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BREASTFEEDING AND THE SUPPORTIVE WORKPLACE:

INTEGRATION OF WOMEN'S PRODUCTIVE AND REPRODUCTIVE LIVES

by

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B.A. December 1999, Drury University

A Thesis Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirement for the Degree of

MASTER OF SCIENCE

PSYCHOLOGY

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ABSTRACT

BREASTFEEDING AND THE SUPPORTIVE WORKPLACE:
INTEGRATION OF WOMEN'S PRODUCTIVE AND REPRODUCTIVE LIVES

Rebekah A. Cardenas
Old Dominion University, 2002
Director: Dr. Debra A. Major

Although authorities advocate breastfeeding for at least six months as the ideal form of infant nutrition, employed mothers may experience barriers to breastfeeding. Using data from the National Longitudinal Survey of Youth, this study examined the relationship between maternal employment, workplace support, and breastfeeding duration. In general, it was predicted that paid employment following childbirth would have a negative impact on breastfeeding duration. In addition, existence of workplace support such as flexibility, childcare, and/or healthcare benefits was predicted to positively impact breastfeeding durations as well as job satisfaction upon returning to work. Hierarchical linear regression analysis offered support for some of the hypotheses. While hours worked per week was found to have a significant negative relationship with breastfeeding duration, time spent at home before returning to employment did not significantly affect breastfeeding duration. No significant difference in breastfeeding duration was found for professionals versus non-professionals. In addition, the existence of family-friendly benefits and job flexibility were not significant predictors of breastfeeding duration. Employer provided or subsidized child-care was significantly related to overall job satisfaction among breastfeeding women. Database limitations and significance of findings are discussed.

This paper is dedicated to my amazing husband; without his constant love and support I would not have survived the past two years. Jonathan, you are truly my best friend, my encourager, and my sounding board. Thank you for your patience, your grace, and your love.

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I would first like to acknowledge the sacrifices that my parents have made over the last couple of decades towards helping me reach this point. This research would not have been possible without the efforts of my advisor, Dr. Debra Major. Her patience and persistence towards perfection have resulted in a final product of which I am very proud. Thank you for your time and willingness to take part in my educational experience.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Every woman deserves the right to make decisions about her life, including those regarding employment and family. Yet, when a woman takes on the role of employee and mother simultaneously, there is potential for interrole conflict to occur. Interrole conflict arises when work and family role demands are mutually incompatible so that meeting the demands in one domain makes it difficult to meet demands in the other (Greenhaus & Beutell, 1985). For example, a mother may recognize the numerous benefits of breastfeeding, yet if the demands of her job are incompatible with the demands of breastfeeding, she may find it difficult or even impossible to continue both roles.

Using the work-family conflict model as a theoretical framework, this study will illustrate that mothers who attempt to maintain the roles of breastfeeder and employee do in fact experience conflict, and that this conflict is evidenced by decreased breastfeeding initiation and duration among working women. The potential influence of support within the workplace, including flexibility, childcare options, and overall job satisfaction will also be examined. In addition, the literature review will suggest that when work interferes with breastfeeding, this interference results in negative outcomes for everyone involved, including employer, child, and mother. Thus, the importance of further study will be demonstrated based on these potential conflicts.

It is expected that this research will discover that participation in paid employment after childbirth is negatively related to breastfeeding activity. This finding would indicate that working women are perhaps compromising their roles as

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breastfeeding mothers to preserve their roles as employees. Therefore, this research aims to demonstrate the importance of addressing the conflicts surrounding breastfeeding for the sake of all parties involved.

Theoretical Framework: Understanding Work-Family Conflict

The conflicts that women face in trying to fulfill the roles of employee and breastfeeding mother can perhaps be best understood by reviewing Greenhaus and Beutell's (1985) division of work-family conflict into three main forms. This will provide a framework in which to understand the current literature and place the results of this research. The first type of conflict is time-based conflict, in which devoting time to the demands of one domain consumes the time needed to meet the demands of the other domain. Strain-based conflict occurs when strain, such as tension, anxiety, or fatigue, from one domain makes it difficult to meet the demands of the other domain. The final type of conflict is a behavior-based conflict, occurring when behaviors developed in one domain are incompatible with role demands in the other domain, and the person is unable to adjust behavior when moving between domains. Each of these types of conflict has the potential to interfere with a woman's ability to combine work and breastfeeding.

Reduced Breastfeeding Durations Among Working Women

The first step in producing evidence for a conflict among working mothers who breastfeed is to review current literature on breastfeeding and employment to determine if breastfeeding durations are suggested to be lower among working women. This appears to be the case as increases in the number of mothers in the workplace with children under the age of one seem to accompany reductions in breastfeeding rates (Duckett, Henly, Avery, Potter, Hills-Bonczyk, Hulden & Savik, 1998). Klerman and Leibowitz (1994)

determined that in 1990, over 35% of mothers were working by the time their infant was three months old. Similarly, Volling and Belsky (1993) conducted a study on maternal employment and found that 69% of women who were working by one year postpartum had returned within three months of the child's birth. In addition, Geilen, Faden, O'Campo, Brown, and Paige (1991) found that employment shortly after childbirth was associated with the cessation of breastfeeding as early as two to three months. Perhaps these findings are linked to those of Roe, Whittington, Fein and Teisl (1999) who found that the duration of leave from work significantly and positively affects the duration of breastfeeding. Each week of work leave was found to increase breastfeeding duration by almost one half of a week. Researchers also found that the intensity of the work effort significantly affects the intensity of breastfeeding. These findings illustrate the potential conflict for women who attempt to combine paid employment and continued breastfeeding.

