportive information sharing from healthcare professionals to mothers (Dillaway & Douma 2004). Gill et al. (2007) conducted a quasi-experimental design study with 182 low-income urban U.S. Hispanic women comparing prenatal breastfeeding education with postpartum follow-up breastfeeding support. Prenatal education was found to be predictive of breastfeeding initiation. However, postpartum telephone and home visit support were significantly associated with breastfeeding continuation.

A systematic review by Clifford and McIntyre (2008) of 152 publications

identified key breastfeeding support personnel as family, peers, employers, healthcare professionals, and particularly midwives and nurses. “Conflicting advice from health care providers was a common complaint” (p. 12) among mothers in this review. Breastfeeding knowledge, attitudes, and experience were reported as critical to supportive nursing care, and healthcare professional workplace support was also recommended.

A workplace breastfeeding support questionnaire was developed by Bai et al. (2008) and tested in a sample of 66 Midwestern U.S. breastfeeding and employed mothers. The items included four groups of support factors: technical support (e.g., refrigerator and work breaks); environmental support (e.g., supportive supervisor); facility support (e.g., on-site day care or breast pump); and peer support (e.g., coworker attitudes/opinions). The tool was used by healthcare personnel preparing breastfeeding mothers for return to work. Conclusions include recommendations for consistent breastfeeding education of healthcare providers and employers, as well as further empirical research.

In summary, breastfeeding mothers’ access to consistent, accurate, available, and supportive resources is critical to the return-to-work experience reported in this body of literature. The literature illustrates a discrepancy between support for the initiation of breastfeeding in mothers and support for breastfeeding in new mothers who return to work.

Summary of the Quantitative Literature

The variety and quantity of identified variables and significant factors cited in this

literature review illustrate evidence of a complex personal human behavioral phenomenon needing further inquiry (Britton et al., 2007; Dennis, 2002). Quantitative research related to postpartum workplace intervention in support of breastfeeding mothers in the U.S. is also scarce. The individual trajectory of how the mother assimilates multiple influential factors and processes this information and decides her course of action related to breastfeeding while employed is not well documented from the American mother's perspective.

Qualitative Literature

A literature search of multiple databases including CINAHL, Psych Info, PubMed, and Academic Complete as well as hand searches of related publication reference lists produced a collection of 16 qualitative studies published in the U.S. from 2000 to 2008 with at least some aspect of employment and breastfeeding described in the findings. The qualitative literature published in the U.S. included 4 studies with a direct focus on the breastfeeding and employment experience (Avishai, 2007; Brown et al., 2001; Rojjanasrirat, 2004; Stevens & Janske, 2003). The remaining 12 American qualitative breastfeeding studies focused on more general aspects of breastfeeding, support, and/or weaning, but included the topic of employment in the findings.

A sample of other Western research was examined for comparison regarding the direct focus on employment and breastfeeding. The sample consisted of three studies: one British study (Gatrell, 2007), one from New Zealand (Payne & James, 2008), and one Australian work on weaning (Hauck & Irurita, 2003). Two qualitative multinational

reports on breastfeeding were also included for comparative purposes (McInnes & Chambers, 2008; Nelson, 2006). The following discussion of the qualitative literature refers to the factors in the conceptual model as discussed in the quantitative literature (see Figure 1).

Guttman and Zimmerman (2000) studied low-income urban American mothers' perspectives on breastfeeding, using a mixed methods design with closed and open-ended questions. The sample included 154 women (33.8% Black, 27.9% Hispanic, 15.6 % White, and 22.7% other or missing data) who were further divided into two groups consisting of those who formula fed and those who breastfed their infants. The open-ended questions addressed the mother's experience with and reasons for her choice of infant feeding method, with an additional request for mothers to "describe their image of a woman who breastfeeds and whether or not they had seen a woman breastfeed in public" (p. 1460). Responses to the open-ended questions were collected in 30-min interviews. The responses were grouped into the following categories: convenience and logistics, perceptions of social norms and social support, obligations and constraints, work and school, life circumstances, and sexual connotations and embarrassment.

Guttman and Zimmerman (2000) developed a conceptual scheme: a four-square, two-axis typology of mothers' emotional states, based on the mothers' responses in terms of stated beliefs regarding their perception of a distinct health advantage for breastfeeding or formula feeding. The formula-feeding mothers who believed that "breastfeeding is best" reported feeling "guilty or deprived," whereas women who formula fed and believed their choice best felt "content." The breastfeeding mothers who perceived

formula feeding to be best felt "forced" to breastfeed. The women who breastfed and believed their choice to be best for baby and mother felt "socially constrained" (p. 1469, 2000). The category *socially constrained* refers to mothers secure in their beliefs in the benefits and activities of breastfeeding, but personally embarrassed in a social context and thus uncomfortable with breastfeeding in public in their community. This finding demonstrated an example of regional social attitudes toward breastfeeding and emotional state effects on the breastfeeding mother. The study concluded with recommended interventions that would include assessment of the social environment and strategies such as counseling and introduction of peer role models that would enable mothers to maintain breastfeeding in "diverse social contexts" (p. 1471).

A qualitative ethnographic study of urban Native American breastfeeding mothers reported predominant influential factors related to breastfeeding that fell into four categories: socioeconomic issues, social support, communication issues such as mixed messages, and cultural influences (Dodgson et al., 2002). A sample of 52 urban residing Ojibwe women in Minnesota was divided into 3 groups: health or social service providers, breastfeeding women, and resource persons such as indigenous community elders, leaders, and healers.

Four patterns of topics were identified and included in the structure of a conceptual model developed by Dodgson et al. (2002). The topics were as follows: (a) Mixed messages, which consisted of conflicting advice or direction from health care providers, media, and/or family and friends. (b) Traditions, which also represented some areas of conflict between the elders who supported breastfeeding and younger peers who

did not, and an overall distrust toward some aspects of Western (nontraditional) medicine (Ojibwe tradition, however, also respects rights to individual decision making after consultation with elders). (c) Life circumstances, which included community poverty, crowded and unstable living conditions with limited resources, which in turn fostered breastfeeding as economically advantageous to the expense of formula feeding. However, participants described moving to an urban environment in order to secure maternal employment as a rationale for formula feeding, also citing the perception that breastfeeding was "associated with being poor" (p. 239). (d) Nurturing and support, which included the support of family members, healthcare providers, and work environments, which were described as primarily "low end service jobs" (p. 240) and did not provide any consideration or resources for breastfeeding mothers. A predominant theme in the findings was the importance of healthcare providers' understanding of indigenous culture and the need to offer consistent, respectful attention to concerns, which was lacking in the participants' reports of contacts with healthcare providers. Participants' experience with the WIC program, which employed the use of peer counselors, was an exception to this concern regarding healthcare providers. This study was limited by the non-Native American heritage of the researcher, inherent traditional Native American community distrust of research, and some overlap in the participant groups, which introduced opportunities for bias on the part of participants switching roles in interview groups.

Tiedje et al. (2002) interviewed 95 primiparous postpartum women with closed and open-ended questions in order to test the fit of Bronfenbrenner's family human

ecology conceptual model. Based on the mesosystem and exosystem layers of influence, the breastfeeding mother–infant dyad was influenced by the identified categories of family, healthcare delivery system, community, and societal/cultural influences. Analysis of the open narrative comments found that the breastfeeding mother–infant dyad was theoretically affected by all the layers/systems of influence.

Comments about the mother–infant dyad included four categories within the central, microsystem pivotal layer: needing information about breastfeeding; illnesses or medical conditions that were interfering with breastfeeding; concerns about the baby getting enough to eat; and maternal characteristics such as confidence, coping, and problem-solving (Tiedje et al., 2002). The most proximal layer of influence to the mother–infant dyad was identified as breastfeeding support from the father/partner, immediate family, and peers. The healthcare delivery system was identified as the next most influential categorical layer and included comments about inconsistent information and support even within the same healthcare setting or hospital. Community was listed as the next layer of influence; this included workplace issues such as the identified need for "continuous education" (p. 159) or ongoing support regarding how to manage breastfeeding while working. The fewest comments were related to the cultural/societal layer of influence in the model and primarily included data related to individual comfort with postpartum body changes and image. However, an unexpected category of influence emerged in the analysis, which included the finding of mothers reporting a cumulative effect of interventions in support of breastfeeding, particularly in cases where ongoing postpartum follow-up and breastfeeding support resources were available. The

conclusions included recommendations for intervention design to include assessment of maternal characteristics such as coping and problem-solving style, as well as maximizing breastfeeding support efforts at all levels of influence and implementing planned "multiple points of intervention" including postpartum outreach (p. 160). Tiedje et al. also recommended incorporation of peer support as well as a communication plan between members of the influential layers of support in order to foster consistency of information sharing with breastfeeding mothers.

A qualitative study of infant breastfeeding beliefs of Mexican American low-income women utilized focus group interviews in south central Texas with 39 individuals who were pregnant (n = 10), new mothers (n = 15), or immediate family members of pregnant/new mothers (n = 14) (Gill et al., 2004). Participants were recruited from a WIC clinic waiting room, and the focus groups were held in adjacent, private rooms; one for the pregnant and new mothers, another for the male (n = 9) and grandmother (n = 5) family members. Open-ended interview questions were posed to each group, with results falling into five main categories as follows: benefits, making the decision, barriers, lack of breastfeeding support, and cultural beliefs.

The women and men in Gill et al. (2004) responded with similar comments related to breastfeeding as healthier and helping with bonding, which were considered beneficial. Making the decision to breastfeed or not was reported by the men and women as being primarily up to the mother, with the men reporting their only concerns as being public breast exposure. The grandmothers were divided in their comments, in that most reported that healthcare professionals swayed their daughter in choosing either

breastfeeding or formula feeding, with one grandmother reporting that she encouraged her daughter to breastfeed (this was validated by the daughter in her group interview).

The barriers to breastfeeding were reported by all participants in Gill et al. (2004) as pain and inconvenience, particularly with regard to returning to work. Lack of breastfeeding support was mentioned only by the new mothers and the grandmothers and was primarily attributed to the hospital and early postpartum period, with one mother suggesting that classes might have helped her. Most of the grandmothers expressed an inability to help their daughter due to lack of breastfeeding experience and/or expertise with related problem solving. Cultural belief responses were centered on interesting folklore practices such as particular food choices or taboos, including "liquado," a fruit, sugar, and dairy blended drink that was consumed daily to enhance breast milk and was often prepared by the grandmothers (p. 46). Maternal stress was reported to be avoided because it might have adverse consequences for the baby and for milk supply.

Gill et al. (2004) identified obstacles to breastfeeding such as misinformation and lack of concern on the part of healthcare providers, lack of postpartum home visits and breastfeeding support follow-up, and maternal employment, particularly full-time employment in workplaces with limited breastfeeding support resources. Recommendations for healthcare practice included assessing for the known obstacles and addressing these in intervention planning for breastfeeding mothers.

Moore and Coty (2006) conducted a prospective descriptive qualitative examination of the barriers to, facilitators for, and subsequent effects on breastfeeding as perceived by 9 women who were 22 to 35 years old, White, upper middle class, college

educated, and planning to return to work postpartum. The women were interviewed in focus groups in the last trimester of pregnancy and again at 6 to 8 weeks postpartum, with the exception of 1 mother who requested individual interviews and 1 mother whose infant was critically ill at the time of the postpartum interviews. The mothers identified breastfeeding benefits that included maternal infant bonding, economic savings, and postpartum weight loss. Facilitators included spouse and family support, and healthcare provider encouragement and sensitivity. Barriers included negative opinions of relatives, frightening stories from friends and family, conflicting or insensitive direction on the part of healthcare providers, and uncertainty about return to work.

Postpartum results were similar to the prenatal findings, with the addition of the benefit of validation of infant growth, "knowledge of what is normal" (Moore & Coty, 2006, p. 43) in breastfeeding, and modification of breastfeeding intention in terms of planned duration. To frame their findings conceptually, Moore and Coty utilized the theory of planned behavior, which maintains that levels of confidence predict behavioral performance. They found that the mothers' intentions to breastfeed for a particular duration changed over time, depending on conditions and/or resources that were supportive or not. This study was limited by the demographic homogeneity of the sample, which in turn limited generalizability to other populations. The study concluded with recommendations for further development of consistent "objective evidence based guidelines for breastfeeding management" (p. 45) across the healthcare provider community in order to maximize the quality of healthcare-provided educational resources available to breastfeeding women.

Lewallen et al. (2006) examined qualitative data collected as part of a larger set of quantitative studies that surveyed 399 women in the southeastern U.S. Open-ended questions were asked of women who stated intent to breastfeed for at least 8 weeks in a telephone interview of 379 of the original 399. The women were 18 to 44 years of age, 74.1% White, 20.3% Black, and 5.5% other minority race, and primarily (84%) college educated; all were first-time breast feeders, but only 87.6% were primiparous.

Nearly one third of the women (121 of 379) in Lewallen et al. (2006) discontinued breastfeeding by 8 weeks postpartum, with their stated reasons including perceived insufficient milk supply (35%), painful nipples and latch on (25%), personal reasons (15%), return to work (13%), and maternal or infant illness (12%). Approximately 55% of the women reported having help at home in the early postpartum period. This study was limited by its convenience sample of primarily well-educated women delivering in a hospital with "strong lactation consultant support" (p. 171). Recommendations with nursing implications were suggested, such as consistent educational information that would include family, observation of every mother breastfeeding before discharge from the hospital, and follow-up planning and proactive education and direction for mothers planning to return to work.

Grassley and Eschiti (2007) interviewed 35 grandmothers in 9 focus groups in urban North Texas for the purpose of gathering breastfeeding knowledge information and insight from the grandmothers' perspective. The grandmothers were 40 to 81 years old, primarily college educated, White, and employed. The taped interviews lasted 60 to 90 minutes and were professionally transcribed and then analyzed for thematic content. The

grandmothers expressed interest in knowledgeable support of their daughters' breastfeeding experience in three thematic areas that emerged during the focus groups: "being helpful," "updating my knowledge," and two generations "learning together" (p. 23).

The study was limited by the homogeneity of the convenience sample, which was highly educated (Grassley & Eschiti, 2007, p. 23). The discussion listed evidence-based studies citing grandmothers undermining breastfeeding success secondary to outdated beliefs and practices such as discarding colostrum and early supplementation with water, cereal, or formula, particularly when in daily contact with infants. Conclusions included recommendations for inclusion of grandmothers in prenatal classes, informal support groups, and peer counseling as well as further evidence-based research in intervention design for grandmother-based breastfeeding support.

A phenomenological study of Black women's breastfeeding experiences collected focus group responses to structured open-ended interview questions (McCarter-Spaulding, 2007). The sample of 8 Northeastern U.S. urban women in the sample were 31 to 35 years old and college educated with middle-class household incomes; all planned to return to work after delivery, with 5 planning to maintain breastfeeding and 3 who were unsure of their future breastfeeding plans. The focus group was purposively recruited and selected, interviewed, and audio taped in a home setting; responses were professionally transcribed.

McCarter-Spaulding (2007) sorted the women's responses into four thematic categories; this was followed by member checking content with participants and

qualitative expert peer review. The themes were (a) making the decision to breastfeed, (b) challenges and difficulties, (c) benefits and positives, and (d) breastfeeding support. The issue of race was not directly posed as an interview topic. The researcher disclosed her assumption that participants would voluntarily introduce this topic, which they did not, except to remark informally that White women breastfed at higher rates than Blacks because "they didn't need to go back to work" (p. 23).

All participants in McCarter-Spaulding (2007) also reported concern about their milk supply and said that the return to work posed challenges to all. All of the women expressed belief in the health benefits of breastfeeding and made their decision to breastfeed prior to delivery. In addition, the women offered much information about support. For example, the women gave their opinions about the need for breastfeeding support to begin in the prenatal period and extend well into the postpartum period, and they stressed the importance of family and peer role models. Specific concerns expressed by those in need of intervention included breast pump use and multiple aspects of employment outside the home, which all participants reported as influencing the breastfeeding experience.

McCarter-Spaulding (2007) concluded that the meaning of race might have been studied better with an ethnographic methodology or grounded theory as a more appropriate means of examining cultural influences on breastfeeding. The study was limited by the purposive sampling and possibly by mismatched methodology. Recommendations for future research included close examination of multiple aspects of employment such as job categories, duties, and length of maternity leave in relationship

to breastfeeding support.

Kanotra et al. (2007) conducted a secondary analysis of the comment data of 3,417 participants in the U.S. 2000 Pregnancy Risk Assessment Monitoring System (PRAMS) Survey and identified 6 themes out of 324 postpartum-related comments. Respondents who commented on the postpartum period were primarily White (75.5%), at least 25 years of age, had more than a high school education, and were non-Medicaid recipients. The data were collected from PRAMS data in 10 states: Alabama, Florida, Hawaii, Louisiana, Maine, New Mexico, Ohio, Oklahoma, Washington, and West Virginia. In order of frequency, the themes were (a) need for social support (32%), (b) breastfeeding issues (23.5%), (c) lack of education about newborn care (21%), (d) need for postpartum depression help (9.5%), (e) perceived need for extended postpartum hospital stay (8%), and (f) need for maternal insurance coverage beyond delivery (6%). Reliability of the coding of themes was found to be 88% to 90%.

Breastfeeding issues in Kanotra et al. (2007) included concerns about the hospital experience, expressed in terms of education needs, interruption in sleep, and lack of respect for mothers' requests such as pacifier use and bottle supplementation. Many of the postpartum comments were related to insufficient preparation and unanticipated education needs during the postpartum period. Breastfeeding barriers at work included limited workplace support, facilities, and time to pump, as well as a need for workplace policies in support of breastfeeding mothers. Limitations of the study included the voluntary nature of the open-ended comments as part of a much larger survey, which meant that the comments represented a slice of participants' concerns overall, obtained

only from the respondents who chose to share additional information. The analysis concluded by highlighting the need for breastfeeding support workplace policy, individual and ongoing postpartum education, and support for mothers with respect to newborn care and breastfeeding. The study also recommended emphasis on quality and consistency in lactation services and/or breastfeeding information sharing by healthcare workers, as well as ongoing quality monitoring.

Flower et al. (2008) conducted a mixed methods study, the Family Life Project (FLP), with a cohort of 1,287 infants from rural North Carolina and Pennsylvania. This project combined a longitudinal study of health factors and health services related to breastfeeding of the entire cohort with a simultaneous ethnographic exploration of reasons for breastfeeding initiation and continuation in 30 families in North Carolina. Quantitative data were collected every 6 to 8 weeks in 2003 to 2004, with follow-up surveys obtained at 6-month intervals through June 2007. The quantitative portion of the study found that 55% of the entire sample of 1,287 women initiated breastfeeding and 18% continued breastfeeding through 6 months postpartum, an overall mean breastfeeding duration of 3.6 months, and that 41% of the entire sample were employed and 66% were low income.

The qualitative data in Flower et al. (2008) were collected in a semi-structured 30- to 60-min interview with 17 White and 13 African American women in North Carolina whose children had reached the age of 1 to 2 years at that time. The content of the interview was compared with data collected when the infants were 6 weeks old, in order to validate recall. The interview posed broader questions regarding breastfeeding

experience, practices, and attitudes. In the ethnographic portion of the study, 12 of the 30 mothers reported two predominant themes for not initiating breastfeeding: "not open to breastfeeding," and "I guess I just wasn't comfortable with it" (p. 406). Return to maternal employment was also commonly reported as a qualitative rationale for noninitiation of breastfeeding, and the cohort quantitative data indicated that discontinuation of breast feeding at 2 months postpartum was associated with return to work. The predominant qualitative themes for discontinuation of breastfeeding reported by 18 of the 30 mothers were, in order of frequency, discomfort, employment, embarrassment, and smoking.

Limitations of Flower et al.'s (2008) study included not collecting quantitative information about prior breastfeeding experience or exposure to breastfeeding, although the qualitative comments did include several references to the lack of support for breastfeeding in the participant's local community. Because of the relatively low rates of breastfeeding in this cohort and the mothers' rationales, recommendations included increased efforts for breastfeeding promotion, supportive peer counseling program development, and closer examination of the rural work situations the women reported as barriers to breastfeeding.

Brown et al. (2001) moderated two focus groups in urban central Texas where human resource personnel, owners, and managers of local employer settings responded to open-ended questions about breastfeeding knowledge and attitudes. One group included 20 mixed racial and gender representatives who worked for large employers, and the other group included 16 mixed racial and gender representatives who worked for smaller

employers. Categories of the resultant data included motivators and barriers for employers' implementation of comprehensive support for their breastfeeding employees. All participants responded with recognition of breastfeeding health benefits and potential subsequent benefits to employers. However, most participants cited barriers to workplace support of breastfeeding women, which included concerns about pumping break time, loss of productivity due to work interruptions, co-worker morale or complaints, financial issues regarding necessary resources, pumping space, and liability with respect to milk storage. Barrier concerns were greater in the small employer group.

Motivators for employer breastfeeding support in Brown et al. (2001) included family-friendly workplace recruitment potential, employee demand/satisfaction among breastfeeding employees, and potential benefits of health-related reduced absenteeism. The study's limitations included its progressive, liberal urban setting and the predominance of female participants, possibly limiting generalizability. Brown et al. recommended further research on workplace breastfeeding support with consistent variables in diverse settings.

Stevens and Janske (2003) interviewed 9 active-duty military women about their experience of breastfeeding while in active military service. The participants were breastfeeding when they returned to work and had breastfed within 6 months prior to the interview. Several categories emerged from content analysis of the data: multiple pumping issues, work support, fear of deployment, military rank, weight management, commitment to breastfeeding, and maternal–infant bonding. The pumping issues were related to functional equipment, finding time and a place to pump, and varying levels of

work support, all of which are consistent with civilian working mother study findings—as were the findings regarding motivation, commitment, and bonding.

Specific to military life were the findings of fear of receiving orders to deploy, particularly to a conflict zone; issues of military rank in terms of levels of responsibility; long, sometimes unpredictable, work hours; and military weight restriction standards (Stevens & Janske, 2003). The participants' primary concerns consisted of the pumping issues, related work support, and fear of work assignment (i.e., tour of duty) away from home base or deployment. One woman reported weaning when her infant refused to breastfeed after a 6-week tour of duty. However, despite the additional concerns of these breastfeeding employed military women, they continued breastfeeding for an average of 6 months. The study was limited by its purposive sample and potential for bias because it was conducted in the military by military personnel.

Rojjanasrirat (2004) used open-ended questionnaires to interview 50 women at 16 weeks postpartum who planned to return to work and breastfeed. Content analysis identified four predominant themes: support, attitude, strategic plan, and psychological distress (p. 225). All participants were White, 24 to 41 years old, and college educated, with primarily middle-class incomes. Full-time employment was reported by 88% of the sample, and 92% were married. These women were selected from a larger study on the effect of prenatal education on breastfeeding duration.

The 50 women in Rojjanasrirat (2004) returned to work at an average of 9 weeks postpartum, and 62% continued exclusive breastfeeding through 16 weeks postpartum while 38% combined breastfeeding and formula (Rojjanasrirat, 2004). The theme of

support was divided into four subcategories: accepting (work) environment; spatial issues; (role) modeling; and time allowance. The theme of attitude included five subcategories: commitment; determination; assertiveness; dedication; and values benefits of breastfeeding. The strategic plan theme included three subcategories: time management; process of maintaining milk supply; and maintaining physical health. The psychological distress theme included five subcategories: guilt, stress, feeling overwhelmed, under pressure, and sacrifice. Rojjanasrirat concluded that employed women who planned to continue breastfeeding stated a need for support, positive attitude, and a strategic plan to maintain breastfeeding while employed. The study's recommendations stressed the importance of consistent information in breastfeeding education, positive attitude, and direction for nurse-led anticipatory guidance in assisting breastfeeding mothers with strategic planning for return to work. Further research with the identified variables and role balancing was also suggested. Limitations of the study included the professional or high-skill employment of most of the women, as well as the predominantly White, educated, middle-class demographics of the sample.

In a later study, Rojjanasrirat and Sousa (2010) interviewed low-income midwestern American women in prenatal focus groups about their postpartum plans regarding work or school and other aspects of breastfeeding. Most of the women in the groups perceived combining breastfeeding with employment as challenging and stressful and did not plan to return to work. A few women were willing to give up their jobs in order to breastfeed and another expressed her envy of stay at home mothers who could breastfeed (Rojjanasrirat & Sousa, 2010).

Avishai (2007) interviewed 25 American breastfeeding women who were predominately upper middle class, married, college educated, professional, and White with full-time work experience in San Francisco. One third of the mothers who returned to work while breastfeeding were employed in part-time work. The study focused principally on sociological aspects of defining the meaning of the breastfeeding among professionally employed women. The participants' responses suggested the following themes: setting goals and assessing the product; increasing production—managing the uncooperative lactating body; investing in production facilities; and negotiating pleasure and project. Avishai concluded that the participants viewed lactation as a means of production to be managed as a project of labor involving making goods and delivering services and that it was to be "constantly monitored in terms of total output" (p.150). The women constructed a social reality, or rationalization, to frame their personal decisions about breastfeeding as if it was analogous to their professional work.

The findings were interpreted by Avishai (2007) to define breastfeeding as a cultural outcome of social pressure on mothers, particularly professional women with ample resources. The pressures, perceived by the mothers, to personally produce and provide breast milk for their infants, was strong enough to prohibit their return to professional full-time work during the period of lactation. Conclusions included a caution, directed particularly to healthcare professional breastfeeding advocates, about avoiding a "coercive moralism" (p. 150) in efforts to improve "breastfeeding rates." Avishai maintained that the breastfeeding decisions and processes of the participants were congruous with cultural practices in the American professional community and with

expectations of quality mothering. The study was limited by its narrow focus on "at least partially successful breastfeeding mothers" (p. 139), as statistically defined in other studies (Ryan et al., 2002). Avishai's (2007) article also lacked a definition of the qualitative methodology employed, although it appeared to be descriptive.

A grounded theory study conducted in western Australia explored the experiences of breastfeeding and weaning mothers within the parameters of their expectations and subsequent decision making (Hauck & Irurita, 2003). The participants were Caucasian, 20 to 47 years old, with a wide range socioeconomic status, educational levels, and occupations. Breastfeeding expectations were found to be closely connected to overall mothering expectations, so that separating expectations of mothering and breastfeeding proved difficult—a conclusion similar to Avishai's (2007).

A model of incompatible expectations was ultimately produced from the analysis, which included "managing breastfeeding and work" (Hauck & Iruruita, 2003, p. 69). A related area of concern consisted of unexpected forced decision making, which included "prompt or undesired weaning" (p. 71) due to work expectations. Participants also described guilt, self-doubt, and confusion when they encountered incongruous expectations and/or advice within their network of support. Furthermore, Hauck and Irurita (2003) found that expectations directly influenced mothers' decision making regarding breastfeeding.

Hauck and Irurita (2003) concluded that the breastfeeding mothers in their study held incompatibly high expectations for breastfeeding, mothering behaviors, and work productivity. Hauck and Irurita maintained that such incompatible expectations constitute

a basic social problem. Due to the finding of mothers' perceptions of connections between feeding decisions and "competent mothering" (p. 74), recommendations for healthcare professionals included incorporating sensitivity to this concept in care planning. Hauck and Irurita also recommended consistent evidence-based anticipatory guidance based on participants' reports of conflicting and biased information sharing on the part of healthcare providers. The study was limited by purposive sampling including the addition of dissatisfied mothers in the latter stages of data collection. Finally, Hauck and Irurita suggested a need for further exploration and wider publication of studies with realistic personal descriptions of mothers' breastfeeding experiences as well as promotion of mother peer support.

Gatrell (2007) explored the breastfeeding experiences of 20 college-educated, professionally employed mothers in semi-structured interviews within the first postpartum year in England. A maximum of 40 to 52 weeks of partially paid maternity leave was available to all participants, although 13 of 20 participants returned to work sooner due to reported economic necessity and/or organizational pressure to resume work. Findings included the themes of giving up, veiling the tired and leaky body, feeding babies from the breast, and expressing milk at work. Thirteen mothers returned to work with intentions to continue breastfeeding; those who weaned upon return to work reported a range of rationales including "ready to wean," "anxiety about managing lactation" at work, and a "threatened demotion" (p. 398). Mothers who continued lactation while employed reported a variety of experiences, including hiding to express milk or breastfeed and/or concealing the issue altogether.

Gatrell (2007) concluded that the study found a conflict between health promotion of breastfeeding and workplace support of lactation. The discussion, presented from a feminist perspective, concluded that the participants' workplace lactation activities were unacceptable to employers and represented an "organizational deep antipathy to the maternal body" in the workplace (p. 403). Gatrell recommended increased health and breastfeeding promotion efforts aimed toward employers in order to support working mothers. Limitations of her study included the absence of a clearly defined methodology used in analysis, a probable subjective bias in interpretation, and a lack of generalizability.

Payne and James (2008) conducted open-ended 90-min interviews with 34 mothers who had given birth within 2 years prior in New Zealand and who had been employed during the prenatal period. This was an exploratory examination of related maternal decision making. The participants were in their early 20s to late 30s, they had a variety of New Zealand racial backgrounds, and they were employed in a range of occupations, including clerical, education, law, and healthcare. Of the 34 mothers, 23 decided to return to work, with 14 of those to full-time work.

Payne and James's (2008) primary thematic finding was the importance of family and workplace support for breastfeeding. Other themes included the presence or absence of space and time for expressing breast milk, which also required utmost privacy. These thematic issues were not consistently supported in the workplace (Payne & James, 2008). The study was limited by its nonrandom sample of participants, who were predominantly professionally employed. Payne and James (2008) recommended the development of

structural workplace breastfeeding support strategies and called for a shift in societal attitude toward breastfeeding support as a social responsibility.

In a metasynthesis, Nelson (2006) compared the findings in 15 qualitative studies describing the overall maternal experience of breastfeeding. The studies were from Western nations, including 8 from the U.S., 4 from Australia, 2 from Canada, and 1 from the United Kingdom. One (Hauck & Irurita, 2003) of the publications has been discussed above.

Nelson (2006) created a model of the phenomenon of breastfeeding out of the metanalysis. The model, "An Engrossing Personal Journey" (p. 15), included four categories of the maternal experience of breastfeeding: the embodied reality; becoming a breastfeeding mother; a need for support; and the journey must end. The first category, embodied reality, included mothers' descriptions of the intensity of the physical, emotional connectedness between mother and infant in the overall experience of breastfeeding. The next category, becoming a breastfeeding mother, described the mothers' decision-making processes and adaptation to different situations and settings regarding duration of breastfeeding. Discussion regarding mothers' return to work was included, which showed differing effects on breastfeeding duration. Some mothers reported that combining breastfeeding with employment was too difficult, and others reported that continuing breastfeeding after return to work facilitated a close mother–baby connection.

The third category in Nelson (2006), need for support, described the magnitude of need for familial, professional, and instrumental support. Helpful aspects of professional

healthcare provider support included availability, adequate time to help, and consistent, appropriate, and non-conflicting advice. The final category of findings, the journey must end, addressed emotional, physical, and psychological issues related to weaning. A wide range of negative and positive maternal experiences were reported. Positive experiences were associated primarily with a satisfying, self-fulfilling feeling of breastfeeding goals being met. Negative experiences were associated with a sense of failure, as when weaning did not go as planned. Nelson (2006) also discussed the potentially significant impact of the breastfeeding experience on maternal self-esteem.

Nelson's (2006) study excluded specific cultural subgroups of breastfeeding mothers or special situations such as premature birth. Nelson concluded with suggestions for healthcare professionals working with breastfeeding mothers to increase sensitivity to the meaning of the breastfeeding experience for each individual mother, and to include key support persons in the mother's personal life in breastfeeding plans. Mothers also reported that support was often inconsistent with their personal breastfeeding goals.

McInnes and Chambers (2008) synthesized the findings of 47 qualitative studies regarding the support of breastfeeding mothers. Most of these studies were published over the 10 years from 1998 to 2008, with the exception of 5 from 1990 to 1997. All of the studies were conducted in western nations: 27 in the United Kingdom, 10 in the U.S., 3 in Australia, 3 in New Zealand, 3 in Sweden, and 1 in Canada. The samples included primarily educated, older women, although 4 studies targeted adolescent mothers and 5 focused on low-income mothers. Quality appraisal was performed on each study's methodological rigor using an assessment tool developed by the research team (see

McInnes & Chambers's Table 4, on p. 417). The synthesis's results were ranked according to quality (see McInnes & Chambers's Table 2, on pp. 410–416).

McInnes and Chambers (2008) found that themes emerged in two major categories: (1) health services support, with the five subcategories of (a) mother–health professional relationship, (b) skilled help, (c) pressures of time, (d) medicalization of breastfeeding, and (e) hospital /healthcare setting as a public place; and (2) social support, which included the two subcategories of (a) compatible and (b) incompatible. Although the healthcare support findings were considerably more complex than the social support findings, the resounding theme was the perception of inconsistent, hurried, insensitive information sharing on the part of healthcare professionals in impersonal, public, medical healthcare settings. The mothers considered breastfeeding skill specific support on the part of healthcare professionals or professional peer counselors to be a positive aspect of breastfeeding support. Incompatible and compatible social support were self-explanatory, in that an unsupportive family network was perceived to be incompatible with mothers' breastfeeding support needs, whereas a supportive network of family and peers was considered to be compatible with mothers' support needs. Access to peer support was considered significantly supportive to the breastfeeding mother.

McInnes and Chambers (2008) concluded with recommendations for improvements and revisions in the focus of healthcare professional training in support of breastfeeding mothers. The authors suggested that training is traditionally focused on evidence-based medical/nursing management of lactation knowledge and breastfeeding issues, with less focus on the interpersonal and communication skills necessary for

sharing this knowledge. They recommended an increased emphasis on communication skills training for healthcare professionals and professional peer counseling groups in order to provide more sensitive and appropriate support to breastfeeding mothers.

Summary of the Qualitative Literature

A total of 21 related qualitative studies have been included in this review. Sixteen of these were conducted in the U.S., with 4 of the 16 focused specifically on employment issues (Avishai, 2007; Brown et al., 2001; Rojjanasrirat, 2004; Stevens & Janske, 2003). The American mothers' expression of concern regarding return to work was a recurring theme in nearly every qualitative study conducted in the U.S. (Avishai, 2007; Dodgson et al., 2002; Flower et al., 2008; Gill et al., 2004; Lewallen et al., 2006; McCarter-Spaulding, 2007; Moore & Coty, 2006; Rojjanasrirat, 2004; Rojjanasrirat & Sousa, 2010; Stevens & Janske, 2003) as well as in the 2 Western multinational qualitative literature reviews (McInnes & Chambers, 2008; Nelson, 2006).

To a greater or lesser degree, these qualitative studies included findings identified in the model (Figure 1). A major theme cited by mothers in most of the studies was the importance of social, community, and/or family support, with a particular emphasis on the value of immediate family and peer group support, including that of co-workers (Dodgson et al., 2002; Gill et al., 2004; Guttman & Zimmerman, 2000; Kanotra et al., 2007; McCarter-Spaulding, 2007; McInnes & Chambers, 2008; Nelson, 2006; Rojjanasrirat, 2004; Stevens & Janske, 2003). The participants also reported anxiety about co-worker and family pressures regarding feeding choices. Mothers frequently

described healthcare professionals' inconsistent or insensitive information pertaining to breastfeeding (Dodgson et al., 2002; Gill et al., 2004; Lewallen et al., 2006; McInnes & Chambers, 2008; Moore & Coty, 2006; Nelson, 2006; Rojjanasrirat, 2004; Tiedje et al., 2002). A need for ongoing postpartum breastfeeding support and education was also frequently mentioned (Grassley & Eschiti, 2007; McInnes & Chambers, 2008; Tiedje et al, 2002). Anxiety about maintaining a sufficient breast milk supply and difficulty in balancing multiple roles were common (Flower et al., 2008; Lewallen et al., 2006; McInnes & Chambers, 2008; Nelson, 2006; Rojjanasrirat, 2004). Workplace concerns related to breastfeeding were also mentioned, such as adequate pumping time and space at work, employer support, and maternity leave policy (Kanotra et al., 2007; Moore & Coty, 2006; Nelson, 2006; Rojjanasrirat, 2004).

There was slightly wider sociodemographic diversity in the samples of these qualitative studies than in the quantitative studies reviewed. However, the samples included predominately White, educated, middle-class participants. Although the existing related qualitative literature is scant, mothers in the qualitative literature reported similar concerns related to breastfeeding. Further qualitative studies with the inclusion of multiple geographic regions and more variance in race/ethnicity and work settings would improve the generalizability of findings. Findings in the qualitative literature showed similar aspects of the breastfeeding and employment process, including minimal or conflicting postpartum breastfeeding support or education as related to employment. The direct voice of the breastfeeding and employed mother is the primary gap in the current empirical literature. The apparent complexity of this phenomenon calls for further

qualitative research, particularly from the direct perspective of the breastfeeding mother.

Summary of the Literature Review

Multiple aspects of supportive resources for breastfeeding and working mothers are reported in the reviewed literature. However, mothers indicate that sufficient workplace resources such as appropriate pumping space, storage equipment, and supportive workplace culture are insufficient in the real work setting. Prenatal and ongoing postpartum follow-up and related professional breastfeeding education for mothers, family, and workplace personnel are reported as beneficial to working mothers. However, conflicting breastfeeding advice from healthcare personnel is reported consistently. Individual maternal psychosocial factors are also described as relevant to the mothers' breastfeeding and work experience, yet multidisciplinary healthcare delivered interventions addressing such factors have not been developed and tested. Both the quantitative and the qualitative studies indicate that the breastfeeding with employment process includes a complex set of factors. Appropriate, supportive intervention design and policy is dependent on both the identification of the key factors and the process that breastfeeding mothers go through while employed away from home.

Resources related to workplace breastfeeding support include adequate space, time, professional lactation support, and maternity leave allowances, according to the findings cited in the literature review. A growing body of U.S. policy is beginning to emerge in support of breastfeeding and employed mothers, but the guidelines are vague and the monitoring of the guidelines' quality lacks structure (USDHHS, 2008, 2011). The

current U.S. maternity/family leave policy of 12 weeks is minimally supportive of breastfeeding for mothers employed outside of the home during the recommended first 6–12 months of infant life (Calnen, 2007) and is inconsistently available in many employment settings (Calnen, 2007). Therefore, many mothers are returning to work with very young infants whose optimal nutrition is breast milk (Gartner et al., 2005; USDL, 2000, 2009; WHO, 2001).

The reviewed research includes samples of predominately White, educated, class-privileged women, with less investigation of other groups belonging to diverse socio-demographic groups. Issues and factors related to cultural and community support and to availability of resources, as well as psychosocial aspects of breastfeeding support for working mothers or lack thereof, are evident. Much quantitative research has been conducted on breastfeeding. However, a majority of these studies are focused generally, and comparatively few have focused on breastfeeding in the employed. Very few qualitative studies conducted in the U.S. have addressed breastfeeding during employment. Information on the mothers' experiences when working away from home, specifically on how mothers respond to the challenges that they encounter, is lacking.

Resource availability appears to be amenable to nursing intervention. It also represents a significant gap in qualitative empirical research on breastfeeding of employed women in the western developed world, and particularly in the U.S. (Britton et al., 2007; Dennis, 2002; McInnes & Chambers, 2008; Nelson, 2006). Investigation of the complex experience of breastfeeding and working outside the home via qualitative approaches of examination in the U.S. will provide direct insight into aspects of this

experience that are in need of intervention and support in this country.

This grounded theory research study was designed to address the identified gaps in the literature. This study provides information on the mothers' personal interpretations of the process that they encounter and on their responses to situations that arise when they are working outside of the home while still providing breast milk to their infants during the first postpartum year.

CHAPTER THREE
Method

Introduction

The method of grounded theory was selected for this study to develop a theoretical perspective on American mothers' breastfeeding during employment outside of the home. The founders of grounded theory (Glaser & Strauss, 1967) began their work together, but over time they developed different approaches (Glaser, 1998; Corbin & Strauss, 2008; Strauss & Corbin, 1998). Glaser's (1998) approach to grounded theory conforms to an objectivist, positivistic philosophy of science, with the researcher's role conceptualized as maintaining a distance from the data for objectivity. Glaser and Strauss (1967) posited that the research problem is defined through data analysis and that the literature should be consulted only as themes emerge in the findings. In contrast, Strauss and Corbin (1998) approached grounded theory from a post-positivist perspective, with the researcher's role that of an active participant.

The method espoused by Strauss and Corbin (1998, 2008) was employed in this study with attention to their recommended criteria for evaluating the research process (McCann & Clark, 2003). Straus and Corbin's (1998; Corbin & Strauss, 2008) approach to grounded theory is an appropriate fit with the research phenomenon of the culturally and socially constructed role of the employed breastfeeding mother as well as with the professional nurse principal investigator (PI) in the active role of researcher. Unlike Glaser (1998), who viewed the researcher's role as having a more distant stance independent from the data, Strauss and Corbin (1998) viewed the researcher as an active participant (McCann & Clark, 2003). This research problem emerged from professional

experiences, expert consultation, and review of the literature to understand the scope of the problem and to identify gaps in the science, which is consistent with the methodology of Strauss and Corbin (1998, 2008).

Rationale for Grounded Theory

The historical roots of grounded theory originate in the social psychology of George Herbert Mead (1934). Mead described human social activity as an interactive evolutionary process in which humans participate in both adapting to and designing their social communities. Symbolic interactionism (SI) is a theoretical framework that grew out of Mead's work and is the theoretical underpinning of grounded theory (Rock, 1979). The concept of individual meaning, or perspective, is emphasized in SI. The individual's meaningful perspective consists of his or her personal worldview and opinions, which are embedded in, and influenced by, the individual's socioeconomic status and interactions (Charon, 1989).

Social interaction involves multiple aspects of human communication, including, among others, tone of voice, movement, expression, and gesture (Blumer, 1969). Gestures comprise both those of individuals and the larger symbols demonstrated by a society or body of government that may be articulated, for example, via office politics, mass media, or legislation. The interactions themselves are trifold, involving the symbolic meaning of the intent of the actor; the symbolic action of the person receiving or interpreting the action; and the joint action of symbolic meaning mutually interpreted

by the two parties—although inconsistent meaning can be the outcome of interaction. This is known as Mead's "triadic nature of meaning" (Blumer, 1969, p.9).

Building on Mead's work in SI, Herbert Blumer (1969) described three aspects of human behavior related to meaning and perspective: meaning as initially defined within an individual; social interaction through symbols such as language and gesture; and interpretation of social interaction, or thought. The initial individual meaning is processed in thoughtful individual interpretation of the symbols of social interaction (Blumer, 1969; Mead, 1934; Rock, 1979). Thought thus follows interaction, which is the birthplace of meaning. Grounded theory draws on meaning identified in social interaction to interpret social processes in terms of sensitizing concepts as precursors to process theory. Breastfeeding mothers employed outside of the home engage in multifaceted social interactions with family, friends, healthcare and childcare providers, and workplace personnel.

The process of symbolic interaction determines an individual perspective relative to a specific thing, role, norm, value, or event (Blumer, 1969; Hewitt, 1976). Social interaction differentiates SI from other philosophical paradigms that focus on meaning, in that in SI individual social interaction is the critical, central element of meaning (Blumer, 1969; Hewitt, 1976; Mead, 1934). Grounded theory, with a series of rigorous analytical steps, translates central elements of meaning into concepts, which begin to build a theory of process. Breastfeeding and working mothers engage in an ongoing process of related social interactions, which the mother interprets and uses to develop her own perspective

on which to base her actions. Her personal process is unique yet intrinsically and psychosocially affected by meaningful social interactions related to her experience.

By the time the mother culminates her pregnancy with the birth of her infant, she has developed an emerging perception of her new role as mother and she begins to imagine how this role, which can include breastfeeding, will fit into her work life role. The mother experiences social interaction with those in her familial, social, and professional circles regarding her evolving experience of these combined roles. Healthcare personnel are often a frontline access to breastfeeding information for the mother (Dillaway & Douma, 2004; Guise et al., 2003; Guttman & Zimmerman, 2000; Mass, 2007; Register, Eren, Lowdermilk, Hammond, & Tully, 2000; Ryan & Zhou, 2006; Taveras et al., 2003; Turner-Maffei, 2007; Walker, 2007).