Extensive research on breastfeeding duration and maternal employment has been conducted around the world and across many different types of people. Leslie (1989) proposes that the most consistent finding across studies is that employed mothers shift from exclusive breastfeeding to mixed breastfeeding and bottle-feeding earlier than mothers who are not employed (as cited in Blau, Guilkey, and Popkin, 1996). In the 1989 Ross Laboratories Mothers' Survey, 52.2% of the women initiated breastfeeding. However, only 8.9% of mothers employed full-time breastfed their infants at six months postpartum, compared with 21.6% of mothers not employed outside the home (Miller, Miller, & Chism, 1996).

Further evidence supports that durations of breastfeeding are generally shorter among those women returning to employment. A study of resident physicians in the United States who were also breastfeeding mothers yielded results to support this claim. Among the 48 (of 60 women total in the study) women who chose to breastfeed initially, only 24 (one-half) continued to breastfeed upon returning to work at the end of their seven week maternity leave (Miller et al., 1996). Furthermore, a study of 60 women who intended to both breastfeed for at least six weeks found that return to work by 2 months postpartum exerted a negative effect on duration of breastfeeding (Kearney & Cronenwett, 1991). This trend does not seem to be isolated only to the United States as a study of breastfeeding working mothers in South Africa yielded results that also illustrate decreased duration of breastfeeding upon returning to work. Even though 97% of those mothers in the study returning to the workplace initially breastfed their infants, less than 30% continued to do so exclusively after five months (Chalmers, Ransome, & Herman, 1990). These findings of decreased duration of breastfeeding among mothers returning to work indicate that employment does interfere with women's ability to breastfeed. However, a longitudinal study including larger samples of mothers from various professions would provide a more accurate understanding of breastfeeding practices and conflicts within the United States.

Time-Based Conflict

If women are experiencing time-based conflicts with regard to working and breastfeeding, it would be expected that women who only work part-time would experience less conflict and thus longer durations of breastfeeding than women returning to full-time employment. This is exactly what Lindberg (1997) found when analyzing

data from Cycle IV of the National Survey of Family Growth on women's postpartum employment and breastfeeding behaviors in the United States from 1980 to 1986. Parallel to the findings of the other studies previously mentioned, this study found that women are more likely to stop breastfeeding in the month that they enter employment. In addition, women employed part-time were found to be significantly more likely to both initiate and continue breastfeeding longer than women employed full-time. Indeed Lindberg (1997) concluded that for women to achieve the recommended six month breastfeeding duration, maternity leaves of at least six months would be required. Fein and Roe's (1998) analysis on longitudinal data involving work status and breastfeeding practices echo these findings as working full-time by three months postpartum decreased breastfeeding duration by an average of 8.6 weeks. Yet, part-time work of four or fewer hours per day did not affect breastfeeding duration. These findings present clear evidence of a time-based conflict among working breastfeeding mothers.

Further evidence of time-based conflict is offered by Kearney and Cronenwett (1991) whose research on breastfeeding and employment found that at five to six weeks postpartum, the more hours worked in one week, the greater number of breastfeeding problems a woman was likely to experience. Similarly, at five months postpartum, hours of employment were again correlated with the number of breastfeeding problems a woman reported. The problems experienced are likely to result in decreased breastfeeding duration. These findings provide further evidence of a time-based conflict, in which women working full-time face greater time demands than do women working part-time or not at all. Indeed, Lindberg (1996) reports that women at work full-time within the first 7 months postpartum are 2.2 times more likely to stop breastfeeding than women not

at work. Thus, the first type of conflict many women face in choosing between work and family is based on a lack of time required to fill both roles, employee and breastfeeding mother.

Strain-Based Conflict

Unforeseen obstacles or conflicts within the workplace surrounding breastfeeding could cause great strain-based conflict for working mothers, in which they experience increased amounts of tension or anxiety. According to Gates and O'Neill (1990), concerns and guilt over breastfeeding and day care can cause mothers severe emotional stress, which affects the quality of their work or even prompts them to quit their jobs. Furthermore, a qualitative study of Canadian mothers' intentions to continue breastfeeding upon returning to work suggests that although mothers intended to continue breastfeeding while working, whether or not they were able to continue depended on many factors beyond their control. These factors included flexibility and hours of employment, the infants' abilities to accept bottles, and the amount of support the mothers received (Morse & Bottorff, 1989). These women reported that a source of worry or strain for them was that they had to wait and see if they would be able to continue with their breastfeeding plans, not knowing what conflicts would arise. Therefore, strain-based conflicts, such as uncertainty, are the second type of conflicts working mothers must face in choosing to maintain breastfeeding roles.

Behavior-Based Conflict

Breastfeeding mothers who return to work also face behavior-based conflicts as they are unable to leave the role of breastfeeding mother out of the workplace entirely. A study of employed mothers of infants in Thailand, which was also both qualitative and

quantitative in nature, offers valuable insight into these behavior-based conflicts that women choosing to breastfeed and maintain employment must face (Yimyam, Morrow, & Srisuphan, 1999). Results indicate that even though the women were committed to breastfeeding, resumption of employment presented serious problems in doing so. At six months post-partum, working women were much less likely to be breastfeeding than women who did not work outside of the home. Among those who were still breastfeeding and in the workplace, half reported that working had negative impacts on breastfeeding, primarily involving the expression of milk.

Many women report a variety of reasons regarding why they are not able to express milk at work, which is an essential behavior in maintaining breast milk supply. Lack of time and suitable facilities are among the most widely reported problems that breastfeeding women face in trying to express milk while at work (Hills-Bonczyk, Avery, Savik, Potter, & Duckett, 1993). Women in the Thailand study (Yimyam et al., 1999) reported being afraid of contamination in carrying the bottle and pump to and from work. In addition, lack of storage could be one barrier women face in that, even if a woman does express milk, there may not be an appropriate place to store the milk while at work. Even if storage such as a refrigerator is available, a mother may find it embarrassing to place her expressed milk there, producing a strain-based conflict. Based on these various types of conflicts, approximately one-third of the women in a study by Hills-Bonczyk et al. (1993) who intended to combine employment with breastfeeding reported not being able to do so. Similarly, those women who reported that expressing milk at work was not a major problem for them were able to combine breastfeeding and employment for significantly longer durations than those who rated it a major problem. Thus, women

desiring to maintain the role of breastfeeding mother as well as the role of employee also face behavior-based conflict due to incompatibilities between the expression and storage of milk and traditional work behaviors.

The conflicts faced by working mothers who choose to breastfeed can be more clearly understood within the framework of the three types of work-family conflicts that have been presented. The result of these conflicts appears to be decreased breastfeeding durations among working women. The negative outcome of work's interference with breastfeeding durations will be illustrated by the literature suggesting potential costs to all parties.

Costs of Not Breastfeeding

Potential Costs to Employer

Many costs of not breastfeeding or reduced durations of breastfeeding have been shown to extend to the workplace to affect employers and work outcomes. For instance, higher rates of employee absenteeism and lost income have been associated with incidences of illnesses among infants who are not breastfed. In fact, in a comparison study of maternal absenteeism and infant illness rates, Cohen, Mrtek, and Mrtek (1995) found that of the 40 illnesses causing one day's absence for employed mothers, only 25 percent occurred in breastfed babies while 75 percent occurred in formula-fed babies. Furthermore, employer costs for employee benefits, such as health insurance, have also been associated with breastfeeding (Freed, 1993), as a mother's health can also be affected by decisions to breastfeed (American Academy of Pediatrics, 1997). According to Walker (1991), companies with maternal and child health programs see positive effects on health care costs. Ball and Wright (1999) determined that the excess cost of health

care services for illnesses of formula-fed infants in the first year of life totaled between $331 and $475 per never-breastfed infant. Thus, health care costs relating to child illness among formula-fed babies has been found to be remarkably higher than those among breastfed infants (Ball & Wright, 1999).

According to Glass and Estes (1997), research reveals that conflict between paid work and family responsibilities has been linked to decreased employee productivity as well as decreased family functioning. For example, both employee fatigue on the job due to caring for a sick baby and decreased work concentration due to anxiousness about a sick baby are likely to result in decreased productivity (Faught, 1994). Extreme conflict between work and family may even result in a breastfeeding mother leaving her role as employee. Yet, a study by Glass and Riley (1998) found that several employer family-responsive policies significantly decreased job attrition among women during the first year postpartum. Among these, the most important was the length of leave available for childbirth and the ability to avoid mandatory overtime upon return. Supervisor and co-worker social support were also effective in preventing turnover among childbearing women. In a survey of policies and practices supporting breastfeeding mothers in the workplace, Moore and Jansa (1987) found that those companies that offered some level of breastfeeding support reported an increase in the number of women who returned to full-time employment, with apparent increased morale. Thus, as demonstrated by the literature reviewed, the importance of the current study lies in the potential costs associated with work-family conflicts such as breastfeeding.

Potential Cost to Child

There are many benefits to a child's health that result from breastfeeding (Galtry, 1997). For this reason, breastfeeding has been chosen as the preferred method of infant nutrition by the American Academy of Pediatrics, the American College of Obstetricians, and Gynecologists, and the American Academy of Family Physicians (Freed, 1993). The following are considerations that contribute to a mother's interrole conflict as she must accept the costs of not breastfeeding her child in order to maintain employment.

Breastfeeding has been found to offer extensive health, growth, and development benefits to children (American Academy of Pediatrics, 1997). Cohen et al.'s (1995) longitudinal study of infant illness episodes found that 86% of infants who experienced no illnesses during the study were breastfed as opposed to formula-fed. Yet, perhaps the most compelling evidence to support breastfeeding as the optimal form of infant nutrition is that increases in breastfeeding have been accompanied by decreases in acute infections (Murtaugh, 1997). One study found that the risk of otitis media and diarrhea were 70% and 80% lower, respectively, among exclusively breastfed infants than among those infants who received no breast milk (Scariati, Glummer-Strawn, & Fein, 1997). Furthermore, protection against these acute infections was found to extend beyond the period of exclusive breastfeeding; the protection increases with increasing exclusivity of breastfeeding. Other costs of not breastfeeding are increases in incidence or severity of lower respiratory infections, bacteremia, bacterial meningitis, botulism, urinary tract infection, and necrotizing enterociloitis (as cited in American Academy of Pediatrics, 1997).

Important links between the duration of breastfeeding and potential costs to child health have also been found to exist. Murtaugh (1997) discusses evidence that supports breastfeeding up to and beyond the sixth month of life as being essential because nutritionally important intestinal blood loss has been found to occur in infants fed cow's milk-based formula before the age of six months. Thus, an effort to prevent this infant intestinal blood loss would support, as does the American Academy of Pediatrics, that the minimum duration of exclusive breastfeeding be six months and that optimally breastfeeding should continue for at least one year (Ball & Wright, 1999).