Individual meaning regarding breastfeeding and employment acquired via family, co-workers, and social conversation as well as commercial media information further develops the mother's knowledge base of breastfeeding and working outside of the home (Abdulwadud & Snow, 2007; Britton et al., 2007; Clifford & McIntyre, 2008; Dennis, 2002; Hannan et al., 2005; Johnston & Esposito, 2007; Sikorski et al., 2003; Stewart-Glenn, 2008; Witters-Green, 2003). Social interaction is directly or indirectly involved in the personal decision-making processes in which the mother engages during her employment outside the home while breastfeeding.

In the present study, the literature has been reviewed from a broad-based theoretical perspective to minimize bias and preserve reflexivity in grounded theory analysis (Heath, 2006; Hickey, 1997). The literature review identifies a gap in current

knowledge of the mother's perspective on the process of breastfeeding while employed outside of the home, particularly in the U.S. The voice of the (American) mother who breastfeeds while employed outside her home is scarcely represented in the current qualitative literature. Grounded theory is an appropriate method for addressing such gaps or overlooked areas of research and therefore was selected for this study. A well-developed grounded theory may also serve to inform policy and nursing intervention related to breastfeeding by those employed outside of home.

Research Question

What influences the maternal process of breastfeeding in mothers employed outside of the home during the first postpartum year?

The following sub-questions explored more specific elements of the experience in terms of interpretation of the findings:

1. What does the mother describe as challenges or facilitators during this process?
2. How do mothers respond to challenges during the process?
3. What affects her decision making during this process?

Study Procedures

Institutional Review Board (IRB) approval. University of Texas (UT) IRB approval was obtained prior to seeking IRB approval from recruitment sites. Following UT IRB approval, permission to recruit study participants was obtained from the Seton Family of Hospitals Parent Education Department, which includes a hospital-based

prenatal class population and the UT Children's Wellness Center (CWC), a pediatric healthcare setting.

Recruitment. Recruitment was conducted in two settings in order to maximize theoretical sampling and diversity. Designated personnel at the approved recruitment sites distributed brochures describing the study, which was also advertised by way of small posters at the recruitment site. The PI's contact information was included on the recruitment brochures and posters. Potential participants volunteered to participate, or personnel at the recruitment sites nominated them. In the latter situation, the potential participants were asked for permission to give their contact information to the PI.

One staff member at the community pediatric healthcare site nominated herself for the study. After several months of unsuccessful recruitment at this site, staff members shared the observation that the site population was often unemployed and did not include many breastfeeding mothers. It was also suggested that others might be timid about volunteering due to immigration status concerns in the predominately Hispanic population there. English-speaking inclusion criteria may also have limited recruitment possibilities there. The second recruitment site, hospital-based prenatal classes, yielded 2 participants nominated by staff, who became participants after contacting the PI.

Because of the low response rate at these two sites, snowball sampling via word of mouth was implemented to enhance recruitment among the participants' social networks. Snowball sampling led to successful recruitment of 8 participants who voluntarily contacted the PI over time. All of these activities resulted in a total of 11 participants. As described in the literature review, there is a preponderance of White,

educated, and middle-class samples in much of the existing research on breastfeeding and employed mothers. Diversity in participants' demographic variables, their employment, and breastfeeding characteristics was sought in the present sample both to enhance sample diversity and with the expectation that this would also increase theoretical sampling opportunities (Corbin & Strauss, 2008; Strauss & Corbin, 1998).

Sample inclusion and exclusion criteria. Sample inclusion criteria were as follows: (a) mothers breastfed while employed outside of the home during the first postpartum year; (b) this breastfeeding occurred within the previous 18 months; (c) the mothers were at least 18 years of age; (d) they spoke English; and (e) their infants were of healthy-term or near-term gestation. Both first-time mothers (primiparas) and multiparas were included. Mothers who were breastfeeding and/or pumping breast milk for their infants were included. Exclusion criteria included mothers (a) less than 18 years of age; (b) whose employment was not outside the home; (c) who did not speak English; and (d) whose infant was premature and/or medically unstable in a way that might have affected feeding behavior.

Study enrollment and consent. At the time of initial contact with the participant, the PI explained the study. For mothers who indicated that they were willing to participate, the PI scheduled a meeting at a time and place convenient to the mother for the interview. At this meeting, the PI answered any further questions regarding the study and obtained written consent from those who agreed to participate in the study. A line was included on the signature page for the participants to indicate whether they would be willing to be contacted again about the study up to 1 year after the first interview. All of

the participants gave consent for re-contacting and expressed interest in the study findings.

Sampling. Grounded theory studies generally include samples of approximately 10 to 30 individuals (Polit & Beck, 2004). Based on other studies (Bajcar, 2006; Huang, Yen, Liu, & Lin, 2008), it was anticipated that a minimum of 10 mothers would be necessary to achieve saturation, which was the case in this study. Theoretical sampling and data analysis are contiguous activities. Each interview was reviewed line by line to identify open codes. Open codes were compared and organized into substantive categories. As gaps in the data were identified, subsequent participant selection was driven partly by a desire to fill the theoretical gaps. Axial coding was employed to capture the more abstract aspects of the experience; this modified the initial open coding and led to the next level of analysis, themes. This process continued until no new themes emerged or data saturation was achieved (Corbin & Strauss, 2008; Strauss & Corbin, 1998). Saturation was determined when new issues or concepts ceased to emerge and/or became well developed and related to other categories (Corbin & Strauss, 2008; Strauss & Corbin, 1998). A final additional interview served as confirmatory evidence of saturation, as is also recommended by experts in grounded theory (Bajcar, 2006), and is discussed in chapter four. Member checking of themes with 2 participants was then employed to further validate the findings.

Theoretical sampling in the purest sense was difficult to achieve in this time-constrained population of breastfeeding and employed mothers. The mothers of young children in this study expressed difficulty in finding free time in their full calendars. They

described their long days as continually busy and additionally encumbered by the activities of maintaining breast pumps, supplies, and storage of pumped milk. Scheduling time for interviews was difficult for them and often required rescheduling, even with the flexibility to meet anywhere at a time convenient to the participant. Yet, despite their busy schedules, all of the participants demonstrated a determined interest in finding time to talk about their experiences. Five of the participants were interviewed in their homes, sometimes while breastfeeding. The other 6 mothers were interviewed either on their lunch break or directly after work before getting their baby at daycare.

Therefore, a combination of theoretical, snowball, and nomination sampling continued until as much sample diversity as possible was attained and data were saturated. Furthermore, subsequent participants were selected partly on the basis of their experiences to fill in gaps in the data and/or to allow them to flesh out evidence of emerging concepts. For example, 2 mothers who had extreme difficulty in scheduling interviews early in recruitment were contacted later during an attempt to explore emerging topics with second-time mothers. At another point in the data collection process, efforts were made to seek out younger mothers to verify concepts that were identified in the predominantly 30- to 39-year-old sample.

The final sample of 11 participants included mothers from 21 to 40 years old, although 8 of the 11 mothers were in their 30s. The mothers' ethnicity included 7 non-Hispanic White, 2 Hispanic, 1 Black, and 1 Asian. Ten of the 11 women had a college education, and their household incomes ranged from less than $20,000 to $130,000 per year. The breastfed infants were from 4 to 23 months of age. The sample included 5

mothers with their first child and 6 mothers with two children, all of whom were breastfed during the mother's employment outside the home (see Table 2).

Instruments

Demographic questionnaire. A questionnaire regarding employment, socioeconomic status (SES), level of education, age, parity, marital status, race, and ethnicity is included in the Appendix. Demographic data were collected and are used to describe the sample in the descriptive analysis portion of the results.

Semi-structured interview guide. Participants were interviewed according to a semi-structured interview guide. This guide was organized to first address broad issues about the mother's experience of breastfeeding. Later questions related to specific aspects of breastfeeding while working were led by the mother's responses. The interview guide questions were adapted in subsequent interviews on the basis of data analysis of the previous interviews (Corbin & Strauss, 2008). This adaptation allowed the investigator to explore emerging issues or concepts in subsequent interviews. In addition, probes were used in the interviews to encourage the participants' discussion of their experiences, thereby increasing data density.

For example, although the early participants in the study were professionally driven self-assured women, the issues of privacy and embarrassment emerged spontaneously. Therefore, subsequent interviews included questions specific to that issue, such as "Was privacy or embarrassment a concern related to pumping or breastfeeding while employed?" Another example was the emergence of the emphasis of cleaning and

maintaining equipment and breast milk storage each day and night. Therefore, questions were added to explore subsequent participants' activities and concerns related to equipment maintenance, preparation, and breast milk storage. These questions led to mothers' revealing their concerns about the adequacy of their sleep and breast milk production, which prompted further questions specific to sleep and milk production. The additional questions helped with the acquisition of richer data and ultimately contributed to the grounded theory process.

The interviews lasted approximately 60 minutes. They were tape-recorded and sent for transcription to a professional transcriptionist after the interview meeting. The first five interviews were recorded on mini-cassette tapes and transcribed by a local transcriptionist. The remainder of the interviews were recorded digitally and transcribed by a professional transcription firm. Funding for digital recording equipment and professional transcription was made possible by a dissertation grant from the International Honor Society in Nursing, Sigma Theta Tau, Epsilon Theta Chapter. Each transcript was checked for accuracy. Comparisons of the tapes and transcriptions revealed no major differences except for improved audio quality, which subsequently led to a decrease in necessary transcription edits at the time of PI auditing of each interview.

Reflective field notes and memos. The researcher wrote field notes regarding simple observations (e.g., on environmental surroundings and activities) in a notebook as appropriate during and immediately following each interview. Field notes included quick notes jotted down during the interview related to a participant quote or topic mentioned that seemed profound or significant at the time. Following the interview, a brief summary

was written, to provide an overall description of the person, place, and time. Memos included reflective notes pertinent to potential emerging codes and/or themes in the ongoing analysis. Reflective memos were also recorded at any time in a notebook kept by the PI.

For example, after the first three interviews, specific topics that emerged from the general questions were summarized in order of the participants' emphasis on importance. Memo topics included access to lactation consultants and pumping space, the type of breast pump used, milk supply supplements, books, classes or support groups, and embarrassment issues. Memos also included potential relationships between topics such as "they seem to crave more role models, not just to talk to, or read about but also to watch, hands on: to show them how when things aren't going well." Or, conversely: "despite continuing expressions of needing role models and expert lactation consultants, many also want privacy; 'secret spots' to pump or breast feed and enough time to do so without bringing embarrassing attention to themselves—sometimes dichotomous needs." Memos following subsequent interviews verified any continuing or discontinuing representation of topics as well as reemergence of previous topics. For example, a later memo noted that although some participants were emphatic about the importance of pump style, most of the participants did not describe the pump style as being as important as simply having enough time to pump and maintain the equipment and their milk supply. The notes and memos are part of the data set and were included in the constant comparison analytic procedures described below.

Secure and confidential storage. All paper identification information, memos, notebooks, transcribed materials, and tapes were kept in a locked file cabinet in a secure confidential location in the locked office of the principal investigator. Audiotapes will be destroyed 1 year following completion of the study.

Gift of appreciation for participation. Following completion of the interview, participants were given a small baby gift, such as infant booties, a toy, and/or a breastfeeding book in appreciation for their time. The investigator had an assortment of age-appropriate gifts suitable for the participant's breastfed child's age. The participant could select a gift she deemed most suitable for her child at the time of the interview.

Table 2. Summary of sample characteristics

Age in Years	***n=11***
21–25	1
26–30	2
31–34	4
35–39	3
40+	1
Education Level	
High School	1
Bachelor Degree	4
Master Degree	6
Household Income*	
< $20,000	1
$20,000–$35,000	1
$60,000–$70,000	2
$90,000–$100,000	4
$120,000–$130,000	3
Marital Status	
Married	9
Co-habiting (never married)	1
Single (never married)	1
Race/Ethnicity	
Non-Hispanic White	7
Hispanic	2
African American	1
Asian	1
Employment Characteristics	
Hours Employed Outside the Home per Day	
5–7.75	1
8	7
10	1
12–13	2
Days per Week Away From Home	
2–3	3
5	8
Type of Occupation & Work Setting	
Nonmedical occupations	7
Setting: Clerical office worker = 3; Executive business manager =1; Librarian = 2; School Teacher = 1	
Healthcare occupations	4
Setting: Hospital nurse = 3; Clinic advanced practice nurse = 1	

Breastfeeding Characteristics

Breastfeeding While Employed Frequency **	
First Child	6
Second Child	5
Length of Time Breastfeeding Current Child***	
4–6 months	5
7–12 months	1
13–15 months	4
>15 months	1

Notes: *Households with incomes <$36,000 were single-parent households.

** All mothers with second child experience also breastfed first child while employed outside of the home.

*** 3 of 11 mothers discontinued pumping their breasts at work but continued to breastfeed their infants at home.

Data Analysis

Data analysis followed the grounded theory guidelines of constant comparison and coding (Corbin & Strauss, 2008; Glaser & Strauss, 1967; Strauss & Corbin, 1998). Despite the eventual philosophical differences between Glaser and Strauss, the broad fundamental methodological processes of categorizing and constant comparison have been retained over time in the developing methodology of grounded theory (Schreiber & Stern, 2001). The analytical procedures included the technique of constant comparison in a sequence of overlapping steps of "explicit coding and analytical procedures" (Glaser & Strauss, 1967, p. 102). Participants' transcripts were printed on paper and highlighted with margin notes in order to facilitate organization of the data. Journals were used to record field notes and memos during the ongoing events of data collection and analysis.

Each interview was read line by line in the open coding analysis. Codes were identified and assigned meaningful labels (Corbin & Strauss, 2008; Strauss & Corbin, 1998). Strauss and Corbin (1998; Corbin & Strauss, 2008) advocate a balance between objectivity and sensitivity during analysis. The open coding step also included the adjunctive process of memoing notes by the researcher as an effort to elicit dimensions of, and/or map potential relationships between, the properties or categories of the open codes. Memoing is also part of the next overlapping step in the analytical process known as axial coding (Corbin & Strauss, 2008; Strauss & Corbin, 1990, 1998). Initial review of mothers' statements in the transcripts produced recurring open codes such as "internal decision making" or "early decision making" from statements such as, "I was gonna have to find a way to do it and work at the same time … I felt like it was the best thing to do

for my child." The concept was prevalent throughout the transcripts, and examination of the collection of similarly coded statements led to the code of "self-determination." The mothers described a conscious self-determined effort to combine breastfeeding with employment and to address the entire process with this sense of self-determination, no matter what they encountered, which led to the overarching construct of the mothers' willfulness in the process.

Axial coding focused on the cumulative analysis of a specific category: "The conditions which give rise to it; the context in which it is embedded …strategies by which it is managed … and consequences of those strategies" (Strauss & Corbin, 1990, p. 97). Axial coding "cross cuts" or "relates concepts to one another" (Corbin & Strauss, 2008, p. 195). In this study, the investigator utilized the widely used "6 Cs" to identify the antecedent factors, strategies used, intervening factors that could aid or inhibit the process, and the outcomes or desired goals (Mills, Bonner, & Francis, 2006). The "6 Cs" of causes, consequences, conditions, contexts, contingencies, and covariances were initially labeled by Glaser and were further developed by Strauss and Corbin in later versions of grounded theory (Corbin & Strauss, 2008). Constant comparison continued as axial codes were reviewed and compared to refine them. Grounded theory, being philosophically based on action/interactional theory, includes a focus on active processes and conditional consequences. Illustrating subcategories of relationships identified via axial coding is known as the "paradigm model" (Strauss & Corbin, 1990, p. 99). The codes were identified on an ongoing basis in the interviewing process as context emerged and were used to illustrate interactional meaning. These codes were compared

sequentially with each interview and were also used, where appropriate, to probe participants on concepts emerging in the process.

For example, during ongoing interviews and analysis, the codes labeled *support*, *sleep*, and *milk supply* were initially categorized as simple concepts occurring early in the process, or antecedent variables. These codes eventually emerged as more complex conditions, or covariant intervening variables, in the context of adequacy. In other words, adequacy of sleep, production quantity of breast milk, and having or not having support were deemed as potential aids or threats and were related to causes and consequences in the mothers' process of struggling. The interaction of aids or threats to balance defined the mothers' struggle and their subsequent selection of strategies to maintain daily balance in the process of combining breastfeeding with employment outside of the home.

The next analytical step in which the core category is identified is called *selective coding* by many grounded theory experts (Corbin & Strauss, 2008; Strauss & Corbin, 1990, 1998). The axial codes were systematically evaluated to determine how they integrated with each other and built the backbone of the core category. Selective coding was used to systematically clean the collected data by examining findings for consistency. Selective coding helps create the story line of the grounded theory of the phenomenon. The story is "a descriptive narrative of the central phenomenon of the study" (Strauss & Corbin, 1990, p. 116). This process of selective coding helps identify the core category, which is the central theme and includes the basic characteristics of frequently recurring in the data, linking data together, and explaining data variance (Corbin & Strauss, 2008; Strauss & Corbin, 1998).

Constant comparison of the emerging data was continually employed in each step of analysis, thus contributing to the validity of the developing grounded theory. The contents of transcripts, field notes, and memos were included for consideration and relevance at each step of the coding analysis. Ultimately, a grounded theory emerged from the systematic, constant comparative steps of coding, note taking, memoing, axial coding, the paradigm model, conditional matrix development, and core category identification. Coding was undertaken and compared until saturation or repetition of similar data was achieved as well as density via theoretical sampling. A core category entitles the grounded theory process (Chen & Borre, 2009; Corbin & Strauss, 2008; McCann & Clark, 2003; Schreiber & Stern, 2001; Strauss & Corbin, 1998). In this grounded theory study, the core category process of the breastfeeding mother employed outside the home was "Willfully Struggling to Maintain Daily Balance."

Trustworthiness. Trustworthiness of the data was established by incorporating procedures designed to limit the researcher's bias. Fundamental elements of trustworthiness in research are (a) credibility, or the confidence in the truth of the findings and interpretation process (supported by researcher qualifications); (b) dependability, or the stability of the findings over time and situations; (c) confirmability, or the objectivity of the findings or accuracy in finding actual participant meaning; and (d) transferability, or generalizability to other groups or settings (Lincoln & Guba, 1985). Individual elements of trustworthiness are addressed below.

Credibility. The researcher was considered to be an instrument, a part of the research in grounded theory. Although bracketing the individual investigator's personal

related experiences is encouraged and expected in grounded theory methodology, some inherent degree of personal involvement is appropriate. Grounded theory is not defined by the existing literature on a particular phenomenon nor should it be unduly informed or influenced by the literature per se. However, knowledge of the related research is inherently a part of the background that a researcher brings to the research. Therefore, in an effort to bracket and/or avoid sensitizing concepts in the research process, the literature review was presented in broad categories simply to identify gaps. This is consistent with the "simplified backdrop" recommended by Glaser and Straus (1967, p. 162).

Sensitizing concepts based in a researcher's personal experience also present challenges to maintaining objectivity when conducting grounded theory research. The subjectivity of this researcher was minimized by active ongoing efforts to balance openness with skepticism. Techniques to maximize objectivity included identification and memoing of the researcher's preexisting assumptions and biases, thinking comparatively, and obtaining external viewpoints from a qualitative expert during data collection and analysis as recommended by Corbin and Strauss (2008) and Strauss and Corbin (1998). Following each of the first seven interviews and coding, a qualitative expert, the dissertation chairperson, was consulted to conduct separate coding; this was then compared with the PI's coding. This process was employed partly to ensure credibility and to bracket personal bias.

This investigator's biases and assumptions included personal experiences of breastfeeding when employed as well as when a stay-at-home mother, along with 25

years of professional nursing experience in maternal–child health. The investigator admitted to a personal bias in professing the belief that breast milk is the optimal source of nutrition for a child under 12 months of age, particularly during the first 6 months. The investigator also held the assumption that breastfeeding is legitimately contraindicated in certain maternal health-related situations. The investigator also respected the mother's ultimate right to choose a personally appropriate source of infant nutrition.

The investigator also assumed that the experience of breastfeeding while employed is often difficult, challenging to manage, and infused with an assortment of personal and psychosocial implications. The investigator holds 4 years of recent experience as a graduate research assistant at the University of Texas School of Nursing. The investigator acknowledged that her experiences are personal and separate from this research. The investigator recognized and outlined her personal biases, assumptions, and related experiences in an effort to bracket them from analysis in order to ensure that theory would emerge solely from the participants' shared data.

Confirmability. The PI summarized and/or verified points made by the participants throughout the interviews to seek clarification and confirmation. Member checking, conducted with participants during the interviews as part of the constant comparison process, provided an element of support for verification of truth in the findings. An additional review of the raw data by the aforementioned qualitative consultant was employed to assess consistency in interpretation. The final transcripts were coded by the PI and the dissertation chair separately and they compared for consistency and thematic clarity.

Dependability. Dependability is a neutral condition interdependent with credibility, with dependability following credibility assurance measures (Lincoln & Guba, 1985). Dependability over time and situations was addressed by seeking diversity with the use of theoretical sampling. A variety of mothers with diverse variables in their personal situations were purposefully sought in ongoing sampling to verify the emerging theory.

Transferability. Measures to assess transferability or generalizability to other groups or settings were addressed by sharing preliminary findings with an outside group, who responded to a preliminary report of the findings via poster presentation. Preliminary findings were also presented at a research conference as a poster presentation, and attendees' comments and impressions were documented in the investigator's field notes.

Summary

Grounded theory is built with data collected from the ground up, or, euphemistically, directly from "the trenches"; therefore, this study began first and foremost with the voice and perspective of the breastfeeding mother who was also embedded in the simultaneous process of working outside of the home. Participants with a diversity of maternal demographic backgrounds, employment, and breastfeeding characteristics were recruited. The overall sample was not quite as diverse as hoped for, but a reasonable amount of diversity was obtained through a combination of purposive, snowball, and nomination sampling.