Further evidence of the importance of duration of breastfeeding is found in the results of studies in which longer breastfeeding durations have been associated with higher cognitive scores of breastfed children at three years of age (Bauer, Ewald, Hoffman & Dubanoski, 1991). Thus, child health involving various illnesses, infections, and cognitive functioning are negatively impacted by decisions not to breastfeed.

Potential Cost to Mother

Mothers who choose to stop breastfeeding in order to return to work may realize that they are missing out on the positive health benefits that breastfeeding can provide to mothers. Thus in this way, mothers may experience additional conflict between work and family. Many benefits to a mother's health have been associated with extended durations of breastfeeding. Durations of breastfeeding that are at least six months long have been found to relate to a reduction in ovarian cancer and premenopausal breast cancer (American Academy of Pediatrics, 1997; Murtaugh, 1997). Breastfeeding also seems to increase levels of oxytocin, resulting in less postpartum bleeding and more rapid uterine involution (American Academy of Pediatrics, 1997). Furthermore, recent research by

Dewey, Heinig, and Nommsen (1993), has shown that lactating women have an earlier return to pre-pregnant weight (as cited in American Academy of Pediatrics, 1997). Thus, the potential cost to a woman who is not able to breastfeed because of work interference extends to her own health, as well as the health of her child.

Effects of Workplace Flexibility and Support on Work-Family Conflict

Although employment may be the most common reason given for termination of breastfeeding, some women are able to successfully continue to breastfeed during employment despite the various types of conflicts that have been shown to occur. This suggests that if workplace conditions are made more conducive and support is offered on all levels, levels of conflict can be reduced and work and breastfeeding too can be compatible. Black et al. (1990) report that mothers who surmount problems and have a long duration of breastfeeding form a positive attitude towards breastfeeding. This finding illustrates a reduction in strain-based conflict, as levels of anxiety and tension are reduced. In addition, the work-family conflict model, as presented by Edwards and Rothbard (2000), suggests that family mood affects work role performance and ultimately work mood. According to this, the satisfaction of a woman who is successful in her role as a breastfeeding mother is likely to extend into satisfaction at work, and vice versa; thus, the woman experiences less conflict. According to Kossek and Ozeki (1998), the results of a meta-analysis of studies measuring work-family conflict and job and life satisfaction illustrate a consistent relationship between access to or use of work-family policies and job satisfaction. This was found particularly true for those policies perceived as supporting flexibility in role integration, such as those that support both roles of breastfeeder and employee.

Based on the previous findings, it seems likely that those women who return to workplaces that offer flexibility are likely to experience longer breastfeeding durations. Katcher and Lanese (1985) found this to be the case in that women who returned to a supportive breastfeeding environment, including a lactation program were significantly more likely to continue nursing than those breastfeeding employees who did not receive this workplace support. Similarly, employers, such as CIGNA, who have implemented breastfeeding support programs have found them to result in increased durations of breastfeeding among their employees as well (Cigna, 2000). Therefore, these findings offer a clear illustration of the link between workplace flexibility and breastfeeding duration.

Importance of this Study

The potential impact of interrole conflict among breastfeeding working mothers has been demonstrated within the literature reviewed, to suggest that the conflict associated with the return to work may shorten breastfeeding durations among women in the United States. Furthermore, the potential costs of work's interference with breastfeeding have been shown with regard to employer, child, and mother. Demonstrating that flexibility and support do in fact allow for longer breastfeeding durations highlights the potential for conflict between roles when this flexibility is absent from the workplace. Thus, a longitudinal study including a large and representative sample size is needed to provide further evidence that rates of breastfeeding duration in the United States reflect this specific work-family conflict. For this reason, this study utilizes data gathered from the National Survey of Youth Database to examine

relationships between breastfeeding practices and mothers' participation in paid employment after childbirth.

Hypotheses

Based on the findings of the research presented previously, it was predicted that participation in paid employment after childbirth would be negatively related to breastfeeding activity. The specific hypotheses for this study were as follows:

Hypothesis 1: For women who participated in paid employment within the first six months after childbirth, the average number of hours worked per week would be negatively related to breastfeeding duration.

Hypothesis 2: Time spent at home between childbirth and return to paid employment would be positively related to breastfeeding duration.

Hypothesis 3: Women whose workplace offers some level of support through flexibility, childcare, and/or healthcare benefits are likely to maintain longer breastfeeding durations upon returning to work.

A. Women whose jobs include flexibility of scheduling would experience longer breastfeeding durations.

B. Professionals would breastfeed for longer durations than nonprofessionals.

Hypothesis 4: Among breastfeeding women, workplace support for breastfeeding will be positively related to job satisfaction.

CHAPTER II

METHOD

Participants

Participants were chosen from the sample of women polled in the National Longitudinal Surveys based on their having had a baby between 1990 and 1998, in an effort to understand the current status of breastfeeding in the United States. Data was generated regarding the births of 1,420 children, as reported by female respondents of the NLSY. For those women who had more than one child during the years of interest, only one birth was randomly selected for inclusion in the sample. Among the women polled, mothers in this study were between the ages of 25 and 39 at the time of childbirth. The mean age of mothers was approximately 31. Seventy-two percent of the mothers in the sample were married while 14% were never married. The remainder of women were separated, divorced or widowed. Eighty-six percent of women in the sample completed at least a high school education, 9% of whom completed some level of education beyond a four-year college degree. Approximately 37.1 % of the women in the sample were considered professionals or managers based on their employment. Many of the other women were either clerical (32%) or service workers, (16%). Other types of employment included laborers, operatives, craftsmen, and sales workers. Approximately 55% of women in this sample worked for private companies, 34% worked for the government, and the remainder were either self-employed or working in a family business. Average income for women during the second quarter (13 weeks) after childbirth was $4,747 per quarter. Participation in the surveys was voluntary and participants were not paid for their responses.

Materials

The National Longitudinal Survey of Youth was used to extract data for analyses. The NLSY79 is a longitudinal study, sponsored by the Bureau of Labor Statistics (BLS) that follows the same age cohort of youth (age 14-21) on December 31, 1978, over an extended period of time. The study began in 1979, and personal interviews have since been conducted with respondents on a regular basis (annually until 1994, then biannually). Survey instruments included primary and supplementary questionnaires as well as documents such as interview forms. There are separate and distinctly different questionnaires for each survey year of the NLSY79. Paper-and pencil interviews were conducted until 1993 when the process shifted to computer-based interviews. In 1998, the files for all previous data collected were updated and reviewed by participants to ensure accuracy. Thus, data used in this study reflects the updated data from the 1998 survey year. Data extracted for the present research were analyzed using the *Statistical Package for the Social Sciences (SPSS).*

Procedure

Upon identifying relevant questions from the years surveyed, data were extracted from the National Survey of Youth, Child and Young Adult data set and placed into *SPSS.* Data regarding the birth of every child between 1990 and 1998 were initially extracted. Mothers reported information regarding childbirth for each of their children born within this time period. One child was randomly selected from those women who had multiple children during 1990-1998 and was placed in the sample. Specific data regarding the mother's employment were taken from the second quarter (13 weeks) after childbirth, based on the recommended 6-month breastfeeding minimum. Extracted

variables included when a woman returned to work following childbirth as well as the support available to the mother from the workplace including: flexibility of scheduling, health insurance childcare benefits, and maternity leave. Data including overall job satisfaction, breastfeeding initiation, and breastfeeding duration were also extracted.

Information regarding each mother's age, industry, occupation (taken from 1970 Census codes), class of worker, and earnings was also obtained. The variable distinguishing professionals from nonprofessionals was developed from the extracted occupation variable. Based on data extracted regarding the class of worker, mothers who were volunteers, and those who never returned to paid employment were excluded from the study. Similarly, those mothers who did not provide complete answers to critical questions regarding either employment or breastfeeding practices were also excluded from the sample. Discriminant function analysis was used for descriptive purposes to identify those variables that distinguished breastfeeding women from non-breastfeeding women. Based on preliminary correlations and discriminant function results, mother's age and education were the primary control variables in hypothesis testing. *SPSS* was used to test each hypothesis through hierarchical linear regression analysis.

Measures

Job satisfaction was measured on a four-point Likert scale from (1) "like very much" to (4) "dislike very much." Many of the items that were included in this study were categorical in nature (see Appendix). For example, information regarding breastfeeding initiation was limited to a "yes" or "no" response to the question, "Child breastfed?" In addition, workplace support variables such as job flexibility, child-care, maternity leave, and health insurance were answered either "yes" or "no" depending on

whether or not the employer made that particular benefit available to the employee. In testing hypothesis 3, whether or not workplace support influences breastfeeding duration, a composite of family-friendly benefits was developed by adding the number of individual benefits available to respondents. For this analysis, the total number of benefits available to the respondent at the time of childbirth represented the current level of workplace support.

CHAPTER III

RESULTS

Means, standard deviations, and intercorrelations among all variables are presented in Table 2. Within the sample, 56 % of mothers breastfed their child for some period of time (n=796). Thus, 624 mothers in the sample chose not to breastfeed. Among those mothers who breastfed, the average child age when breastfeeding ended was 7.43 weeks (n=766). For analyses involving breastfeeding durations, the sample was restricted to those women who breastfed (n=796). Although 796 mothers breastfed, sample sizes for each hypothesis are reduced because mothers either skipped the question, did not know, refused to answer, or for some other reason had missing data. The average number of weeks after childbirth that mothers returned to employment was approximately 34.79 (8 ¾ months; N=1,420). Thus, only 1,066 women had returned to work by the second quarter after childbirth. Results indicate that among the mothers who had returned to work by the second quarter after childbirth, the average number of hours worked per week was 33.74 (n=824). Workplace support variables indicated that while maternity leave and healthcare insurance were available to most mothers in the sample, job flexibility and child-care assistance were less common (see Table 1).

Table 1
Receipt of Workplace Support

Benefit	*n* Receiving Benefit	% Receiving Benefit
Health Insurance	832	81
Maternity Leave	838	82
Job Flexibility	550	54
Child-care Assistance	99	10

Note. *n* varies from 990 to 1,022 based on missing data.