Constant comparative techniques were employed during data collection per Strauss and Corbin's (1998; Corbin & Strauss, 2008) methodology. Stringent efforts to ensure credibility and trustworthiness were undertaken. Grounded theory coding practices were utilized in the process of identifying recurrent themes in the data. Finally, conclusions were made from the findings and generated a grounded theory of mothers breastfeeding while employed, entitled "Willfully Struggling to Maintain Daily Balance."

CHAPTER FOUR
Findings

Introduction

Eleven women employed outside of the home and breastfeeding were interviewed in Austin, Texas between April 2010 and May 2011. Data were collected via questions in semi structured interviews. An interview guide provided for similar questions in each interview, with other questions added in subsequent interviews to explore concepts that emerged. Comparison of interviews was conducted iteratively throughout data collection and data analysis. Saturation was reached at the 10th interview. An 11th interview was conducted to confirm and clarify the findings. The information obtained in the 11th interview was consistent with the major findings and helped confirm the use of grounded theory. Member checking further confirmed the findings.

All 11 mothers reported having planned some degree of combining breastfeeding with employment outside the home before their infants were born, although one mother of two breastfed babies reported that she did not plan to breastfeed while employed following any subsequent births. The mothers shared the individual strategies that they used to implement this plan and/or strategies that they had developed during that process. The grounded theory core category that emerged is the process of *willfully struggling to maintain daily balance* (see Figure 2 for a schematic diagram).

The mothers described willfully making their way by engaging in a variety of ongoing activities, which included acquiring breastfeeding knowledge via multiple means and accessing role models within their circles of family and friends. These activities occurred from the very onset even before the mothers gave birth and were antecedent to

the other factors in the process of breastfeeding while employed. The influence of these early activities or antecedent variables was often laced throughout the rest of the process, as some mothers continued to seek role models or knowledge at various times. Mothers' navigation through the entire process was a willful, self-determined struggle to maintain daily balance.

Self-determination is defined here as a willful drive within the individual mother, as demonstrated by her actions and statements related to maintaining breastfeeding while employed outside the home. This self-determination was intrinsic, or internally driven, inherent in each mother to varying degrees. The mothers were determined to find some way to successfully combine breastfeeding with their employment outside of the home, even if they had to adapt their plans or compromise their original design.

The mothers identified the importance of having sufficient resources such as (a) adequate sleep, (b) producing enough breast milk, (c) finding social and professional support, (d) securing ongoing support at work, and (e) determining childcare compatibility. Mothers struggled on a daily basis using a variety of strategies to seek and secure resources, including (a) managing sufficient sleep and breast milk production, (b) organizing pumps, parts, and milk storage, (c) negotiating time and space at work to pump, (d) addressing "abandoning my post" issues at work, (e) dealing with embarrassment, and (f) monitoring childcare compatibility to navigate their own course through the process of breastfeeding while employed.

The mothers' strategic work eventually led to an individual means of maintaining balance by (a) finding a way to make it work and/or (b) making peace with it. The

mothers, some of whom had engaged in this process with a previous infant as well, described their struggles in seeking balance during the process. No one indicated that this was a seamless, effortless process, and all described an ongoing prioritization of tasks and time to make the process work in one way or another.

The concept of having sufficient resources includes various intervening variables that influenced the mothers' individual selection and execution of strategies that the mothers struggled with along the way. Their selection of strategies was often based on the presence or absence of various resources, which could serve as threats or aids to combining breastfeeding with employment outside the home, such as adequate sleep and milk production and levels of social and workplace support. The availability of resources affected the mothers' ability to maintain a daily balance during the process of combining breastfeeding with employment outside the home.

The concept of maintaining daily balance reflects the ongoing nature of the process, which demanded a constant focus and flexible strategizing to keep a poised equilibrium as a breastfeeding mother and employee. Maintaining balance also included outcomes of the mothers' strategies, which were the end result of their efforts to combine breastfeeding with employment outside the home. The outcomes consisted of (a) finding a way to make it work, which included the mothers' own innovations, and (b) making peace with it, which described whatever results mothers reported coming to terms with while combining breastfeeding with employment away from home.

The overarching process that emerged from the mothers' descriptions was the grounded theory of *willfully struggling to maintain daily balance*. The willfulness

occurred in the context of a sense of self-determination. Although each category was distinctly different, the concepts developed from one to another and sometimes they overlapped. For example, navigating the process began with acquiring knowledge and seeking role models when necessary, yet the mothers' self-determined willfulness permeated throughout. The concept of having sufficient resources to maintain balance continually interacted with the concept of struggling with daily strategizing, as when new threats to balance emerged and required concurrent new strategies. Intervening variables such as aspects of support either aided or undermined the mothers' efforts. The interaction of intervening variables in terms of having sufficient resources and subsequent strategizing contributed to the outcome of maintaining balance. Maintaining balance was exemplified by *finding a way to make it work* and *making peace with it* and was determined by the mothers' activities along the course of the process, particularly their interactive activities of having sufficient resources and struggling with daily strategizing.

This process can be seen as somewhat analogous to the balance beam routine in competitive women's gymnastics. To the untrained eye, the beam routine appears to be a fluid, almost effortless poetry in motion, a lovely feminine ballet. In reality it requires diligent, intensive daily focus and training by a determined gymnast, who strives to create a poised professional performance for public evaluation while precariously balanced on a 4-in. beam. The gymnast's daily workout is rigorous and must be balanced with adequate sleep and time for other essential activities of daily life.

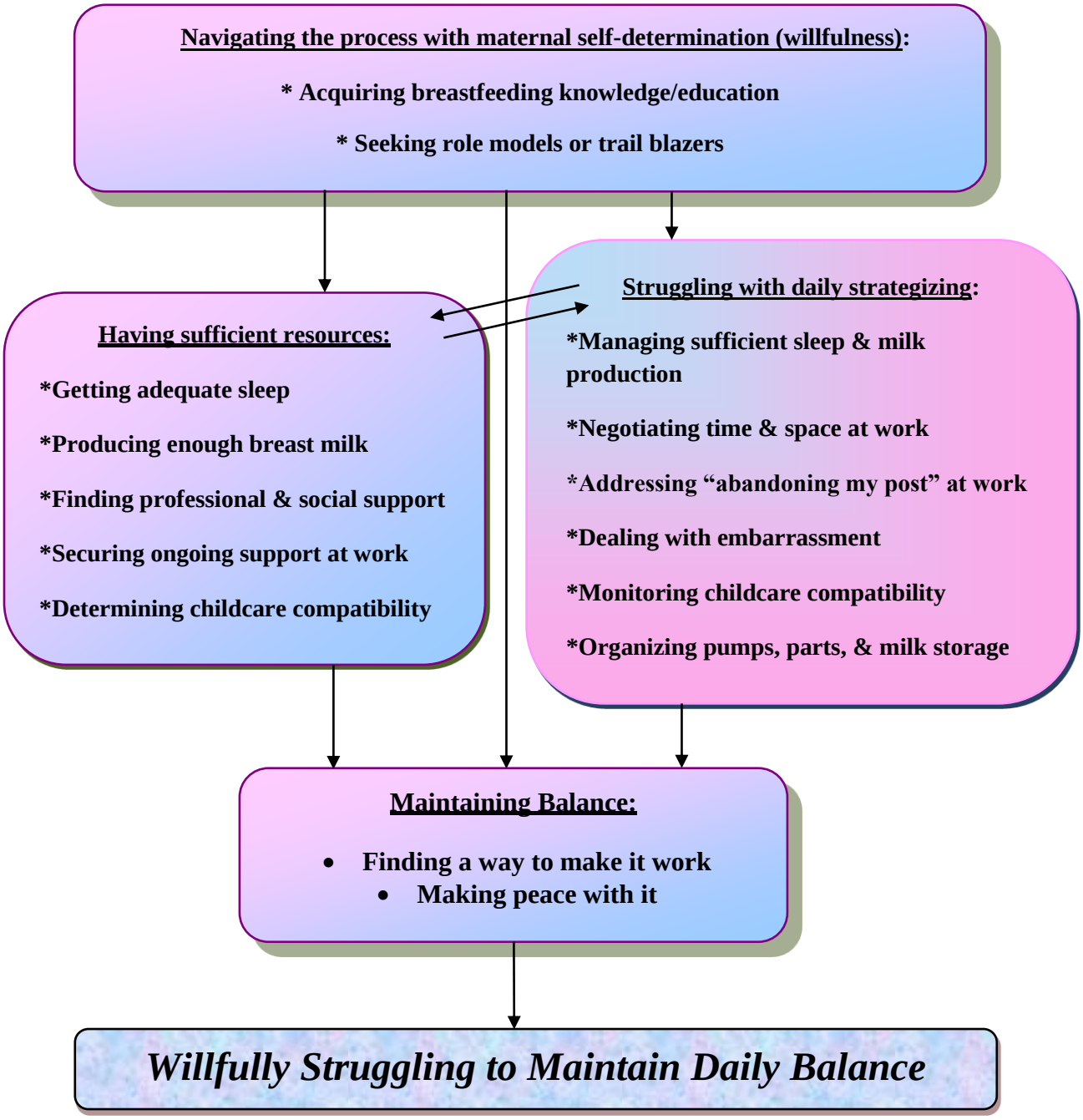
Just as the balance beam gymnast demonstrates a willful struggle to maintain continual poise and precarious professional balance, so does the breastfeeding employed mother. The first-time breastfeeding and employed mother executes her daily balancing act as a novice performer and must find a way to make the process work. The mother also makes a determined, professionally public and poised peace with whatever results her efforts produce.

Antecedent Variables

In grounded theory, antecedent variables are those that occur early in the process that is being theoretically modeled. Yet although antecedent variables precede other variables in the theoretical process, they usually remain present during the entire process as well. Ultimately, the researcher looks for "plausible orders of variables to suggest a theory" (Glaser & Strauss, 1967, p. 209). The theoretical ordering of variables here is based on Glaser and Strauss's original argument that as a theory emerges, the researcher discovers variables in the data related to a core variable that defines the emerging modeled process. *Navigating the process with maternal self-determination* is the antecedent core variable in the present instance. Mothers navigated the process by acquiring breastfeeding knowledge and/or education and by seeking role models or trailblazers. Figure 2 schematically illustrates the categories and concepts identified in the findings. Participant quotes in support of each category and concept are presented in the subsequent narrative.

Navigating the process with maternal self-determination (willfulness). All of the mothers reported a sense of self-determination to continue breast feeding while employed outside the home, which began before the baby was born and continued after giving birth and returning to work. Self-determination included willfully planning and initiating breastfeeding, continuing breastfeeding and/or pumping after return to work, and continuing to supply breast milk for as long as possible while employed outside the home. Although all 11 mothers reported a strong sense of willful determination to combine breastfeeding with outside employment, 3 of the mothers reported their spouses as perhaps being the stronger driving force behind their babies' receiving breast milk when the mothers returned to outside employment. These 3 mothers did, however, accept and incorporate their spouses' determined opinions regarding breastfeeding to varying degrees into their own efforts to breastfeed. They were all determined to continue to supply their babies with their breast milk when they returned to work, one way or another. Some described facing difficulties in doing so, yet remained steadfast in their determination despite the challenges. This self-determination continued throughout the process of breastfeeding while employed outside the home.

(Figure 2) Schematic diagram of grounded theory process of breastfeeding mothers employed outside of the home



Examples of the mothers' self-determination can be seen in the following statements. Lila, a 31-year-old pediatric clinic nurse and first-time mother, said, "I was gonna have to find a way to do it and work at the same time. I felt like it was the best thing to do for my child." Rose, a 39-year-old administrative clerical worker and second-time mother who breast fed both of her children while employed, reported that "It was a non-issue for me. It was always gonna be breastfeeding." Bonny, a 34-year-old first-time single mom who was also nurse in a busy metropolitan hospital, said, "To me it was a no-brainer, I never would have considered otherwise…I would quit my job before I quit breastfeeding. To me, not breastfeeding, even when employed, is very abnormal." Vera, a 29-year-old mother pregnant with her second child who was also an office clerical worker, stated, "I basically knew from the get go that I was going to breastfeed whether at work or at home…just something that I wanted to do." Dawn, a 30-year-old first-time mother and graduate student who became a school teacher during the process, shared, "I already had decided that …I would breastfeed her for one year, even if I worked. So I had made my decision; that was my plan."

Ella was a 21-year-old first-time single mother whose parents took care of her baby while she attended college full time in another town. She pumped her breasts and froze the milk until she could travel home on the weekend. She said, "I just—I knew that I was gonna have to do it. I never saw an alternative option to it…because it's my job to feed him."

Janna, a 40-year-old second-time mother who also breast fed both of her infants while working as an administrative librarian, shared her employment and breastfeeding experience with two babies born 20 months apart: "I just wanted to continue to give my baby breast milk, and I had to go back to work, so that's just what I was gonna do…and I don't particularly like breastfeeding or pumping, but I was doing it for them."

Geena, a 31-year-old second-time mother of two breastfed toddlers and a pediatric hospital nurse, said, "I think a lot of it was just my determination." Hope was a 37-year-old mother of two breastfed children born 5 years apart and a librarian in a new position: "It was just what I was going to do," she said.

The extreme case of self-determination was Ella, who would pump her breasts and freeze the milk for her infant during the week while she was away at school. Some of the mothers were successful in meeting their goals of providing exclusive breast milk to their babies after returning to work, whereas some eventually decided that they needed to supplement their pumped breast milk and/or direct breastfeeding with commercial formula. These mothers' self-determination was exemplified by their statements that they believed they did only what was best for their infants.

Acquiring breastfeeding knowledge/education. A significant antecedent variable noted in the findings was the presence of a varied amount of breastfeeding knowledge among all the mothers whether it was self-taught or obtained through formal education, although some mothers reported supplementing their knowledge throughout the process, especially with the help of lactation consultants. Some of the mothers reported having

previously acquired breastfeeding knowledge from family mentors, from work in the medical field, and/or from prenatal classes.

Four of the 11 mothers who were workers in the healthcare field reported that they had acquired breastfeeding knowledge in their professional work and/or education. For example, Lila, a pediatric nurse, said, "I read all the studies…the research, the health benefits, that type of thing…all the extra things you can get from breast milk as opposed to formula." Bonny, a labor and delivery nurse, spoke of "the obvious health benefits to him and to me," and Geena, a pediatric nurse, said, "I went to nursing school and just hearing that too."

The seven mothers employed in non-healthcare fields reported acquiring breastfeeding knowledge or education in various ways. For example, Janna, an executive librarian, said, "Well, all the studies show that it's so much better for the baby." Dawn, an elementary school teacher, reported her experience with La Leche League group meetings: "Just the whole philosophy of how breastfeeding is so good for the baby…and the mother group saying you can do it don't worry." Dawn also described cultural breastfeeding knowledge acquired from her family and country of origin: "The way I was brought up in [an overseas country where] breastfeeding is the culture…so a lot of the decision was before."

Hope, a librarian who was nursing her second baby, reported on her preparation regarding breastfeeding and avoiding formula supplementation: "You know, so much of what you read is like, don't give your baby a bottle. It's not gonna work if you do that.

You must nurse every two hours. I mean, you know, with my first daughter, we read the books, and felt like we had to do everything by the book."

Rose, a 39-year-old full-time administrative clerical worker nursing her second baby, said, "I just felt that for her immune system and just overall health—and everything I'd read." Rose was asked about acquiring any breastfeeding knowledge or advice from online blogs. She replied,

> Going online? Honestly, I feel the majority of the stuff out there—people are stay at home moms. Sometimes you feel like you're the only person on the planet who's a working mom [and breastfeeding] and it's very annoying...things that I would read...seemed to take for granted that whoever was reading this blog or this book or whatever was a stay at home mom. But I kind of sense, maybe with the economy—I just feel like that's changing a little bit.

A majority of the mothers had taken a prenatal breastfeeding class as part of their knowledge acquisition in breastfeeding preparation. Janna reported on her learning experience at a breastfeeding class taught by a lactation consultant:

> The class was so important to me…it was such a great class, and that was a major influence on me…[the instructor] said "It's a natural thing, and anybody can do it. You just have to want to do it." And that really stuck in my mind…because she's the expert.

Paige, a 34-year-old hospital nurse with her second baby, reported that she and her husband gathered knowledge while attending a breastfeeding class:

> It was helpful to just like—I don't even remember what we learned in that class, actually taught by a lactation consultant. But yeah, just the preparation of learning all the language I suppose, and the culture and all that kind of stuff.

Seeking role models or trailblazers. A role model was defined as someone who demonstrated the process for the mothers and who offered a variety of helpful breastfeeding and/or pumping information—such as a family member, friend, or neighbor with experience at working through the process of breastfeeding while employed outside the home. A trailblazer was defined as an individual who was also a role model, but in the practical sense of having gone through the process before the participant mother in an employment setting similar to that of the new breastfeeding employed mother, or at least of going through this process at the same time. More specifically, the trailblazing role model experienced maintaining breastfeeding in a workplace that was new to the process or unfamiliar with breastfeeding employees.

Seeking breastfeeding role models was an antecedent variable reported by a majority of the mothers, and some reported the absence of such role models or spoke of their desire to find them. Some talked of the benefits and/or drawbacks of being trailblazers at their workplace; however, most of them focused primarily on role modeling specifically for actual breastfeeding and/or pumping activities. Meryl, a 36-year-old executive business manager, described her executive role model peers when she breastfed her first child while employed: "Oh there's this VP who is breastfeeding right now and this other person who is breastfeeding right now so they can give you tips on

you know, how to handle it in the office and they told me the good stores to go to for pumping and that kind of thing."

Lila, a 31-year-old clinic pediatric nurse with her first baby, said, "I knew it could work in our [work] environment, someone had already blazed that trail for me…I had already seen it done so I knew I sort of needed to show up with my pump and I knew I'd be okay." Ella was a 21-year-old single mother and full-time student and clerical worker living away from home. Ella described role models in her family:

> My mom, I'm the oldest of four, and my youngest sister was breastfed until six months I believe…while my mom was working as well. So I always figured, you know my mom did it; I'm sure I can too. My Grandma...also nursed. She even helped her neighbor who...couldn't nurse and couldn't afford formula, so she was like a wet nurse.

Geena, a pediatric hospital nurse with her second baby, listed the role models in her family and at work:

> Part of it was my mom breastfed us; my sister and my mom. Maybe even more my sister, since she has just recently had her kids. And I also worked with a lot of people who had babies at the same time.

Vera, an office clerical worker, said, "A lot of my friends that were also pregnant the same time as me...they kinda influenced me on at least trying and seeing if breastfeeding works." Hope, a second-time mother working as a librarian said, "I knew at my workplace other people had done it, and that was good. That was helpful for me with my daughter" (referring to her first baby).

In some cases mothers encountered an absence of role models, even when looking in places where they thought there would be a supportive role model. Rose, a 39-year-old clerical worker, shared a mixed experience with seeking a role model in her sister, whom she had expected to find supportive:

> She's always been a nursing mom and done all that, So to a certain point, yes, her…who I love, but she made me a little crazy—because she said "isn't your milk shooting across the room? Aren't you like a fountain of breast milk?" I said, "No." It was just sort of like a "What's wrong with you?" kind of attitude. And that's certainly not what you wanted to hear…especially when…you don't know what's going on. So she was definitely not a role model. She was kind of an anti-role model…I mean I think I was kind of my own role model.

Paige, a 34-year-old nurse with her second baby, reported difficulties with the basic mechanics of breastfeeding and considered weaning before she returned to work. Paige remarked about role models serving as visual examples of "how to" breastfeed correctly.

> I realized that if you don't watch…see somebody breastfeed…like animals…learn how to feed their babies by watching…other primates if you will. They learn by watching. And I realized, you know, I never watched. Like we didn't have a lot of babies, but I never watched people nurse, or feed their babies…really don't have any prior experience. So my best friend came over to the house—we were like close enough friends that she was like you're doing it wrong...and she touched me, and she was like do it this way, or try this way.

The mothers' efforts to seek out breastfeeding knowledge and role modeling at work and elsewhere intertwined with their individual degrees of self-determination. For example, Ella, the 21-year-old full time student and worker living far from home and her baby, shared her memories of difficult times:

> Oh, yeah, I was determined to make it work because I…did feel sad some days, and there were some days where I would be pumping in the middle of the week—Wednesday—you know, I wasn't gonna see him for another two days, and it just felt wrong to me that I was pumping—like I shouldn't be doing this. But my mind was telling me like, No, this is—it would be very selfish for you to stop; this isn't for you. So—yeah.

Hope, a 37-year-old working in a new position, described milk pumping difficulties at work with her second baby, as well as a feeling of isolation in this job because of an absence of role models; this was followed by her self-discovery of renewed self-determination.

> I mean, I had already made the decision, and I was just sort of hoping that someone would say, "Oh you can quit; it's fine."—And I knew—I knew that wouldn't happen…somewhere inside, I knew I just need to get over the hump then, it would be fine.

Summary of navigating the process with maternal self-determination. The mothers' self-determination drove them to seek knowledge and role models, and it kept them going through difficult times. The antecedent variables continued to have an influence on each category of the process of breastfeeding during employment outside the

home. The directions that the mothers' received from their selected role models and the mothers' determined efforts to acquire breastfeeding knowledge also helped them develop their individual courses of action during the process.

Breastfeeding knowledge and the presence of role models or trailblazers influenced the course of the mothers' navigation of the process in both strategy selection and development, to be discussed next. The powerful positive antecedent variable of self-determination often buffered against potentially adverse effects of negative intervening variables in these mothers' efforts. The intervening variable categories of having enough resources and struggling with daily strategizing included factors that could potentially make or break the mothers' balance in their efforts to combine breastfeeding with employment away from home.

Intervening Variables

Having sufficient resources. Intervening variables in grounded theory are those that have a bearing on the direction of strategies and/or outcome(s) in a process. Intervening variables are also referred to as *conditions* by Strauss and Corbin (1990) in their grounded theory work. These intervening conditions or variables represent influences pertaining "to a phenomenon that facilitate or constrain the strategies taken" (p. 96). In the present study, the phenomenon was mothers who are breastfeeding while employed outside of the home, and the intervening variables were conditions found to either support or hinder the mothers' efforts in the process of struggling to maintain daily balance. The intervening category in this process was *having sufficient resources*. This

included the lack or presence of (a) getting adequate sleep, (b) producing enough breast milk, (c) finding social and professional support, (d) securing ongoing support at work, and (e) determining childcare compatibility with the process.