Table 2

Means, Standard Deviations, and Intercorrelations among Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Return Employment[a]	34.79	71.92	—								
2. Child Breastfed?[b]	00.56	00.50	-.09*	—							
3. Hours Work Weekly[c]	33.74	13.38	-.09*	-.12*	—						
4. Breastfeeding Ended[a]	7.43	20.16	-.01	.63*	-.19*	—					
5. Childbirth Year	1993	02.41	-.24*	.12*	.01	.04	—				
6. Mother's Age	31.00	03.06	-.17*	.13*	.01	.08*	.72*	—			
7. Mother's Earnings[c]	4747	3887	-.22*	.10*	.32*	.02	.20*	.15*	—		
8. Education[d]	13.32	2.56	-.23*	.25*	-.03	.24*	.12*	.12*	.35*	—	
9. Job Satisfaction[e]	3.35	.72	-.12*	.09*	-.03	.09*	.00	.02	.06	.10*	—

Note. N=1,420

[a] In weeks,

[b] 0= "Child Not Breastfed" 1= "Yes, Child Breastfed"

[c] Second Quarter after Childbirth, n=834

[d] In years completed

[e] 1= "Dislike very much" 2= "Dislike Somewhat" 3= "Like fairly well" 4= "Like very much"

*p< .05

Discriminant Function Analysis

Descriptive discriminant function analysis was first conducted to find classification dimensions for distinguishing breastfeeding women from non-breastfeeding women. Chi-square results indicate that the discriminant function analyzed is a significant predictor of group membership (x^2= 55.3, p=.000). Examination of discriminant function coefficients indicate that education and professional vs. non-professional job status are significant predictors of whether or not a woman is likely to breastfeed (see Table 3). However, the proportion of variance in breastfeeding accounted for by these predictors, indicated by the square of the canonical correlation, was only 6.5 percent. This indicates that while the variables mentioned are significant predictors of breastfeeding initiation, they do not explain the majority of differences between breastfeeding and non-breastfeeding women. Nonetheless, when the discriminant function is used to classify the individuals in the dataset, it correctly classifies 60.6 percent. This implies that the discriminant function does a better job of classification than the proportion of variance accounted for would suggest.

Table 3

Correlation of Predictor Variables with Discriminant Functions: Predicting Breastfeeders from Non-breastfeeders

Predictor Variable	Correlation with discriminant functions Function 1
Education	.79
Professional vs. Non-Professional	.64

Hierarchical Linear Regression Hypothesis Testing

Hierarchical linear regression analysis was used to test each hypothesis. Hypothesis 1 predicted that among women who returned to employment within the first six months after childbirth, the average number of hours worked per week would be negatively related to breastfeeding duration. Thus, the criterion variable was the child's age in weeks when breastfeeding ended (breastfeeding duration). Because only women who had returned to employment within six months after childbirth were included in this analysis, Hypothesis 1 was tested separately from the remaining hypotheses. To test Hypothesis 1, mother's age and education were entered as a first step in the hierarchical linear regression. The variable representing the average hours worked per week was entered in the second step. Results indicate that step one was significant, accounting for 6.4 percent of the variance. Support for Hypothesis 1 was found in that the change in R^2 for step two was significant, accounting for 2.9 percent of the variance (see Table 4).

Table 4
Hierarchical Regression Analyses Predicting Breastfeeding Duration from Hours Worked per Week

Variables	β	t	R^2	ΔR^2
Criterion: Breastfeeding Duration				
Step 1: Demographic control variables			.06*	
Mother's Age	.07	1.92		
Education	.23	6.93*		
Step 2:			.09*	.03*
Hours Worked per Week	-.17	-5.08*		

Note. n=812. Betas are reported for the last step of the equation.
*$p < .05$

Hypotheses 2, 3 overall, and 3b were analyzed using one hierarchical linear regression equation. Hypothesis 2 stated that time spent at home between childbirth and return to paid employment would be positively related to breastfeeding duration. Only those mothers who breastfed were included in the analysis (n=796). Similarly, Hypothesis 3 stated that women whose workplace offers some level of support through flexibility, childcare, and/or healthcare benefits are likely to maintain longer breastfeeding durations upon returning to work. In addition, Hypothesis 3B stated that professionals would breastfeed longer than nonprofessionals. Thus, the criterion variable was measured by the child's age in weeks when breastfeeding ended. Mother's age, education, and hours worked per week were entered into step one of the regression. The number of weeks after childbirth that the mother began employment, professional vs. nonprofessional and a composite family-friendly benefits variable were entered on the second step. Examination of R^2 indicates that step one was significant, accounting for 6.7 percent of the variance. The change in R^2 was not significant (see Table 5). Thus, hypothesis 3B was not supported; professionals did not breastfeed significantly longer than non-professionals. Hypothesis 2 was also not supported, as return to employment did not significantly influence breastfeeding duration. In addition, support was not offered for Hypothesis 3, as workplace support (measured by a composite of family-friendly benefits) was not found to significantly impact breastfeeding duration.

Table 5
Hierarchical Regression Analyses Predicting Breastfeeding Duration from Time Spent at Home after Childbirth, Profession, and Workplace Support

Variables	β	t	R^2	ΔR^2
Criterion: Breastfeeding Duration				
Step 1: Demographic control variables			.07*	
Mother's Age	.09	2.34*		
Education	.19	4.23*		
Hours Worked per Week	-.10	-2.52*		
Step 2:			.08*	.01
Return to Employment	.01	.25		
Composite of FF Benefits	.00	-.09		
Professional vs. Non-Professional	.09	2.16*		

Note. n=674. Betas are reported for the last step of the equation.
*$p < .05$

According to Hypothesis 3a, women whose jobs include flexibility of scheduling will experience longer breastfeeding durations. The criterion variable was again breastfeeding duration. Mother's age, education, and hours worked per week were entered into step one of the regression analysis. The variable representing job flexibility was entered in step two. Results indicate that step one was significant, accounting for 7.5 percent of the variance. Examination of change in R^2 indicates that step two was not significant (see Table 6).