Getting adequate sleep. Having sufficient resources included elements associated with positive support and/or, conversely, attempted sabotage of a mother's efforts to combine breastfeeding with employment. Getting adequate sleep was a variable that many of the mothers described as challenging. Meryl, the executive manager, reported that her difficulties in getting sufficient sleep were due to both (a) waking up on time for work, and (b) being able to function intellectually at work without enough sleep:

> I think the biggest thing I was worried about going back to work was sleeping over, like, you know, and not having sleep and I'm still struggling with that because he still wakes up during the night. And it's hard to work when you're sleep deprived. So that's been one of the toughest things.

Vera, who worked in an office with a rigid schedule, said, "I don't think I would ever get enough sleep." Ella, who pumped breast milk all week for her baby while working and studying full time as a student in another town, also spoke about waking during the night with her breasts painfully engorged (overfull) with breast milk, partially due to sleeping through a scheduled pumping time:

> It was horrible. I would wake up, and the first thing I would do is complain about how much it would hurt, because I had woken up at least once during the night. I was never able to sleep eight hours straight …so I would wake up…pump for as long as I could.

Geena, who worked 12-hour night shifts in the hospital, felt that her breast milk supply was affected by sleep deficits: “But like the nights I would work, I would have less the next day; a lot of it probably related to not really sleeping.”

Lila, the clinic pediatric nurse, described her exhausting long day, which included the rigorous evening routine of preparing breastfeeding supplies for the next workday during her baby’s brief evening nap after dinner: “You know I’m exhausted after being at work all day and have to clean it [all] up and get ready to go again and get to sleep so I can get up and you know, do it the next day.” This repetitive cycle was a drain on her energies.

Janna, who worked full time in a busy librarian position, discussed her frustration with sleep deprivation while breastfeeding as well as her situation with both a toddler and a nursing baby that she was considering weaning: “Like it gets to a point where you’re like, Okay, this is ruling my life. This is ridiculous. You know she’s still not sleeping through the night. She still gets up in the middle of the night to feed.” Despite her doubts about continuing breastfeeding when she was sleep deprived, Janna choose to continue her struggle to find a way to make it work. Her self-determination helped her work through such challenging times.

Sleep deprivation was exhausting to the mothers and sometimes affected their work performance as well as the quality of their family life. Sometimes, insufficient sleep impacted their ability to produce enough breast milk. Lack of adequate sleep led them to question their decisions to continue breastfeeding while employed outside of the home.

Producing enough breast milk. Producing enough breast milk, or an adequate milk supply for the baby's daily needs, was an intervening variable that many mothers brought up in the discussions. Some experienced decreased breast milk supply despite their efforts to correct supply issues, and they were forced to compromise with formula supplementation. However, even in this situation, these mothers demonstrated determination to provide their babies with as much of their breast milk as possible. Ten of the 11 mothers took herbs, usually fenugreek, and/or drank mother's milk enhancing teas to address decreased milk production upon returning to work. Conversely, 1 of the 11 mothers had difficulty with an overabundance of breast milk production, which necessitated additional pumping at work and professional lactation consultation. A majority consulted a professional lactation consultant during the postpartum period for help with milk supply issues.

Worry about sufficient production of breast milk added unexpected stressors for many of the mothers upon returning to work when they began to notice their milk supplies dwindle. For example, Dawn, a first-time breastfeeding employed mother, expressed surprise and concern when she noticed a dramatic decrease in her breast milk production when she began pumping milk during her work breaks while a new elementary school teacher:

> I just knew it won't happen to me…I have so [much] milk it won't happen to me. So it was a little concerning when it actually dropped and if I didn't get to pump was a little anxious, like oh I'm gonna lose this supply but then I would get to pump more and get supply back up...I freaked out a little bit. And again the

lactation consultant helped with that in saying, just keep pumping and it will come back. So I kept pumping.

Vera, an office clerical worker with her first baby, also expressed shock when she discovered that pumping was not producing the amount that she expected and knew her baby needed: “Yeah because it was pretty hard for me, I felt inadequate and so it, really did feel like some days, like oh my god, this isn’t enough to get her halfway full!”

Geena discussed differences between her two babies born 2 years apart. These differences were related to her milk supply as well as to the lengths she went to maintain or improve her milk supply:

> Towards the end, when she only nursed like three times a day, it was just dropping really fast. And I could tell it was and I don’t know if that’s because she didn’t have as strong a suck as the first one….The first one I breastfed till he was 17 months, then I was already pregnant and didn’t know it. That’s why my supply had gone down. [This time she thought], “Oh God, I’m pregnant,” but no, I wasn’t, because I had a lower supply, well to me it was a lower supply, because I had so much the first time.

Hope recalled worrying about producing enough breast milk for her first baby when she returned to work; she said that pumping did not work out very well for her at all. Hope obtained small volumes when she pumped, so she chose to supplement her child’s feedings with formula:

> With my daughter, I worried constantly that she wasn’t getting enough, and I wanted to have her weighed every day, you know, make sure. With my son, that

was never a concern…I keep talking about how big he is, and that's really cause he's drinking the formula [supplement]…I've never worried that he was not getting enough…I mean, to me it's frustrating that I pump for 20 minutes, and I get 2½ ounces, 3 maybe.

Maintaining enough breast milk production was a source of constant worry for most of the mothers. They noticed their reduced milk production after returning to work. This led them to try different strategies to maintain milk production, which will be discussed later.

Finding professional and social support. Here, *support* is defined as interactions with social (family, friends), or professional individuals pertaining to breastfeeding. Support is an intervening variable because it may be present or absent, and it can promote breastfeeding or deter it. The concept of support arose as an intervening variable early in the process at the birthplace and extended throughout the first postpartum year.

Finding professional support. Several mothers discussed the assistance they received from lactation consultants regarding breast milk production. Mothers reported helpful early breastfeeding direction regarding proper positioning and infant latching onto the breast, but also stressed the importance of having ongoing postpartum access to lactation consultants as needed. The need for lactation consultants was reported by mothers who were healthcare professionals and those who were not employed in healthcare professions.

Lila, a pediatric nurse, described the significance of the professional support that she received from lactation consultants:

> Probably the reason we continued nursing is because of the lactation consultant…one of the LC's spent like two hours with us and helped, we eventually ended up using a nipple shield for a little while just to help…things just weren't, [baby's] mouth wasn't working quite right yet and that made a big difference…we probably used that for like 2 or 3 weeks.

Mothers also described the lactation consultants as a calming influence. Dawn said that her lactation consultant "just helped to ease my fear…mostly in calming me but also encouraging me, and yes calming my fear."

Rose described difficulty in finding a lactation consultant to meet with her when she developed difficulties breastfeeding during the very early postpartum period. The lack of an easily accessible referral system to community-based lactation consultation was described by many of the mothers. Rose also reported that her phone consultation with the lactation professional was calming: "I just called a few…I finally got one woman on the phone, and she just talked to me for free, just as a courtesy—just to tell me basically, "Calm down, everything's fine. You're gonna be fine." And sure enough, it happened."

Not all lactation services were supportive. For example, Ella, who was from a different area of the state, did not find very helpful support services in her home town:

> They told me there was a lactation place to go—but I met with a lactation consultant at the hospital and once at WIC. The one at WIC just gave me a bag with some pamphlets, and I think she gave me some washable breast pads.

Professional support services are often not as widely available in rural Texas as they are in a central Texas urban area such as Austin.

Meryl reported that her birthplace "hospital lactation consultant never came." She later found one in the community through a paid service: "You know we need[ed] to step up the feeding, and so that was the biggest thing, the LC [lactation consultant]. You know, the nurses do know what they're doing but they're not really problem solvers."

Several mothers reported mixed support coming from their pediatricians' offices, which included the presence or absence of lactation services available there. Geena became overwhelmed with her breast milk oversupply and engorgement difficulties and turned to her pediatrician for help. The pediatric office offered a lactation consultant referral service at considerable expense. Geena said that her mother paid for the service and drove her there as a last resort, which remedied her breastfeeding difficulties:

> My first time, I had lot of problems…and I had a private lactation consultant…about the time I went back to work…so that was really helpful and then just what I learned there; a lot of it was positioning problems…also how to manage with the letdown.

Hope received confusing breastfeeding direction from her pediatrician's office when she was emotionally distraught and uncomfortably engorged with full breasts:

> They were telling me, you know, "Give him formula, make sure he eats, but you still need to be pumping to make sure that you're"—my milk was coming in, and…but everything was hurting, so I just—it's all kind of foggy now, at this point…I will say that I was ready to give up nursing my son—I mean, I really will

> tie that to, you know, hormones and emotions and everything at his three-day visit to the pediatrician, and that pediatrician, who was in our—in the practice where we go, but not our actual pediatrician—but she just said, "Oh, well, I just really recommend that you keep doing it, at least through flu season," and, of course, I wouldn't have expected her to say anything else.

Meryl described an experience with her pediatrician, who did not offer much in the way of direct support regarding lactation:

> Yeah my pediatrician doesn't seem comfortable giving breastfeeding advice. Like she seemed really supportive of the LC and every time, "here's what I need you to do, you could talk to your LC to figure out how to get there." Like, "you need to feed 4 times a day"…or whatever and how many ounces and I would call the LC [lactation consultant] and she would help me come up with a plan.

In summary, most of the mothers described the need for lactation services but some variability in (a) locating professional lactation consultation and/or (b) the quality of lactation support available to them when they needed it. Although pediatricians offered information related to infant nutritional needs, they varied in their degree of support for lactating mothers as well as in referral to professional lactation consultation. The mothers' self-determination often helped when they were seeking professional help with breastfeeding problems in the hospital and/or in the community.

Finding social support. Mothers with spouses reported that their husbands were supportive of their breastfeeding and continuing to breastfeed when they returned to

work. Rose said, “The best support system I have is my husband—or best resource. I have a very, very supportive spouse.” Dawn also described her spouse as supportive:

> My husband, he’s really supportive…I mean he didn’t force me to do it but he was really supportive that you should do it…he would wake up with me and remind me to pump before I left you know, for work and remind to take the pump to work and ask if I did it and if it was working.

Mothers often described their spouses as being partners in advocating breast milk nutrition for their infants. A few suggested that their husbands were a significant driving force behind their efforts to continue breastfeeding while they were employed outside the home. For example, Janna said, “Yeah, my husband is a major proponent of trying not to give them formula. You know like with the first child, we had to be so perfect, and not give her formula.” Paige said of her husband, “He’s the engineer. He was like your body was made, and you’re making food for our baby that has to be made somewhere.” Geena said, “My husband had the expectation that I would breastfeed, it’s his culture.”

Conversely, Ella had a live-in boyfriend—presumably the baby’s father, although that was not clear in conversation. She described him as overtly unsupportive and disinterested in her efforts to breastfeed while employed, and he refused to help in any way. Ella described completing all of the tasks related to her baby and breast pumping efforts by herself:

> My relationship with my boyfriend is not that great, and if I was home I was really just by myself because he works so much. He would either be asleep because he was so tired—so at home, it was just me and my pump.

Some of the mothers stated that their circles of friends were a source of support and some said that they were not so supportive. Hope shared that her friends and their husbands were a support group with her first baby: "We had our babies within three weeks of each other, so we started to get together during maternity leave, and we were all nursing, and we all went back to work."

However, when Hope returned to work with her second baby, she described feeling socially isolated in her breastfeeding and employment experience:

> I didn't have any peers. No, I—it was a lot more—I was a lot more isolated as far as—I don't—that sounds dramatic. I don't mean it that way, but I didn't have—I have lots of friends with kids who have nursed, but nobody that was right at the same point that I was at the same time. You know?

Rose did not find support from her friends: "No, my closest friends that had children like myself —one of em's a stay at home mom, so I know she never went through any of this stuff and so I'm the only one who was nursing and working."

Meryl described her friends as a primary source of social support:

> I have two best friends that I talk to and one actually works and she's on her third kid right now and she is breastfeeding and working…they tell me like it really is and so they have given me a lot of advice and their stories on how everything went.

The mothers described the social support of friends who had also breastfed as a significant source of support to them in terms of advice and positive affirmations of their efforts. However, some of the mothers described their nonemployed breastfeeding friends

as non-supportive of breastfeeding while employed, because they were unfamiliar with the process.

Extended family was a source of mixed support among the mothers and another source of variability in the findings. Several mothers received a lot of support from their extended families. Bonny, a single mother, described family and friends as supportive and helpful:

> I feel like I have that foundation in place, which I do think it made it an easier transition to work. The latching, the supply all that stuff really came together easily for me and that was with the help of my sister the midwife and the fact that it's what I know as normal. Because of friends and family and I do think that eased everything when I first went back to work. Everything was in place.

Dawn's mother visited from overseas during her baby's early infancy and then returned home but continued extensive phone support for Dawn's breastfeeding: "My mother…she stayed for a little bit…and then supported me from the phone and she was trying to encourage me to do it, even if it was hard and just do it for a little bit longer and it's gonna pay off in the long run."

Vera described her mother as supportive of breastfeeding even though she never knew whether her mother had breastfed, and she mentioned that it had not been popular in her mother's culture:

> It was my mom, I don't know if she even breastfed but it seemed like she just knew; I mean she really helped out a lot with um…teaching me that whole

process. At work there was just really nothing; go in the room and see what you can do, so I mean there wasn't really much resources for that there.

Meryl described some family members as subliminally or blatantly unsupportive, criticizing her baby's slow weight gain. Subsequently, she felt pressured to supplement her breast milk with formula and worried about family disapproval of her breastfeeding efforts. Her husband helped support her as she struggled with the extended family's opinions:

> Some of the family doesn't mean to be [un]supportive but sometimes you know the whole "he's hungry, he's hungry every time he cries, you're not feeding him enough, he needs a bottle, he needs food, that sort of thing" so we did have some of that but luckily my husband is so supportive he's willing to say "no, you're not going to be able to babysit him if you feed him every 30 minutes, like that actually works against her breastfeeding and so it's important for you to know that" and so it's worked out really well.

Several of the grandmothers, including Hope's, were described as subtly opposed to breastfeeding and/or giving strong encouragement to formula supplementation: "The grandmothers are always, 'That's fine to give them formula'…But nobody ever made me feel like I made the wrong choice or anything."

Paige mentioned that her grandmother would often ask whether her baby was being given formula supplementation:

> Are you giving him any formula? You know, it's got vitamins in it"—I'm like he gets it every now and then, grandma but—I think she knows it, but she's from that

generation of—she thinks that the manufactured stuff is better than your breast milk.

An extreme case of overt disapproval of breastfeeding while employed was illustrated in Janna's description of her mother in law:

> One person that's been hugely unsupportive of breastfeeding is my mother in law, she's just one of these—my classic story about her is, I asked her, "Did you breastfeed your kids?" and she was like "Hell no, I'm not an animal!" I'm like "Oh you're not?—I think you're an animal."—And so that was the beginning—my introduction to her being completely unsupportive of this decision. You know she would tell me things like, "Your boobs are gonna sag; they're gonna look awful. You've got to stop that; this is ridiculous" and that sort of stuff, like she was really negative about it. I just would tell her, "You know what, this is my decision," like I was very upfront with her; "You're ridiculous, my boobs are not gonna have a problem" all that kind of stuff.

Securing ongoing support at work. In the work setting, mothers also reported varying degrees of support from employers and/or coworkers, as well as some situations of virtually no support. Some mothers looked to coworkers for support, and some mothers had mixed support from coworkers but more support from superiors. One mother had virtually no support for breastfeeding from coworkers or superiors. There was a wide range of variability in support at work.

For example, Janna, a librarian, said, "Oh everybody knew that I was pumping, and I put a sign on my door that said 'do not disturb.' Everyone was fine at work." Lila, a

pediatric nurse who worked in a clinic, said, “The supportiveness of the coworkers and the place to do it were probably the most helpful things at work.” Rose, an office clerical worker, said, “I have my [supportive] colleagues. My direct supervisor is completely supportive and wonderful.”

Geena, a nurse, reported a mix of support at work in her hospital unit. She worked long 12-hour night shifts, and the degree of support at work depended on who was working with her on each shift. Coworkers with babies were described as more supportive:

> One of the CA’s [clinical assistants] that worked there made a sign for me that said, “Do not Enter.” I just put it up on the door… It was all kind of based on who I was working with, and if they had babies, they said “Take your time, we’ll cover you” and people who didn’t have babies were more like, “You have 15 minutes, you need to be back.” It was very individual.

Dawn worked in two different postpartum workplaces with very different environments of support. In the very early postpartum period, at approximately 2 weeks, she returned to her graduate student job among the same individuals with whom she had worked during her pregnancy. Dawn described her first return to work experience with an overtly unsupportive supervisor:

> Like one Sunday, two weeks after I delivered, she wanted me to go on Sunday for eight hours to do grading and I said “I have a two week old baby can I take the grading home?”—and “I would do all the grading at home or do it before class if

you need me to, “but she made me go [complete the grading at the school] and she only let me pump one time in the whole day!”

Dawn’s experience as a graduate student worker was diametrically opposed to her experience as a new teacher. She described her new work setting, where she worked as a teacher at approximately 9 months postpartum, as a very supportive environment:

> My principal was also really supportive, you know, and all the other teachers understood that I would have to be in there for thirty minutes and they wouldn’t, like, knock on the door or you know, make it any harder for me and they were like, it’s good for you that you’re doing that for your baby. So that was good because I didn’t know how they would take it or how it would work especially if it meant that I needed time out of the classroom to go and pump.

Bonny also had the experience with two different workplaces during the first postpartum year where she held nearly identical positions as a hospital nurse. Her first workplace, on the west coast, had a supportive structure and environment in place when she returned to work at 3 months postpartum:

> Yes, already in place; break time, place to pump, staffing which allowed for adequate time to pump, that was a given, it was. It wasn’t something I had to ask for or fight for anything. It was already in place and utilized by many employees before me.

Bonny then moved to central Texas, to be closer to family, when her baby was 6 months old. But Bonny described her hospital work setting as completely lacking in support for breastfeeding:

> I wasn't getting breaks and I was sort of asking other nurses…"when do you get breaks?" and anyway it's not just breastfeeding moms, but they don't get breaks and I asked a couple of nurses that I knew had fairly new babies, younger than mine, um, "how do you get to pump?" And they said, the feedback that I got was that, "oh you can't breastfeed working at this job." Another nurse had recently come back from maternity leave about the same time that I started. She got upset because she had been there eleven hours one night with no chance to pump. She was afraid to say anything…and she quit nursing [breastfeeding- pumping] after that.

Summary of finding professional and social support and securing ongoing support at work. During their efforts to continue providing breast milk to their infants the mothers reported support, or lack thereof, from family and the workplace. The degree of support or interference from family, professionals, coworkers, or employers was described as significant and varied within this group of mothers. The mothers engaged in ongoing daily strategy development based on their identification of the absence or presence of support. Characteristics of the mothers' daily struggling were frequently determined by issues related to support and ultimately led to individually designed paths created by each mother during the process.

Determining childcare compatibility. *Childcare compatibility* is defined here as the childcare provider's commitment to appropriate management of the pumped breast milk and related ongoing communication with the mother. Trusting the childcare provider's acceptance of the breastfeeding and employment process was a source of

anxiety in some mothers. Conversely, some mothers described feeling confident with their baby's childcare provider. Determining childcare compatibility with the process was a key component for the mothers in assessing the quality of the childcare setting. However, monitoring the childcare provider for ongoing compatibility was also crucial to the mothers' success in continuing breastfeeding while employed away from home. For example, Lila talked about not feeling comfortable with her first childcare provider. She eventually found a compatible childcare situation after the first childcare setting did not work out:

> Knowing that he was in good hands while I was away, made it easier to be away, um, rather than feeling like I needed to be with him, um, even then once we switched daycare to a new person it was still a good situation, and everyone who takes care of him was totally fine with the breast milk and all that stuff.

Rose expressed her satisfaction with her infant's daycare and her perceived good fortune in securing a positive childcare situation:

> I'm really, really lucky, my child's daycare is three minutes from here…And the daycare's great and has no problem with me coming in, dropping off milk, and nursing the baby during the day…So many, many, many people cannot do anything like that.

Ella described her childcare dilemma and the decision to initially leave her young baby with family during the week while a full time student:

> I didn't have the resources, money to put him in daycare. I'd applied at the workforce center for the assistance for daycare, and they put me on a waitlist, and

> I'm still on a waitlist and I wasn't able to get help with that. So my mom has been very supportive with daycare. So my mom was like, "I'll take care of him over there, and then you can come back and forth," because both his grandmas are over there, so both the grandmas been taking care of him.

In summary, it was extremely important for the mothers to secure a childcare situation that they felt comfortable with on an ongoing basis. This was a source of anxiety, and an unsatisfactory or incompatible childcare situation contributed to stress and distraction while they were at work. In order to focus on their work, the mothers needed to trust that the childcare provider would take safe care of their infant and that pumped breast milk would be handled appropriately and fed to their infant.

Summary of having sufficient resources. Having sufficient resources represents a collection of intervening variables that either enhanced or deterred the mothers' process as they willfully continued the struggle to breastfeed while employed outside the home. Sufficient sleep and breast milk production were baseline issues integral to their progress. Sleep was necessary to function productively at the workplace. Producing sufficient breast milk was a priority, although some mothers faced significant challenges with milk supply issues. Support from individuals in the mothers' social and family circles and healthcare providers, as well as childcare issues, also varied in intensity and influence on each mother's experience. Mothers described finding support in lactation consultants but not consistently with pediatricians or nurses in professional settings. Some immediate and extended family members were supportive, and some were described as subliminally or overtly critical or blatantly oppositional to the mothers' breastfeeding efforts. Variability

in the workplace environment support was described as significantly influential. Some mothers were able to secure supervisors' and coworkers' support for the necessary break time to pump. Other mothers faced an ongoing struggle with finding any level of support at the workplace for breastfeeding during employment.