According to Hypothesis 4, workplace support for breastfeeding will be positively related to job satisfaction among breastfeeding women. Thus, only those mothers who chose to breastfeed were included in this analysis (n=796). However, due to missing information regarding family friendly benefits offered by employers, the subset of women included in this analysis equals 367 women. The criterion variable for this analysis was overall job satisfaction. The variable distinguishing professionals from

Table 6
Hierarchical Regression Analyses Predicting Breastfeeding Duration from Job Flexibility

Variables	β	t	R^2	ΔR^2
Criterion: Breastfeeding Duration				
Step 1: Demographic control variables			.08*	
Mother's Age	.09	2.54*		
Education	.23	6.29*		
Hours Worked per Week	-.08	-2.18*		
Step 2:			.08*	.00
Job Flexibility	.01	.203		

Note. n=666. Betas are reported for the last step of the equation.
*$p < .05$

non-professionals was entered into step one of the regression. Job flexibility, health insurance, child-care, and maternity leave option variables were entered into step two of the regression. Step one was not significant, but the change in R^2 associated with step two was significant, accounting for 3 percent of variance. As Table 7 illustrates, beta weights indicate the availability of company provided or subsidized childcare to be a significant predictor of job satisfaction. (β=.14, p<.05).

Table 7
Hierarchical Regression Analyses Predicting Job Satisfaction from Workplace Support among Breastfeeding Women

Variables	β	t	R^2	ΔR^2
Criterion: Job Satisfaction				
Step 1: Demographic control variables			.01	
Professional vs. Non-Professional	.10	1.82		
Step 2:			.04*	.03*
Health Insurance Benefits	-.07	-1.13		
Maternity Leave	.04	.66		
Job Flexibility	.08	1.43		
Child-care Assistance	.14	2.61*		

Note. n=367. Betas are reported for the last step of the equation.
*$p < .05$

One additional analysis was conducted to evaluate whether the family-friendly benefits that were determinants of job satisfaction among breastfeeding women were the same as those for all women in the sample. The criterion variable was overall job satisfaction. The variable distinguishing professionals from nonprofessionals was entered into step one of the regression. Job flexibility, health insurance, child-care, and maternity leave option variables were entered into step two of the regression. As table 8 illustrates, step one was significant, accounting for 1 percent of the variance, and step two was significant, accounting for 2.6 percent of the variance. Examination of beta weights revealed that among all women in the sample, job flexibility (β=.11, p<.05) and child-care (β=.09, p<.05) benefits were significantly related to job satisfaction.

Table 8
Hierarchical Regression Analyses Predicting Job Satisfaction from Workplace Support among both Breastfeeding and Non-breastfeeding Women

Variables	β	t	R^2	ΔR^2
Criterion: Job Satisfaction				
Step 1: Demographic control variables			.01*	
Professional vs. Non-Professional	.08	2.05*		
Step 2:			.03*	.02*
Health Insurance Benefits	-.02	-.51		
Maternity Leave	.02	.50		
Job Flexibility	.11	2.90*		
Child-care Assistance	.09	2.38*		

Note. n=663. Betas are reported for the last step of the equation.
*p < .05

CHAPTER IV

DISCUSSION

The current study examined the relationship between maternal employment, workplace support, and breastfeeding duration. Consistent with the literature reviewed, the results suggest that among women who return to employment within six months of childbirth, the more hours worked per week, the more likely a woman is to discontinue breastfeeding. Although this finding was significant after controlling for mother's age and education, it only accounted for approximately 3 percent of the variance in breastfeeding duration among mothers in the sample. Time spent at home before returning to work did not seem to significantly impact breastfeeding duration. Workplace support, as measured by a composite score of work-family benefits available to women in the sample, also did not prove to be a significant predictor of breastfeeding duration.

Results indicated that breastfeeding duration was not significantly impacted by whether a woman held a professional or non-professional position in the workplace. Because the second step of this analysis was not significant, examination of beta weights for further interpretation was not warranted. However, if one did examine the beta weights within this analysis, a significant weight would be found for professionals versus non-professionals. Thus, one avenue for further research should be to clarify the relationship between professional status and breastfeeding duration.

Job flexibility was not found to significantly impact breastfeeding duration, after controlling for mother's age, education, and hours worked per week. However, workplace support was found to be a significant predictor of job satisfaction, accounting for three percent of the variance in job satisfaction. Examination of beta weights revealed

that company provided or subsidized childcare was the biggest predictor of job satisfaction among breastfeeding women. Additionally, among all women in the sample job flexibility and childcare availability were significant predictors of job satisfaction, again accounting for three percent of job satisfaction variance.

Possible Limitations

There are many potential reasons why the findings of this study either do not support, or only weakly support the original hypotheses. Under ideal circumstances the researcher would have been able to conduct an original longitudinal study to gather data addressing the relationship between workplace support and breastfeeding practices. This would have allowed for more detailed questions to be asked, specifically regarding workplace support for breastfeeding and exact breastfeeding practices. Unfortunately though, longitudinal data is both difficult and costly to gather. Thus, the best available way to address the research questions was to rely on data existing within an archival database. While this method provided a large and diverse sample, there are some limitations that must be addressed as potential influences on the results of this study.

First of all, the intent of this research was to examine data regarding the role of workplace support in combating work-family conflict among breastfeeding women. Unfortunately, when relying on previously gathered data, the researcher does not have control over how questions are asked or the level of specificity respondents offer. In the current study, the data available regarding workplace support asked only whether or not job flexibility, maternity leave, child-care assistance, and health insurance were available to the respondents. These questions did not address the types or extent of job flexibility, length of maternity leave and whether or not it was paid, or the level of child-care

assistance and health insurance afforded to women in the sample. Furthermore, this study did not look specifically at support for breastfeeding. Information regarding the presence of lactation consultants, lactation rooms, breastfeeding pumps, and proper milk storage facilities was not available. Perhaps these distinctions would have allowed for a clearer picture of the role that workplace support might play in the lives of breastfeeding women.