Struggling with daily strategizing. Intervening variables were often catalysts that influenced mothers to select one strategy or another in efforts to either avoid or bolster the influence of the variable. The mothers developed individually tailored plans of action for each activity related to the process. They also stated a preference to create and follow their own individually chosen paths. Their strategies included (a) managing sufficient sleep and breast milk production, (b) negotiating time and space at work, (c) addressing "abandoning my post" issues at work, (d) dealing with embarrassment , (e) monitoring childcare compatibility, and, (f) organizing pumps, parts, and milk storage. Each concept was identified and developed and discussed as follows.

Managing sufficient sleep and breast milk production. Hope described her decision to forego pumping during the night in order to obtain more sleep: "I nurse in the middle of the night…also could have pumped then…but I value the sleep more that the extra ounce or two…Yeah the sleep was important." The effects of little or no interrupted sleep interfered with the mothers' abilities to function at work and home as well as milk production.

Ella described her hectic mornings after attempting to get enough sleep the night before and waking late: "Most days I would pump with one hand while I was eating cereal with the other because I had to be at work."

Vera tried a number of strategies to deal with her decreasing milk supply before concluding that her breast milk pumping would not yield as much as she hoped for:

> [After consulting an herb store], they told me to try that, liquid chlorophyll?...It really didn't work, I also tried, um, I can't think of that tea, the breastfeeding tea, tried that. That did help for a little while but it wasn't, it didn't last very long. [A lactation consultant] basically told me the same things, to try the tea, to just stay hydrated and just keep pumping to see what happens. They said it was normal not to produce as much when you pump.

Geena became very concerned when her breast milk supply suddenly plummeted without apparent cause that she could determine, so she consulted fellow nurses for remedies. She also tried a variety of remedies in attempts to increase her milk production, including, in her description, some extremely foul tasting herb capsules. Despite the taste of the "tar" capsule, Geena took it in the hope that it would improve her breast milk supply:

> And someone who had a NICU baby, at work, is the one who recommended all the different herbs I tried. And then there was one that had a combination of three in it. It looked like tar was coming out of the capsules. It was just horrible! Horrible.

Bonny's breast milk production dropped significantly at one point during her early postpartum period after she returned to work, so she elected to take time off to bring her breast milk supply back up with a combination of direct breastfeeding and taking herbal supplements:

> I did actually use herbs…I remember that I missed two fifteen minute breaks and my body was very responsive to missed, I mean I could feel my supply plummet and called in sick for the next week and they knew why and they supported it [at her first job].…but I used herbs at that point; fenugreek and mother's milk tea…I found my supply improved, that was helpful.

Most of the mothers were willing to try any remedy to preserve their breast milk supply, although some could not produce enough milk with pumping. Some mothers simply stopped pumping at work for a variety of reasons—some because the pumping was not efficiently producing enough milk; some who intensely disliked pumping and/or cleaning up the parts; and others who were unable to negotiate the necessary break time.

Negotiating time and space at work. Negotiating and scheduling time and space was essential to the effective execution of other strategies. Mothers reported an array of positive and negative issues related to scheduling time to pump at work. Ella described time management and negotiation as critical to her success:

> Least helpful things—not having enough time, I think! Even though…everyone was so understanding that I needed to go and pump, [but] I think that it was still like—I'm still at work, and I can't be here all day, and I really need to get other stuff done!

Lila described her difficulties in negotiating the break time necessary to pump breast milk as well as the need to be flexible with time management:

> Obviously, there were times when that it wasn't as easy to sneak away, you know, if you get real busy and in that type of, you know, nursing clinic setting, that can

be challenging but most days it was pretty easy, you know, time to, um, during the slower part of the day to try to sneak off.

Bonny's work experience with two vastly different workplace environments' support for necessary break time gave her a broad perspective on what was possible. Negotiating necessary time for pumping breast milk at her second workplace was almost impossible, and her struggle there was extremely challenging:

> Sometimes my heart would just fall and I would say okay, but I really need to pump in the next hour or two and so sometimes they would send me someone, oftentimes not. I would say it would typically be 2 or 3 am [since beginning her shift at 11 pm] before I would get a chance to pump.

The breast pumping room and equipment were in a different building, not in a location where Bonny could take breaks within the allotted period of time available. Bonny approached multiple levels of management at work to try to rectify the situation without success. Finally she arrived at a solution that was met with opposition from her supervisors to the point of threatening her job and license to practice nursing. At that point she consulted a higher level of authority at the state health department:

> [It was] in a different building but there would also be no one to watch my patients. So it really reached a head when I started using a hospital grade breast pump, which we are, per policy, we are allowed to use for courtesy because my supply was diminishing. I had never had to use hospital grade before um…and I got a letter threatening my nurse license for misuse of hospital equipment and…unauthorized use of hospital space! So I immediately contacted the

> department of health and human services to find out what system was in place for enforcing the policies around mother friendly worksite status and sadly to learn that there are none. It is a designation and…a sticker but there's no enforcement and no ability to revoke it unfortunately.

Following this incident, Bonny reduced her hours to part time and found additional employment elsewhere but remained employed at both places. Bonny's self-determination and knowledge preparation were of significant influence in this extremely challenging situation.

Paige described having concerns about having enough time to pump breast milk during a work-related training day, which included a speaker's presentation with unscheduled breaks:

> Oh I hope I don't have to leave during the actual delivery of the training and go to pump but he asked does anybody need a break? And I was like Yup, I'm gonna need a break and I didn't even have to tell him and it was enough time…so it turned out not to be an issue.

Janna emphatically shared how much she despised pumping breast milk, as well as the difficulty of finding time to do so: "Okay, I just felt like it was a ball and chain at work. I had to stop everything I'm doing. I have a really busy job. I would have to stop everything I was doing to pump!" Janna also described difficulty in negotiating or balancing time with her children after work as she attempted to distribute equal attention to her two children after picking them up from daycare: "And so, like I said with the first

one, it was so important to me…I wanted them to be treated equally…my older daughter is super jealous of her and I feel that makes things really difficult."

Meryl shared her corporate executive experience on a busy out-of-state business trip when she was accompanied by her baby and childcare. Negotiating time and finding space to pump was unexpectedly challenging, anxiety producing, and hectic, particularly in an unfamiliar large urban corporate building:

> [I fed] him physically before starting a meeting at noon and then during that meeting I had to go take a break to pump and …my bosses were out there talking and being supportive and when it came down to it, it's like, "oh you need 20 minutes to pump? Can you try and do that a little quicker?" …then um…our company has the whole building and there were many, many floors and they told me there were 4 floors that had pump rooms…and some of them you had to get special badge permission to get on those floors so I got that taken care of…and I didn't realize that it's one person at a time and it's like a big room but they don't have any dividers or anything, so people lock the door. I lucked out, I banged on the door because I didn't realize that it was only one and the lady let me in and I just barged in and she was like, she let me share it with her but um…talking to the other moms while I was there…everyone was saying that it was so hard to get in that they have to take a whole hour off and my boss wasn't going to let me do that so I had to pump once in a public restroom.

Hope, who had a private office in her librarian job, described difficulty in fitting milk pumping time, even into her generally predictable work schedule. She also shared weighing her decisions between taking time to pump at work or going home earlier:

> I have a set work schedule, but I don't have to be at a certain place at a certain time every day. It's not completely flexible…but I'm not, say, working a public service desk or something like that, where I have to be somewhere. I can take the time. But to me, I'd rather pump once a day, be able to leave work earlier, than if I had to build in two breaks or three breaks.

Vera described how difficult it was to find time to pump breast milk during her very busy office clerical work days: "I guess I'm just used to a busy life and so it was just kinda one of those things when you find the time and you do what you gotta do." Vera had recently completed the process with her first child and discussed concerns that she anticipated having even less time to pump milk for her next baby, her current early pregnancy: "And see that's one of the things I'm worried about this pregnancy is because I don't have as much time…so I'm hoping it doesn't have to stop sooner than I want it to."

Mothers related multiple challenges of finding appropriate, clean space to pump and/or finding a sink at work. Janna, a librarian, explained her dilemma finding pumping places between meetings in multiple locations:

> Well I don't want to use the sink in the bathroom. Luckily we have one, in the library where I work, that is not a bathroom. But it's not very convenient. You have to go upstairs—put everything in a sack, go upstairs, and bring it down. You

know? It was always hard. Yeah it was hard, yeah, really hard. Because I had to find the lactation room or use a friend's office, bring my pump.

Dawn described physical and emotional difficulties finding a place to pump while working as a graduate student worker with a very young infant:

> I would sit in the restroom and I would pump but people would knock all the time…and most people knew that I had just had a baby. I had the pregnancy with them all along, even so, they were a little bit impatient sometimes or they thought I should find another place to do it or another way to do it and that was a little hard and sometimes I would cry and be so full and go outside to nurse her, my mother was here at that time or my husband was on leave and would bring the baby to me in-between my classes so I could just breastfeed her in the car or you know pump because it was harder to pump in that bathroom, the ladies room.

Ella described not knowing how to find a location to pump milk:

> Let's see—in the beginning; I really didn't know where to go, so I would just go in the bathroom. I would go in the handicap stalls, and I would hang my little backpack on the door, and it had like, the little metal things that go down.

Geena discussed a collective organized advocacy effort on her hospital unit to address the absence of breast pumping locations, which eventually resulted in a dedicated pumping room:

> We had to find a place to pump on our own. And there really wasn't any support. So I would go into a treatment room…but I still had residents and people walk in on me several times. We had first addressed her [supervisor] about the problem of

> nowhere to pump. But she cited some legal thing that—I don't know—they technically didn't have to find a place with a sink and a lock or something so she wasn't very helpful. That's why they [coworkers] ended up going to the [head of the hospital].

Geena was asked whether there were any repercussions from the direct supervisor about the successful organized effort for designating a pumping room through administration: "I don't think it bothered her [supervisor]. She was like great! It was a problem she didn't have to deal with. She just wasn't going to solve that problem for us."

Some mothers expressed gratitude for being able to have a place to pump at work already designated for them to use. Rose, a clerical worker, expressed her appreciation for an existing breast pumping room. "There is a pumping room down the hall, I go when I want and eat when I want…I don't have anyone giving me a hard time."

Lila, a clinic nurse, described the presence of an empty extra room as being very helpful, even though it was not specifically set up as a pumping room and was void of a sink or refrigerator:

> Probably most helpful was that there was a place for me to do it, there was kind of, it's not really a closet…an old room that's not used anymore…like with the two glass…this little closet type thing, and they had curtains so you couldn't see in…We used it to store stuff, like there was a counter and a chair in there so there was a place.

Mothers described differences between having their own space to use for pumping milk and having to share with other mothers. Hope said, "I have a workplace

that is very conducive to doing this. I have an office, my own office." Hope also described different, but workplace supportive, arrangements for pumping space with her previous baby:

> With my daughter [first child]…at that time, I didn't have my own office. I worked in a room with other people...so I had to go to another room on a different floor. My supervisor knew I would be interested in doing this, so before I even came back, she had worked with the facilities folks to figure out what—where it would be, and how I could get a key to that room and everything.

In summary, the mothers described having adequate time to pump as a critical intervening variable for their success during the process of combining breastfeeding with employment outside the home. A designated private space to pump was the ideal location; however, mothers found a variety of places to pump, and often they settled for less than ideal circumstances. Negotiating the time to pump was a key to their success and a big part of the struggle. Negotiating the space to pump was necessary but secondary. Several mothers also described different experiences between breastfeeding their first and second babies while employed, or between workplaces, which served as additional sources of variability and saturation in the sample. The mothers' self-determination played a role in maintaining a balance between negotiating the ideal and minimum time and space to pump breast milk for their infants.

Addressing "abandoning my post" issues at work. Some of the mothers said that they sometimes felt that their pumping time interfered with their work-related duties. They expressed some guilt about leaving their work duties to pump, sometimes several

times during the work day. Lila described difficulty balancing responsibilities when needing to pump during hectic workdays:

> Um, very busy days when I felt like I was abandoning my post, you know, abandoning my coworkers or responsibilities while I knew what I needed to but we've got 5 patients they are waiting, waiting to be seen, you know, that was hard.

Hope compared her two breastfeeding experiences with each baby in terms of balancing pumping and work responsibilities: "I know how rushed I felt pumping twice a day at work, and how I didn't feel good about my work…" She also said, "It is daily, it is, I do think about okay I have to go do this now, and I really should be doing this, but I need to go pump."

Janna shared similar worry about abandoning her work post to pump milk: "I felt like a lot of times, my day was around pumping, Okay, well I've got to pump before I go meet so and so…because I wasn't going to make it [the meeting] and I would have to go pump somewhere, you know?" Rose mentioned her plans to wean her baby in order to meet academic semester clerical workload responsibilities: "I think the first of the year, I'm gonna stop, when she gets on solid food—when she's six months, she'll be on solid food. She's not gonna need this stuff as much, and I'm just—you know—I'm gonna need to start being here [at work]."

Dawn reflected on her first workplace with a newborn. She suggested that she might have been remiss in not discussing her projected breastfeeding needs and work expectations with her extremely unsupportive manager:

> I didn't think to let her know that not only am I having the baby but the baby will need to eat so will it be okay?…to leave to pump or breastfeed?—or whatever, so perhaps maybe if…she would've known what to expect about breastfeeding also and not just to have the baby, so just managing everybody's expectations.

Bonny discussed her dilemma of how to balance her critical workplace responsibilities at her challenging workplace in a busy hospital setting. Bonny described multitasking during the minimal time available when she did get a rare break:

> so I was doing it [pumping on break] in an empty patient room where I could watch my fetal strip,…pick up the phone when the doctor…[or] pharmacy called me, etc. Maybe half the time we got breaks, you have 15 minutes to get food. Well I'm working a 13 hour shift, do I pump or nourish myself? I don't have time for both...so that has been the ultimate challenge is that there are no breaks.

A large part of the mothers' struggle involved balancing the expectations of their workplace with their goals to provide breast milk to their babies. These expectations were often at odds with one another, which led to creative strategizing on the mothers' part to achieve a balance and meet sometimes opposing expectations half way. Addressing "abandoning my post" issues involved a continual compromise for many of the mothers.

Dealing with embarrassment. Some mothers spoke directly, some indirectly, about issues related to embarrassment, or modesty, encountered during the process of breastfeeding while employed outside the home. Two mothers described extremes related to their experiences, or to their perspectives related to embarrassment. These mothers were both (a) casual about pumping at work though protective of their coworkers' related

embarrassment, and (b) almost militant about setting individual limits on their own degree of modesty.

Geena, a straightforward, no nonsense hospital nurse, expressed a variety of perspectives related to embarrassment during the process with two babies. Geena casually described her ease and comfort with pumping while at work while also observing embarrassment in fellow breastfeeding coworkers:

> Some people are kind of embarrassed by it and it was nothing shameful to me. So I had no problem with it but I did see other people—they didn't want to pump because they didn't want someone to walk in and when they did they would be tense and guard the door and they were having more problems having results when they were pumping. It was just kind of a cycle.

Conversely, Geena also shared her extreme embarrassment secondary to a personal workplace incident related to the reaction of a male coworker when she scheduled her pumping break. Although quiet during most of our discussion, she became overtly emotional when sharing the following incident:

> It was the first day I came back from my second baby and [I] was like, "well, I'm going to pump now." One of the guys—I didn't even know who he was—he said, "Oh you're going to do this number" and he takes his fingers and starts doing it like the pump and I still hate him. I still hate him to this day. I thought, "You're mimicking a body part of mine?!" That just, eh, it really rubbed me the wrong way. But I never talked to him again, I see him, but—.

Meryl, a quiet, self-confident, corporate executive, spoke about awkward aspects of pumping milk on her business trip. For example, in the office restroom she observed embarrassment in her coworkers, but not to herself:

> I feel weird sitting on a toilet so I sat out in the open area and got a bunch of weird looks from everybody who walked in going to the bathroom. So it was uncomfortable and luckily one of them happens to be my friend so she's like, hey you're in town, so we sat and talked so that made me a little less uncomfortable. But I didn't even have my nursing cover with me or anything. When you're pumping it feels weird to cover that so I just you know, and I'm not that self-conscious about feeding in front of people or pumping in front of people, so I was just like letting it all hang out in the public restroom and I feel like probably, some people, it makes them uncomfortable. So that was odd.

In contrast, Meryl also discussed the extreme embarrassment that she experienced while breastfeeding when riding on a major metropolitan subway during a business trip:

> I had to breastfeed on the subway train too and that was embarrassing. I did not want to do that but my husband was like, "He's hungry… and you have an hour of train ride so you have to do it." I had my down coat covering him and so he, poor thing, he's all hot but that's the only thing I had to cover him. I'm not about to whip out my boob on the train in NYC. So I mean we got it done and he was happy after that but that was probably my worst, worst breastfeeding experience so far. Just looking up and seeing all these guys on the subway looking at me!

A couple of mothers described feeling extremely embarrassed about pumping their breast milk at work. Dawn, a soft-spoken school teacher, described her concern upon starting a new job after her first baby: "Um, I was a little embarrassed to tell everybody that I'm breastfeeding and I'm gonna be pumping and you know, but I mean there aren't too many male colleagues at the school."

When asked about embarrassment, Hope, a quiet reserved librarian who breastfed two children, replied with several comments about her modesty. Although confident in her choice to continue breast feeding while employed outside of her home, she expressed extreme embarrassment about pumping at work:

> I guess embarrassing is not quite the right word, but I'm very modest. I mean, I'm not—I don't nurse in public, and I think breastfeeding's important, and I would never hide the fact that I do it, but I'm also not somebody who's gonna...sort of flaunt that this is something that I think should be done publically.

Hope then lowered her voice and quietly, but adamantly, described her choice to select a hand pump for use in her office in order to minimize the noise of pumping that could be heard outside her office. It was apparent that even the discussion of this topic was awkward and difficult for Hope, but that the information was important enough for her to share: "Now I have a Medela hand pump, and I get as much using that. And most people think I'm crazy, but I do, and it's a lot more discrete if I'm in my office. I mean…I have my own office but it's in a suite of offices, where I was self-conscious about the noise." Hope discontinued pumping milk at work altogether early in the postpartum period but continued to direct breastfeed at home.

The mothers were keenly aware of embarrassing aspects of pumping breast milk at work and employed a variety of strategies to deal with their embarrassment or that of their workplace colleagues. Some casually went about their business of pumping wherever they could find a place to do so. Conversely, some were extremely embarrassed about the whole process to the point of discontinuing pumping at work. They were strongly determined to provide their babies breast milk and protect their right to do so with some degree of dignity, but some mothers' extreme modesty compromised the pumping at work aspects of the process.

Monitoring childcare compatibility. Determining childcare compatibility began very early in the process of combining breastfeeding with employment outside the home, as described previously. However, monitoring childcare compatibility was an ongoing source of concern to the mothers during their work day or night, even if the situation appeared to be working well. Bonny described her satisfaction with her childcare situation and her appreciation of the provider's careful attention to managing her breast milk storage and monitoring the milk supply on hand there:

> I had a wonderful babysitter, I worked over night, I'm a single mom, and I worked nights, so I had a babysitter who understood my need to breastfeed, gave him bottles on cue, um, was very good at making sure I had enough milk and would call me if the milk supply in the freezer was running low so having his care provider, very respectful in knowing that, um, that was his stuff, it was really helpful.

Conversely, Paige described worrying about her childcare when she discovered the provider mishandling breast milk: "I felt okay until the other day. She goes, I know I'm not supposed to do this—and I caught her putting breast milk in the microwave." Paige discussed this incident with her spouse before deciding how to address the issue with her childcare provider.

In summary, mothers had to balance monitoring and rectifying issues at their childcare with concern about compromising a compatible relationship with the childcare provider. They had to carefully choose their provider and also "pick their battles" when issues emerged. They needed childcare in order to maintain employment. Childcare compatibility was a continual source of concern, and they had to balance worry with practical compromise.

Organizing pumps, parts, and milk storage. Most of the mothers discussed organizing tasks related to breastfeeding while employed outside the home in terms of the extensive logistics involved in their daily struggle. The tasks included (a) planning and accomplishing pumping, (b) associated cleaning of the breast pump components or parts, and (c) maintenance of milk storage. Janna spoke of the drudgery of cleaning breast pump parts every night, especially while also trying to balance evening time with her two toddlers and husband. She also expressed worry about the possibility of her perceived ineffective cleaning efforts' contributing to illness, specifically to yeast infections:

> All of the cleaning every night…I mean it was just like a lot and making the bottles every day. With two kids it just was so much, you know? The other thing is—this is just weird but we don't have a dishwasher so I had a sterilizer and I had

issues with that because with both of them I got thrush...and I'm convinced that the thrush had a lot to do with me not cleaning everything so perfectly, and fungus getting on the parts of the breast pump.

Janna also described the daily burden of carrying all the equipment from home to workplace, to various meetings, then to daycare and back home again:

> And then I'd have to bring my pump with me everywhere. And it just got to the point where I just hated dragging one more bag around, you know? I was dragging her diaper bag of bottles. I was dragging the pump. I was dragging my lunch. I was dragging my gym bag, my purse. It's like I have so much stuff that I was dragging around. I just felt like I couldn't drag it anymore.

Lila described her extensive routine daily strategy for organizing pump parts cleaning and milk storage, which she found exhausting:

> Now getting things organized to send to daycare sometimes was a bit of a hassle and I definitely remember feeling like there were certain times, especially after a long day, okay, I've come home, now I've got to take this pumped milk in the bottles and put it into the bag so I can freeze the bags and they've all got to be labeled and I've got to wash all the parts and I've got to do all of this and this is after we had dinner and he's been nursed and put to bed and it's like nine o'clock at night and here I am packaging milk and washing bottles and pump parts and blah, blah, blah. So, um, so the plan to get it to daycare, to do it at daycare wasn't hard but the process of doing it at night sometimes, to get it ready, was sometimes straining.

Rose, nursing her second baby, described similar perspectives on the labor-intensive aspects of pump maintenance and her decision to minimize daily pumping:

> I usually take a few extra minutes to wash out my materials, so it's probably 20 minutes, yeah. So pumping for me is—and I just decided I wasn't gonna kill myself this time. I don't want to pump 3 times a day. I just don't want to do it...pumping multiple times a day—and the washing of the bottles and everything and the lugging of the pump back and forth and now, because I only pump once a day, I can leave it here. I don't even have to lug it around anymore, which is wonderful.

Hope described pump and parts maintenance as the determining factor in her decision to discontinue pumping breast milk at work:

> To me it was, I mean, it was such a struggle to do all that pumping...then washing the parts. I'll be frank, actually if it was just a case of pumping for 15 or 20 minutes twice a day, I'd do it. But cleaning the parts in between is what totally deters me from doing that...if I had just, like, a constant supply of disposable pump parts, I guess, then I'd be pumping all the time. I just kept saying, "being hooked up to the machine is time not being with my baby"...but standing there, washing the parts is more—you know, I mean, him in the little seat next to me at the sink.

Ella also described her ongoing struggle with organizing the cleaning of pumping parts and shared her daily routine:

> Yeah, I had several bottles that they gave me from my baby shower that were like little four-ounce bottles like for newborns, and I found that those fit, so I just had several of them that I would wash, and so I would have one clean. I would take two in my bag—one that I had used, and one that was clean. And then, as soon as I was done, I would just rinse it out in the sink and—with my little wipes that I had, I would clean it out as much as I could and rinse it out and put it back in my bag and then wash everything. Went out, got home—what I found is that manual pumps aren't very easy to clean. They have like buildup inside that I had to take the little plastic thing out, and I couldn't—didn't know how to get that out, so I'd grab a Q-tip, and I cleaned it with that.

Ella also described researching and finding an appropriate bottle nipple for her baby to be fed breast milk while she was away all week. She attempted to find a bottle nipple that would minimize nipple confusion associated with babies who direct breast feed and feed from a bottle:

> So I was searching for something that seemed right, and that's when I found those...it's like an inner—it's a blue inner nipple that's hard and then a soft outer nipple that's bigger that fits on top. So he would have to press and use compression with his gums and use suctioning at the same time as if he was nursing. I just found them [at] the store, and I thought they were genius! So I bought one, and I really liked that one, so then I bought a set of three. And the only thing that's bad about those is that the inner blue nipple cracks—tends to crack so they sell replacements.

Mothers also described learning related product and maintenance tips. Bonny described the need to use two different styles of pumps for her two different work environments. Bonny described what was effective for her first workplace pumping needs:

> I used the Medela pump in style and really loved it and it was adequate to meet my needs even when I was working fulltime and he was exclusively breastfeeding when I was in the work environment that did a lot of breaks that was adequate [for] 3 or 4 pumpings per shift.

Bonny also described the need to use a hospital grade breast milk pump in her second, more challenging work environment. When insufficient work break time for pumping contributed to a decrease in her breast milk production, Bonny elected to use a stronger, more efficient, hospital grade breast milk pump:

> Um, having access to a hospital grade pump is huge, um, when he was little and I worked at a different hospital I never even had to, my supply was fine with a personal pump even when I was exclusively breastfeeding. But in this new job I did notice my supply diminishing so using a hospital grade pump made a huge difference.

Geena described pump cleaning tips and products that she found useful in terms of effective time management related to the cleaning of the breast pump parts:

> I tried the wipes, but I ended up using the steam bags to clean. I mean it was just little things, little tips that actually do make a big difference, when you have little time, and you don't really know what you're doing, and you're fumbling around.

In summary, a significant portion of the mothers' daily struggle revolved around the category of organizing the use and maintenance of breast milk pumps and parts. This daily struggle also included a learning curve related to the mothers' development of an efficient way of organizing their daily tasks related to breastfeeding while employed outside the home.

In addition to the strategies of negotiating the time and space to pump breast milk as well as organizing the maintenance of pumps and parts, mothers also described challenges in managing appropriate storage of the expressed breast milk. Several reported this to be a stressful aspect of the process, consistent with concerns about adequate milk supply. They described two different aspects of breast milk storage: (a) stockpiling breast milk either before returning to work or on nonworking days and (b) storing and transporting expressed breast milk at work and between home and childcare. For example, Dawn described both sets of milk storage issues: freezing ahead and daily storage.

> Um, if I would like, pump more than twice in a day, and if I didn't need that milk I would freeze it in the bag, in the freezer and mark the date, but otherwise it would just be from day to day. Yeah, like how much I needed that day that's how much I would have but I had built up a store for one month before because I knew I was going to work and stored it in the deep freezer in case of emergency...When I started work I think I was stressed out so, yeah, then I was glad I had a deep freezer with extra milk supply.

Janna described pumping and storing milk prior to her return to work in order to provide a stockpile of frozen breast milk for future use. Despite Janna's efforts to store an abundance of frozen milk for later use, her stockpile ran out sooner than she expected, which led to her concerns that her baby was not getting enough breast milk:

> Yeah, I actually had a friend come over one day and she was just like, "oh my God." She couldn't believe how much milk I had in my freezer. And I had actually looked at the Mother's Milk Bank because I thought, "I'm gonna have so much milk, I don't know what I'm gonna do with it." And that's how it was in the beginning and then it all ran out, you know? She started eating more; I wasn't giving her enough.

Lila expressed her worry that she would not have a sufficient supply of frozen milk stored for use when she returned to work, and she described her strategies to address these concerns. Her efforts to pump and store enough frozen breast milk were quite productive and led to further concerns about sufficient freezer space:

> That was a real point of stress for me, I think, initially because um, I didn't know if I'd have enough, I was real worried about having enough milk to send with Noah, at first, because I didn't have any built up um, and so I remembered I nursed him in the morning and then, you know, he was exclusively, you know, he was a couple months old, exclusively breastfed at that point, um, if I'm pumping something I'm only pumping what's left over because he's nursing. Um, so, you know, find the time in the day where I feel like I can pump more or you know, that type of thing so I remember being worried about supply and getting enough

> to build up a supply for him initially um, we never had a deep freeze or anything like that. We just had a normal you know, refrigerator/freezer deal. Um, so initially there were no problems there. At one point once I pumped for a long time and once I went back to work I was getting more out then what he needed and so, I mean our freezer was overflowing with breast milk at one point in time, so that was the storage challenge as far as okay, do we need to buy another freezer or where are we gonna put our food and what are we gonna do? Um, that was way on down the road but initially, you know, it was just getting, are we gonna get enough? And we did.

In contrast to mothers who transported expressed breast milk from work to home each day, Ella shared concerns about daily and weeklong milk storage as well as breast milk transportation issues:

> So I was away from him for five days, and I was pumping the entire week and freezing my little baggies and then collecting them and transporting and—"but a couple of weeks before—like about a week before school started I began pumping and collecting bags. I had one as a nursing side and a pumping side because in the beginning you're just making a crazy [amount]—I called it the rebound affect. When I would pump I would just get twice as much, which that's what I was collecting. So I started getting my little line of—you know, while I'm away, this is what he's gonna eat while I pump, and this is what's gonna be for the next day and stuff like that—making little reserves.

Ella also discussed the logistics of storing breast milk in the refrigerator at work and school and how she used humor to explain her need for space in the communal refrigerator. This was in sharp contrast to the mothers who had access to individual office refrigerators for breast milk storage:

> I had two different lunch bags. One was to carry during the day to pump, and the other one was a bigger one—it was a much bigger one that—it was almost a little cooler that I would put all his stuff. And I had like—I would just dump in ice in there, too, to keep it frozen while I transported it over to him, and then they would keep [it] there. I had a little permanent marker in there, too, and I would label on the side the date and how much it was in there. And then I would put it back in there, and if the baggies were starting to melt, I would put it in the fridge—like everybody's lunch was in there, and I remember at the beginning when my friends would be like, "Oh, did you bring lunch?" It was like, "Oh, it's somebody's lunch, but it's not mine." And then I had to explain to them, and they were like, "Oh, okay."

Geena described storing her breast milk in the hospital work setting and dealing with a coworker's complaint about breast milk being stored in the same refrigerator with his lunch:

> I chose to put it in just the normal staff refrigerator. I only had one negative comment about it, and it was from a male. I really didn't care. I mean it was sealed correctly in a bottle, and it was in a container you could not see through

and see the milk...for that person, it was just the idea of that being in there with his food.

Paige described her strategy for milk storage also at a hospital workplace where she worked part time. She described her milk storage plan, which included a way to avoid the worry of forgetting to bring her milk home from a shared and unfamiliar refrigerator space:

> I carry the little bags with the little cooler packet everywhere I go so never was worried, never been worried about that cuz that thing keeps the milk cold but there's a little refrigerator even in that...room if I wanted to keep it in there but I've never had to cuz if I end up putting it in a refrigerator like that I'll forget it so I always put it in the little cooler pack so I don't forget it.

Paige and Meryl both mentioned the importance of seeking hotels with in-room refrigerators for breast milk storage during long distance business travel. Hope talked about worrying about appropriate storage of breast milk with each of her babies:

> That's part of what, why, pumping is such a pain to me. You know this time around it's better for me. Now I'm in an office suite, there's a fridge. I could put it in there. But the first time I had to use a fridge down the hall in a break room. I have the ice packs, I left it in the car, but I never trust the ice pack is enough. I worry. So, I always wanted it to be in the fridge till I left to go home.

Summary. The mothers described the logistics of organizing breast pumps, parts, and milk storage as cumbersome, time consuming, and exhausting aspects of maintaining balance while employed away from home. Some decided that the effort was not

worthwhile and elected to discontinue pumping at work and continue to direct breast feed at home. Some also continued to pump an extra feeding or two, but only at home. Conversely, one mother was so determined to make it work that she devised creative ways to manage pumping and storing breast milk all week long for her baby while she was away at school.

Maintaining Balance

Maintaining balance includes two categories of outcomes in this grounded theory study that demonstrate summary patterns of "ongoing strategic action/interaction" in the process (Corbin & Strauss, 2008, p. 261). Corbin and Strauss stressed the importance of illustrating the links between the emerging concepts leading to the core variable, or process definition: It is a means of "painting a conceptual picture" of the entire process (p. 262), and the outcomes category is one of the links in the present study. The other links in the present study include the antecedent and intervening variables, which influenced the development of individual strategies during the mothers' process of willfully struggling to maintain daily balance as previously described. Some variance was observed in the mothers' patterns of action and/or interaction in terms of individual outcomes during the process. The two outcome variances, or patterns demonstrated, in the process of *willfully struggling to maintain daily balance* were (a) *finding a way to make it work* and (b) *making peace with it*. Ultimately, each mother had to find an individual game plan that worked for her own situation; she had to find a way to make it work. The mothers also often found a need to redesign their original goals during the

process in order to maintain breastfeeding while employed outside of the home. The outcome of ultimately accepting the redesigned goals or game plan consisted in making peace with it.

Finding a way to make it work. Finding a way to make the process work included managing all the intervening variables by means of individual strategies aimed at the goal of making it work. Mothers were faced with a variety of individual circumstances and challenges in each of their work settings and home situations. Finding a way to make it work defines the summation of how the mothers ultimately achieved an individually designed, balanced outcome at work and home. For example, Dawn shared her perspectives on finding a way to make it work during the process:

> Just planning beforehand, start planning a month ahead and storing supply, storing milk in the freezer so I was not so anxious about it and worried and stuff like that and then, I don't know, I just think I had decided so I was just gonna find a way to do it and I did just that.

Many of the mothers commented specifically on the tasks of sorting through the advice of others. As Geena remarked on her sister's advice, "I really didn't end up using most of what she suggested. But I tried it and I'm glad I tried it. Then I found what worked for me." Lila, who was highly motivated to meet her goal of maintaining employment outside the home and breastfeeding her baby, found that part-time work was the best way for her to make it work:

> There were a couple of weeks that I worked 3 or 4 days a week and I remember thinking, "I don't want to do this all the time" and just having sympathy or

> empathy...for those people who have to work full time and still try to do, still try to pump and do that full time because it's—it's like a whole other job!

Ella found unique ways to make it work during her weeklong pumping efforts, long-distance transport of breast milk, and weekend direct breastfeeding: "Yes, it was whenever he wanted, no schedule, just keep going, then Monday and Tuesday I had an increased supply that would diminish as the week progressed, and it was just an up and down [way to make it work]."

Paige summarized her experience with finding a way to make breastfeeding while employed work out: "The work thing to me is not a hindrance, it's just something that you deal with... figure out how."

Meryl commented on finding her own way to make it work in the face of unsolicited and professional direction:

> Yeah, everybody's got some advice and it hasn't happened until probably the last month that people are trying to tell me what's going on with my baby, and it's like, he's my baby, I think I know him better than you know him. I see him every day. I know his cues, I know when he's hungry, I know when he's sleepy.

Meryl remarked on the criticism related to her milk production issues and finding professional support to make it work: "There was the whole 'well you can switch to formula, but no, I'm going to power through' and so I got the lactation consultant and worked with the lactation consultant and really, once I was over that hump...I don't want it to stop."

Lila said, “I probably let other people stress me out...a little more than I needed to be but, you know, I just wanted…I didn’t know how it was gonna go as a first time mom and so you know, what do we need to do?” Bonny commented on her self-determination to find a way to make it work during the process: “Too many people get tired and exhausted and...because they can’t do it. I’ve done it because I’m not willing to cave and it’s worth it to me and if it’s worth it to you, you can get it done.”

In summary, the category of finding a way to make it work included the mothers’ struggle with sorting and weighing the direction and advice of others with their own instincts of what was right for them and their own babies. Most of the mothers commented on gathering information and eventually finding a way to make it work during the process, which also reflected their self-determination. Several global statements were made by the mothers specific to finding a way to make it work. For example, Rose said, “It’s such a personal thing, you know? I think the best advice I ever got was from a lactation consultant. I couldn’t even tell you her name, but she said, ‘Don’t worry about those other people’s experiences; this is your own experience.’”

Making peace with it. Sometimes the mothers’ efforts did not work out as predicted with regard to their initial expectations or goals of breastfeeding, pumping, and working. Mothers described their efforts and decisions to alter their game plans and then making their peace with the resultant outcome. Sometimes this meant weaning sooner than they had originally expected or providing some formula supplement or not pumping at work at all. Some found a way to make the breastfeeding with employment process work but also had to compromise or make peace with some aspect of it. The results of

these efforts may not have been their ideal outcomes but they made peace with the process in a positive spirit of moving forward as employees and mothers.

For example, Rose described a discussion with her husband regarding pumping struggles during the process with her second child. Rose described difficulties with effective breast milk pumping as well as adequate production of breast milk with both of her infants. Her difficulties were also complicated by an extremely low production of milk in one breast. Consequently, she decided to balance a minimal amount of breast milk pumping with the nutritional supplementation of an organic, commercially prepared infant formula. She described making her peace with milk production difficulties as well as her solution:

> I said, "I'm going to do this. It is not a question for me. I'm going to pump." And he said, "Okay. But maybe not as long or not as often" and we kind of—then I made my peace with it. Nobody told me what to do or anything. I had just kind of decided "this is okay." The second time around you kind of feel like you have done it. You can trust yourself and trust your instincts...I guess I just don't worry about what other people are doing or not doing, and just do what works for you. That's very important, because you go crazy.

Paige described similar decisions to supplement breast milk nutrition with infant formula for her second baby. Paige had extensive lactation consultant assistance with insufficient breast milk production issues with her first baby. Her firstborn also experienced weight gain problems secondary to the insufficient breast milk supply, which was a source of anxiety during that experience. With her second baby, Paige described

being at peace with the outcome of her decisions: “With the second one...I added more formula and I didn’t feel bad if I didn’t pump enough and he got formula. It was like you know whatever you get, you get...it didn’t bug me...adding more supplement and being okay with that.” Dawn described making her peace with her anticipation of the possibility of not being able to pump enough breast milk with her first baby: “I thought if I can’t pump this one day, it’s still okay. I can still keep trying to do it, um, you know, but she was not taking any formula, things like that...the planning helped me.”

Vera remarked on coming to terms with her decreased milk supply with her first baby after returning to work, “Um, I think it’s a part of nature. You really can’t control what your body is doing.” Ella shared her thoughts on making her peace with a compromise later on in the process when her milk supply decreased and she decided to supplement breast feeding with formula later on in the process:

> Just knowing it can be done...I think that was one of my main things—like it can be done. My schedule was so demanding that what I was getting during the week was not enough for him. So I had WIC, and they knew I was mostly breastfeeding with some supplementation, so then he was drinking some formula. So they [WIC] would give me some cans of formula plus food for me...so that’s what I was doing.

The mothers with second babies said that it was easier to make their peace with alterations in their plans and decisions during the second baby experience. Hope reflected on making peace with her decision to discontinue pumping breast milk at work with her second baby while continuing direct breastfeeding at home. She also described her

struggles with finding time to pump breast milk and her embarrassment about the noise of the pump and pumping at work:

> I feel prouder this time, I think, because I...well cause I did it my way instead of just...I mean with my daughter [first baby], we read the books, and felt like we had to do everything by the book. I mean it's just a different level of confidence and understanding this time around. I mean I'm choosing to do it, and there will be a point where I choose not to.

Hope also commented on her modified expectations and decreased anxiety with her second baby as opposed to her first:

> I had a different expectation than what I had the first time I was nursing. Meaning, I—it used to bother me to no end that I couldn't pump eight ounces, or four, you know, enough to replace the feeding that she was missing. And I knew from the get go this time that wouldn't happen.

Janna, who originally planned to provide breast milk to her babies for 12 months, discussed her confidence in deciding to wean her second child at approximately 8 months:

> So things are different this time. As much as I wanted them to be the same, they're not gonna be the same. And I was thinking, "you know what, I'm just gonna wean her." So there are just things which are different. You may want something to be a certain way and then when it doesn't work out...

Janna also related a conversation with her husband when she became ill with the flu: "You know what ? I can't do this anymore. I can't feed her right now. You're gonna

need to go get some formula. He said ‘okay’ you know what I mean? He just got the point where he realized we don’t want to sacrifice our happiness.” Janna adamantly shared her opinion that breastfeeding while employed outside of her home was not a pleasant experience and that the stress outweighed the benefits. She also disclosed that if she were to have another baby, she would not breast feed at all. Janna was the only mother to share this disclosure. Janna had breastfed while employed outside the home with her two children and had clearly made her peace with the entire experience: She was finished with it.

Summary of maintaining balance.

Hope provided the final confirmatory interview, in which she was asked about the outcome findings’ topics. On finding a way to make it work, she said, “Being with my baby was more important than pumping...and like you know I’m still nursing. He’s still getting that, and he’s also getting the formula, but like he’s—I haven’t quit, and it will be some time before I quit.” Hope went on to compare her current experience with that with her previous baby when asked about the outcome topic of making peace: “I feel like the last time it was sort of an all or nothing thing....and you know, somewhere along the way, I lost that—you know, I realized that didn’t make any sense, to me at least...I modified my thinking along the way there.”

Janna was the second to last participant interviewed, and she was also asked whether the process of breastfeeding while employed outside the home felt like “a struggle to maintain balance.”

> I feel like life is a balancing act, you know? And this is just one of those things that is—it is a balancing act! Yeah... I mean I don't think that anyone understands what it's like unless they've done it themselves!

Each mother reported aspects of finding a way to make it work and/or making their peace with their struggle, even if they did not entirely meet their goal of, for example, exclusive breastfeeding. Outcomes were determined via the context of the participants' words and descriptions. The final category of outcomes included their ultimate decisions and compromises with original goals or plans during the experience with the process of breastfeeding while employed outside the home.

Summary of Findings

Multiple factors were found to influence mothers who were breastfeeding while employed outside the home, as has been demonstrated in the participants' quotes and previous discussion. The schematic diagram in Figure 2 illustrates the ongoing interaction between the influential factors that the mothers encountered and the strategies that they used to deal with negative factors or to incorporate positive factors of influence.

The process required willful determined efforts from the mothers to address factors of influence and find a way to make the process work. Combining breastfeeding with employment outside the home tapped into the mother's ability to compromise with the necessity to alter any original plans and accept the resultant outcomes. This compromise was defined as making peace with the process, which was particularly challenging if vastly inconsistent with the mother's original goals. The grounded theory

core category *willfully struggling to maintain daily balance* included a continual daily struggle to balance sometimes opposing factors of influence.

CHAPTER FIVE
Conclusions

This grounded theory study was conducted with 11 women who were breastfeeding while working outside of the home, 6 of whom also had the experience of breastfeeding a previous baby while employed. Constant comparison of the transcribed interviews led to identification of the core process of *willfully struggling to maintain daily balance* as mothers worked to sustain lactation while working.

The overarching research question that guided this study was as follows: What was the mother's self-reported description of the process of combining breastfeeding with employment outside the home during the first postpartum year? Throughout the interviews, the mothers described the process of willfully struggling to maintain daily balance. The participant mothers all described a daily struggle with a multitude of influential elements, such as coworkers, employers, and family; managing pumping equipment, milk storage, and milk supply; adequate sleep; or any combination of these elements on any given day. Self-determination, or willfulness, was a driving force, or antecedent variable, in this process.

The mothers' struggle also included efforts to balance time to accomplish the many tasks related to successful completion of all aspects of the process, including satisfactorily meeting employer or work-related expectations. Many of the mothers were also balancing the demands of extended and immediate family, including other children, spouses, and/or grandparents. Mothers in the study expressed a determined effort to

provide their children with breast milk for as long as possible during the first postpartum year.

The process was found to be an ongoing, exhausting struggle. However, the mothers were all determined to find a way to make it work. The mothers in the study also described individual variations of making their peace with the results of their efforts. The research also answered the following sub-questions: (a) What does the mother describe as challenges or facilitators during this process? (b) How do mothers respond to challenges during the process? (c) What affects her decision making during this process? Answers to these questions follow.

The challenges and facilitators are represented in the findings by intervening variables such as getting adequate sleep, having sufficient breast milk supply, having persons of support, and finding compatible childcare. These variables represented both challenging and facilitative aspects of influence during the process of combining breastfeeding with employment outside the home. The effects of negative intervening variables were often buffered by the influence of concomitant strategies that mothers developed to deal with challenges. Obtaining breastfeeding knowledge and having role models helped the mothers as they began and later continued to find their way to breastfeed while working.

A personal previous experience with the process of combining breastfeeding with employment or having trailblazers in the mother's work environment exerted influence on the course of the process. In other words, mothers who were breastfeeding a second infant while employed outside the home benefitted from and built upon their previous

experiences. Role models in the mothers' circles of family, friends, and/or coworkers who were willing to offer hands-on teaching were also a very strong influence. Hospital staff, prenatal breastfeeding classes, and postpartum caregivers, including professional lactation consultants, nurses, and physicians, were also a source of intervening influence in both positive and negative directions. Inconsistent or absent breastfeeding advice or support from healthcare providers was commonly encountered by the mothers in the study.

In terms of employer support at work, the type of work setting was of significant influence. It was easier for the mothers to effectively arrange breast milk pumping time and space in private office settings for the most part, although the corporate environment did pose challenges in terms of the fast pace of work and minimal real-time support from superiors.

Ironically, healthcare settings were often extraordinarily challenging workplace environments in which to practice breastfeeding while employed. All of the mothers who were also nurses experienced assorted challenges of varying intensity, from difficulty in finding places to pump and store milk to friction with coworkers or supervisors over break time. All of the nurses interviewed described some degree of difficulty during the process. In all settings, the actual amount of time allowed for pumping and the available resources for cleaning and storing breast milk influenced the mothers' success in the process as well as their being able to maintain breast milk supply. The mothers all persevered for differing lengths of time and proportions of breastfeeding and ultimately found "a way to make it work." A majority of the mothers described disappointment and

had to make significant efforts to compromise when they were not able to breastfeed as long as they had originally planned. The mothers in the study came to terms with their compromises by "making peace with it."

A sense of personal failure was expressed by some of the mothers, who exhibited some related rationalizing. They described an awareness of the research in support of breast milk as the optimal sources of infant nutrition. Some specifically discussed feeling pressured to exclusively breastfeed, which was, per their description, not entirely possible in the life of a mother employed outside her home. The literature also includes mention of the current pressure placed on mothers to breastfeed (Avishai, 2007). The United States Surgeon General's initiative (USDHHS, 2011) regarding support of breastfeeding reinforces the pressure on mothers to fulfill that expectation, yet mothers who are increasingly returning to work during these difficult economic times may not be able to meet the recommendations in the initiative. Employed breastfeeding American mothers are facing, perhaps, incompatible expectations in this regard, which is a situation or message that deserves attention in the best interests of maternal child health.

In American healthcare culture, the postpartum period includes gaps and inconsistencies in breastfeeding support, which need to be addressed if HP 2020 objectives regarding breastfeeding are expected to be met (Britton et al., 2007; Taveras et al., 2003; USDHHS, 2010). Efforts to provide consistent breastfeeding education at the level of the International Board of Lactation Consultants (IBCLC) to postpartum and pediatric healthcare providers, including nurses and particularly advanced practice nurses in perinatal practice, is worthy of consideration. Consistent evidence-based practice

education regarding breastfeeding support efforts have been aggressively promoted in the obstetrical hospital setting but not as consistently in postpartum venues of care (Britton et al., 2007; Ip et al., 2007; Kanotra et al., 2007).

Comparison of Findings with the Literature

The present findings are consistent with much of the existing research. Yet some of the findings either were unique or differed from those of similar studies. For example, O'Brien et al. (2008) investigated the influence of psychological factors on breastfeeding duration and found that breastfeeding self-efficacy and dispositional optimism were significantly associated with longer breastfeeding duration. The importance of the concept of maternal breastfeeding self-efficacy in conjunction with dispositional optimism is similar to the present finding that maternal self-determination, or willfulness, is significant for maintaining breastfeeding while employed outside the home. Many mothers also expressed stress or anxiety while maintaining breastfeeding when employed outside the home in this research. However, most mothers were determined to continue breastfeeding for as long as possible. Several mothers did express embarrassment that was associated with less milk pumping, but this was not necessarily related to weaning. In contrast, maternal anxiety was found by O'Brien et al. to be associated with early weaning. Further research regarding psychological factors associated with breastfeeding while employed outside of the home is warranted.

Rojjanisrirat and Sousa's (2010) research included a finding related to the mothers' self-determination when they engaged in combining breastfeeding with

employment outside the home. Rojjanisrirat and Sousa's (2010) data were collected via small focus groups with low income women prior to their return to work, many of whom stated they were not planning to return to work. Ertem et al. (2001) examined predictors of early discontinuation of breastfeeding and found that maternal age under 20 years and low levels of maternal confidence were the most significant determinants of breastfeeding discontinuation prior to 2 months of age. The finding of the significance of maternal confidence, a concept similar to the concept of maternal self-determination, is relatively consistent with findings in the present research.

The personal attitudes of breastfeeding mothers were studied by McKinley and Hyde (2004), who compared the significance of maternal personal attitudes with structural factors in a contextual analysis of breastfeeding duration that included unemployed mothers and those employed outside the home. McKinley and Hyde found evidence for the significance of both maternal personal attitude and structural factors associated with breastfeeding duration. Their recommendations for future research focused on examination of maternal attitudes toward breastfeeding as well as specific structural factors, such as workplace facilities for pumping milk and workplace flexibility in support of breastfeeding mothers. These recommendations are consistent with the findings in the present research in terms of the significance of the maternal attitude of self-determination and the importance of identifying vital structural factors and maintaining a balance of factors related to breastfeeding outside the home.

Nichols and Roux's (2004) description of mothers' challenges of balancing multiple roles and time management of multiple tasks while breastfeeding and employed

is consistent with the present findings. The concept of resiliency was examined by Nichols and Roux in mothers who were breastfeeding while employed outside the home during the first postpartum year. Nichols and Roux found role conflict and/or overload, which included balancing time, as resiliency challenges for breastfeeding employed mothers. Social support and positive adaptation in terms of combining employment with breastfeeding contributed to resiliency building. These findings are similar to the present findings in terms of the mothers' struggling to secure sufficient resources to maintain daily balance. Nichols and Roux's sample consisted primarily of educated, middle class adult American women, similar to the sample in the present research.

Stewart-Glenn's (2008) review examined attitudes of breastfeeding mothers and identified role overload and balancing the roles of employee and breastfeeding mother as significant findings in the literature. Particularly challenging aspects of role balancing for breastfeeding mothers were time and privacy, which is consistent with the present study's findings. The struggling inherent in role balancing was also discussed by Stevens and Janske (2003) and Witters-Green (2003), which is also consistent with findings in the present research.

The struggling of the mothers in the present study was often buffered by interventions of social, family, and/or professional support. Support for breastfeeding mothers was extensively discussed in terms consistent with the present study in a Cochrane review conducted by Britton et al. (2007), who found similar characteristics of support. Britton et al. included significant elements of support such as family, healthcare professionals, lactation professionals, and community based support.

An inadequate system for postpartum referral to professional lactation services was a gap in postpartum care found in the present research. This issue was also identified and discussed in Wambach et al.'s (2005) comprehensive review and discussion of lactation services and Dennis's (2002) integrative review of the literature on breastfeeding initiation and duration. An examination of 2 years of PRAMS data (Ahluwalia et al., 2005) found that the most common reasons for later postnatal discontinuation of breastfeeding were mothers' perceptions of uncertain milk supply and/or return to work. The milk supply concerns are amenable to professional lactation consultant intervention and support, as is preparation for return to work. Ample evidence of the importance of access to timely lactation support is evident in the literature as well as in the findings of the present study.

Implications for Nursing Practice and Education

Improved postpartum systems for referral to professional lactation consultants. The mothers in the present study described needing support at the time that they were establishing their milk supply after going home from the hospital, and again upon return to work. Mothers frequently described positive postpartum breastfeeding support from lactation consultants. The IBCLC practitioner is a highly skilled team member in support of the breastfeeding mother and receives certification via rigorous training and examination (Slusser et al., 2004; Wambach et al., 2005). Improving systems for referral to professional lactation support is an important implication for nursing education and practice suggested by the present research. This finding is consistent with

information found in the present review of the literature, which stressed the importance of maternal access to effective professional lactation services to address postpartum breast milk supply issues (Ahluwalia et al. 2005; Wambach et al., 2005).

Many of the mothers in the present study reported difficulty in acquiring postpartum lactation assistance and support and received conflicting breastfeeding information from their community healthcare providers. In order to address this gap in postpartum care, related venues of nursing practice need consistent and current referral information regarding professional lactation consultants and should include such referrals as a priority in postpartum care planning.

Consistent continuing education for nurses regarding breastfeeding support. The mothers indicated their need for consistent breastfeeding information and support along the continuum of perinatal care, including the prenatal as well as the entire postpartum period. Breastfeeding mothers received mixed messages from healthcare practitioners in obstetric and pediatric settings during the first postpartum year per the present findings. This finding is consistent with ample evidence in the literature review of inconsistent information regarding lactation support from healthcare professionals including nurses (Ahluwalia et al., 2005; Britton et al., 2007; Dennis, 2002; Dillaway & Douma, 2004; Lewallen et al., 2006; Li et al., 2005; McGovern et al., 206; McGovern et al., 2007; Nelson, 2007; Register et al., 2000; Wambach et al., 2005).

Breastfeeding is an obstetric, neonatal, and pediatric practice issue that is not exclusive to the newborn-related venues of care. Breastfeeding begins in the hospital following birth and requires support at that time as well as education on how to access

lactation support throughout the postpartum period. The related implication for nursing practice and evidence-based continuing education is a recommendation for ongoing breastfeeding education and certification for obstetric and pediatric nurse care teams. Mothers need breastfeeding information and support that is consistent, current, and based on research evidence.

New Findings in This Research

Although the present research included findings consistent with many topics reported in other studies as previously discussed, the unique contribution of this research consists of the rich descriptions from the individual voices of breastfeeding mothers employed outside the home. Only four current qualitative studies conducted in the United States have focused exclusively on the breastfeeding employed mother: one from the employer's perspective (Brown et al., 2001), one study based on military life (Stevens & Janske, 2003), and two studies whose perspectives were similar to the present one (Avishai, 2007; Rojjanasrirat, 2004). Rojjanasrirat's (2004) data were collected via a written questionnaire, and Avishai's data were focused on overall meanings of breastfeeding and were collected from previously professionally employed American women in a northwestern city, not all of whom returned to employment after giving birth. The present study's results were collected via individual audio recorded semi structured interviews, which afforded personal descriptive data from American women embedded in the employment and breastfeeding process in a south central city in the U.S. This research adds to the very small body of research giving voice to American mothers who

are breastfeeding and employed outside of their homes.

The findings in the present research included extensive details of the mothers' breastfeeding and employment process, which comprised specific elements of the challenges and facilitators that they encountered, as well as rich descriptions of their individual strategies' development during the process. The detailed descriptions also illuminated the exhausting rigor of the employed and breastfeeding mothers as they struggled to maintain a daily balance. The data provided by these mothers provide useful directives for nursing education and practice as well as for future research design.

Future Research

Further research recommendations include recommendations for assessment of basic breastfeeding knowledge in postpartum healthcare providers, particularly nurses, obstetricians, and pediatricians, in order to support postpartum women in their workplace breastfeeding efforts. The mothers in the present study reported encountering inconsistent or ineffective breastfeeding help from healthcare providers. These inconsistencies need to be assessed and corrected. Assessment of breastfeeding knowledge of providers in postpartum arenas of care is a first step.

Efforts to improve breastfeeding support are underway in the Women, Infants, and Children (WIC) nutrition clinics in Texas (Ryan et al., 2002; Whaley, Meehan, Lange, Sluser, & Jenks, 2002). These efforts include increased support for breastfeeding mothers through the postpartum period, such as back-to-work supportive education and provision of electric breast pumps. The WIC clinic breastfeeding professional and peer

counselors are also receiving intensive training focused on the support of breastfeeding mothers. Similar efforts could be undertaken in private obstetric and pediatric healthcare venues following an overall assessment of the information that mothers are currently receiving.

Mandatory current continuing nursing education regarding breastfeeding would facilitate improvement of the dissemination of accurate breastfeeding knowledge. Consistent evidence-based breastfeeding support and education should be available from every nurse and healthcare provider working directly with postpartum mothers.

Assessment of occupational health nurse breastfeeding knowledge in large employment settings (more than 50 employees) offers another avenue for potential research. None of the mothers in the study reported any professional breastfeeding support at the workplace. All of their education and postpartum breastfeeding support originated from community-based lactation consultants and/or role models in their circles of family and friends. The occupational health nurse is likely an untapped potential resource of postpartum breastfeeding support in larger employment settings. The review of the literature included little discussion of the role of the occupational health nurse in breastfeeding support (Stewart-Glenn, 2008; Wyatt, 2002); the scant amount of evidence regarding role of the occupational nurse in support of employed breastfeeding mothers represents a gap in the science.

Evaluation research based on compliance with current recommendations regarding employee break time and adequate pumping space for breastfeeding mothers would provide direction for employer policy compliance regulation. These mothers all

found challenges with finding space and appropriate equipment. Most of the mothers held semiprofessional or professional jobs in large companies and still encountered such challenges in varying degrees of difficulty. The literature review also included related evidence of workplace issues of nonsupport related to breastfeeding (Abdulwadud & Snow, 2007; Ertem et al., 2001; Nichols & Roux, 2004; Ortiz et al., 2004; Slusser et al., 2004). Although recent workplace legislation has been targeted to improve workplace breastfeeding support (USBC, 2011), ongoing surveillance of employer compliance is important, particularly in light of the findings of noncompliance reported by mothers in the present study. Random sampling and evaluation of multiple types of worksites would provide valuable information for policy makers in support of breastfeeding mothers in a variety of employment settings.

Research is needed to compare the scope of breastfeeding support necessary at different types of workplace settings, such as service versus non-service occupational sites of work. The mothers in the present study described securing appropriate pumping space and milk storage space as being a continual challenge. Many workers are also mobile on the job and are faced with inconsistent or unavailable pumping space and/or time while in transit or at different work locations. The review of the literature includes evidence of this challenge to employed breastfeeding mothers (e.g., Abdulwadud & Snow, 2007; Browne al., 2001; Cohen et al., 2002; Gatrell, 2007; Hauck, 2000; Libbus & Bullock, 2002; Payne & James, 2008, Witters-Green, 2003). Future research targeted to a wider range of work settings would also provide valuable information for policy makers and employers designing workplace support for breastfeeding mothers, particularly in

time- and space-constrained work settings. Qualitative research focused on facilitating the collection of a broad perspective of rich descriptive data regarding breastfeeding support at the workplace will provide valuable information for intervention and policy design.

Many of the mothers in the present study stated that their motivation to breastfeed was based on their understanding of the nutritional benefits of breast milk over commercial formula. These mothers felt pressured to breastfeed by their understanding of the AAP and WHO guidelines for breastfeeding. Some of the nonhealthcare professional mothers had misunderstandings of the guidelines for the duration of breastfeeding, which compounded their perceived pressure to exclusively breastfeed for 12 months. Research based on investigation of mothers' understanding of the AAP and WHO recommendations would provide more information on employed mothers' educational and related support needs.

Research regarding improved and/or disposable pumping and feeding products would benefit breastfeeding and employed mothers and their infants. Mothers made several references to difficulties with breast milk pumping products and specifically to time constraints and difficulties in cleaning the products satisfactorily each day. One mother also discussed difficulty in finding a bottle nipple product appropriate for use with babies who both breast feed and bottle feed expressed breast milk. This was an unexpected and interesting finding. Engineering development of new products such as disposable breast pump parts or innovative bottle nipples design would benefit from a development team that included nurses experienced with the support of breastfeeding

employed mothers.

Research related to adequate postpartum sleep quality is also an area worthy of investigation. Many of the mothers in the present study discussed or mentioned challenges in getting adequate sleep. Most of the mothers described an ongoing intensity of rigor in their daily routines, beginning very early in the morning and extending well into the late evening with clean up and preparatory chores related to combining employment with breastfeeding. The review of the literature also cited postpartum sleep or fatigue issues often related to lactation problems and/or cessation of breastfeeding (Declerq et al., 2006; Dennis, 2002; McGovern et al., 2007; Nelson, 2007). Mothers of very young children are inherently sleep deprived due to the sleep habits of infants and young children. Returning to a workday schedule adds further burden to the postpartum mother's sleep challenges, placing her at risk for health-related sequelae of sleep deprivation, including decreased breast milk supply. Sleep study experts should consider this population for future research to assess sleep quality during the first postpartum year and include maternal–child expert nurses in the development of this research.

Finally, the mothers shared varied and somewhat contradictory reports regarding the usefulness of the advice of other mothers. An organized investigation of the information about breastfeeding while employed currently being shared is also worthy of research efforts. As is often the case when non-evidence-based information is casually shared among others, many of the mothers elected to ignore what they were hearing and "found a way to make it work." Some of the mothers found some aspects, but not all, of the advice invaluable during their employment and breastfeeding experience. When

asked what they would offer to other mothers as supportive advice, the mothers in the present study listed such issues as (a) planning ahead with discussions with employers and coworkers, (b) freezing milk ahead of time, (c) items and gadgets of use for cleaning pump parts, and (d) storing and transporting breast milk, as well as tips for childcare and extended family issues. In other words, focused research aimed at mother-to-mother "advice from the trenches," so to speak, could illuminate current rumors and/or myths.

This was also addressed in one of the mixed methods studies in the literature review focused on mothers in rural communities (Flower et al., 2008). One mother in that study was quoted as saying that breastfeeding was not "the country way" (p. 406). Rural mothers often described continuing breastfeeding beyond the initial newborn period of time as not socially acceptable in their communities. A qualitative study of Native American women (Dodgson et al., 2002) also described breastfeeding mothers' struggles with mixed messages and traditions in their native communities. Vulnerable populations in remote areas and/or marginalized people may benefit from breastfeeding research specific to community-based assessment of social support and breastfeeding education.

In summary, the present investigator recommends a wide array of future research efforts related to support of the mother–infant dyad during the first postpartum year, particularly when this potentially vulnerable period of time includes the mother's return to the workplace. This research would benefit employed postpartum mothers if it included both nurses and nurse research teams experienced with maternal infant postpartum health issues. Nurses and lactation consultants accustomed to common issues related to working with postpartum breastfeeding and employed mothers have invaluable

experience and information that can assist appropriate research design.

Limitations of the Study

Although efforts were actively made to recruit mothers who were not successful with the process of breastfeeding while employed outside the home, a limitation of the present study is that no one from that group of mothers came forward to participate. The findings are limited to those mothers who attempted breastfeeding while employed outside the home and were successful, at least to some degree, in their efforts. There were also no participant mothers who made the decision not to continue breastfeeding upon their return to work. Research with both of these groups would add valuable information to this body of knowledge regarding breastfeeding mothers employed outside the home.

An additional limitation of the study is the fact that it was conducted in a small group of women in one metropolitan area of central Texas. Although the sample included a cross section of work settings, the group was primarily in semiprofessional to professional employment. Further study of mothers in low-income frontline service work settings such as food and/or retail service places of employment would provide more information on how to support these mothers.

Although the present study provided findings gathered primarily from semiprofessional to professional workers who were prepared and employed in mostly supportive settings, these mothers still described a fair amount of difficulty or struggle in combining employment with breastfeeding. The process of *willfully struggling to maintain daily balance* is evidently challenging even in supportive work environments.

That finding alone warrants further investigation into more stressful low-income work settings in comparison.

Summary

It was evident in the present findings that multiple factors influence mothers who are breastfeeding and employed outside their homes. The grounded theory process entitled *willfully struggling to maintain daily balance* represented a continual daily struggle to balance sometimes opposing factors of influence in mothers who are breastfeeding while employed. This effort required ongoing willful determination and creative strategizing for mothers to "find a way to make it work." Combining breastfeeding with employment outside the home often required mothers to compromise with their original goals by adjusting strategies to maintain daily balance in their individual situations and "make their peace with it."

Given the findings in this study, organized research and efforts to assess and streamline consistent breastfeeding information offered to employed mothers is imperative. Further assessment of differences in work settings is important in order to support appropriate policy development and employer compliance initiatives. Innovative and supportive milk pumping product development is also needed. Health concerns related to breastfeeding and employment, such as maternal sleep issues, are also in need of research attention. Involving appropriate health experts in such research, such as nurse and lactation consultants, will help with effective research design and will expedite knowledge sharing.

According to the present findings, mothers who are breastfeeding and employed outside the home are faced with an assortment of competing variables in their daily balancing act. Although the findings do illustrate the presence of a struggle in the mothers' efforts, it is to be hoped that future research and improved efforts of support will minimize the current struggles of breastfeeding mothers employed outside the home.

APPENDIX A
Interview Guide

Template of Semi-Structured Interview Questions

1) How did you initially make the decision to continue breastfeeding while employed outside of your home?

    1a)

    What factors or people influenced your decision the most?

    1b)

    Can you describe anything that may have helped to contribute to your decision to continue (or discontinue) to breastfeed and/or pump breast milk after returning to work?

2) Describe the resources that have been most helpful while breastfeeding and employed.

3) Describe a typical day at work since returning to work following the birth of your baby.

4) Is there anything about your working & breastfeeding experience that you think may help other breastfeeding working moms, or yourself, in the future?

Appendix B
Demographic Questionnaire

ID #_____

Your information will be kept Confidential

Thank you for completing the following questions:

Today's date_____

1. Your ***age***_____

2. Your youngest ***breastfeeding infant's age:***_____(***in months)***

3. How ***many hours do you work*** away from home per day? _____

4. How many ***days per week do you work*** away from home?_____

5. What ***type of work*** do you do? _____

6. Do you ***pump*** breast milk while at work?_____

7. How ***many children*** are you ***currently breastfeeding***?_____

8. How ***many of your infants*** have you ever ***breastfed***?_____

9. Does your breastfeeding infant(s) ***attend daycare***?_____ near your workplace _____

10. ***Marital Status***: circle which applies:

Married_____ Divorced_____Separated_____Living with ***partner***? ____

11. Approximate annual ***household income***? _____

12. ***Highest grade*** completed? _____

13. Your ***ethnicity***: circle as many as apply
White_____Hispanic_____Black_____Asian_____
Native American_____ Pacific Islander_____Other_____

If you agree to be contacted in the future per consent: ***email*** _____ and/or ***phone contact #*** _____

Thank you very much for participating in this study

This study is conducted by Patricia Tompkins Hamilton-Solum, BSN, RN , graduate nursing student, doctoral candidate . The PI, PSolum may be contacted @; plhs@mail.utexas.edu or 512-917-9644

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