A second potential limitation of using pre-existing data is the existence of missing data. While this may not have affected the overall outcome of the study, it is an unfortunate limitation of archival research. Missing data makes it more difficult to gain an overall accurate picture of women's employment experiences when they have not responded to various questions regarding their individual employment circumstances.

In general, it seems that a woman's education is one of the most significant predictors of her breastfeeding duration. Perhaps this finding indicates that with education comes exposure to the importance of breastfeeding for both the mother and child. Despite the findings of this study, the fact remains that breastfeeding durations of at least six months are ideal for the mother, child, and employer. Thus, it is in the best interest of all parties to take steps to ensure that this duration is possible.

Potential Role of Employers

The good news for employers is that the results of this study suggest that women do not need to remain at home to continue breastfeeding. Thus, employers should be encouraged by the fact that women can successfully combine breastfeeding and employment. Since age and education seem to be the biggest predictors of how long a woman will breastfeed, perhaps the most beneficial stance employers can take is to be advocates and educators about the benefits of a minimum six-month breastfeeding

duration. In particular, younger women in non-professional jobs need to be aware of the benefits of breastfeeding and encouraged to reach the recommended duration. This may require employers to re-evaluate their current employment practices and facilities in order to assist breastfeeding mothers in reducing conflicts with employment. This would allow them to effectively examine alternatives that might make it more feasible for new mothers to breastfeed for longer durations while still returning to work, thereby ultimately reducing costs to themselves and others.

One option employers could consider would be to adapt or create positions that allow breastfeeding mothers to work flexible hours (Chalmers et al., 1990). Indeed, this study found that women who worked fewer hours upon returning to work were more likely to continue breastfeeding. Thus, part-time employment may be one type of job flexibility that employers could consider in retaining and assisting valuable employees. Although this study did not find a direct relationship between general job flexibility and breastfeeding duration, flexibility specifically regarding breastfeeding accommodations was not examined. This study did find that overall job flexibility was a significant predictor of job satisfaction among all women in the sample. Thus, job flexibility with regard to breastfeeding has the potential to increase job satisfaction, which has been associated with increased levels of production.

Similarly, results indicate that among breastfeeding women in this study, child-care was a significant predictor of overall job satisfaction. Thus, day care centers at the place of employment might be another option for employers to consider. On-site child-care would allow women to breastfeed on lunch breaks. This would not only benefit employers by reducing employee time spent away from work, but would also decrease

time-based conflict for working mothers. In addition, this could increase the available applicant pool of mothers as well as increase job satisfaction among current breastfeeding employees.

Although this study did not fully discover the impact of workplace support, research suggests that support systems are essential to a woman's ability to reduce work-family conflict by successfully combining breastfeeding and employment (Morse & Bottorff, 1989). A study by Chezem and Friesen (1999) found that subjects who attended support meetings claimed that they had longer expected and actual durations of breastfeeding and had better chances of meeting their breastfeeding targets than nonattenders. Thus, it would be beneficial for employers to implement breastfeeding support meetings for their employees, as this would ease a woman's transition to the workplace by providing guidance and emotional support. These meetings could take place during breaks or lunch hours at little to no cost to employers. The group's function would be to identify potential barriers to breastfeeding in the workplace as well as develop practical strategies for overcoming these obstacles and reducing strain-based conflict. For working women with difficult schedules who are experiencing time-based conflict, it may be necessary to provide interactive breastfeeding support through hot lines, the internet, or e-mail. These steps towards increasing support levels would likely decrease work-family conflict, thereby increasing the duration of breastfeeding among working women in the United States while reducing costs to employers.

It seems likely that the results of this study may have been different had information been available on whether or not adequate facilities conducive to breastfeeding and lactation were available to the women interviewed. The American

Academy of Pediatrics recognizes the importance of this issue and urges employers to provide appropriate facilities and adequate time in the workplace for breast-pumping (American Academy of Pediatrics, 1997). Employers who have implemented lactation programs have found them to help recruitment, increase employee morale, loyalty and commitment, and reduce turnover (Shalowitz, 1993; Bar-Yam, 1997). Furthermore, employers, such as CIGNA, who have implemented breastfeeding support programs have found them to result in increased durations of breastfeeding among their employees. These increased durations have cut CIGNA's costs considerably as they report an annual savings of $60,000 in reduced absenteeism among breastfeeding mothers, and $240,000 savings in health care expenses for these mothers and their children (Cigna, 2000). These findings offer a clear illustration of the potential impact that employer involvement in breastfeeding support can have on individual and organizational outcomes.

CHAPTER V

CONCLUSIONS

Combining breastfeeding and employment will perhaps always remain a difficult task. Yet, this research suggests that under supportive conditions, many women are able to balance breastfeeding and employment. The goal of this research was to generate a better understanding of the role that workplace support can play in this process. Future research should attempt to link specific employer breastfeeding support initiatives, (e.g. flextime, lactation support groups) or conversely organizational barriers (e.g. rigid scheduling practices, lack of suitable facilities), with the average breastfeeding duration of the organization's employees. This would not only assist women in reducing conflicts between work and family roles, but would also prompt organizations to re-evaluate their policies and practices, which ultimately influence their recruiting and retention rates of women.

Future research efforts should also reevaluate the potential for distinctions between professional and non-professional jobs that either support or inhibit the combining of breastfeeding and employment. Similarly, research should examine how breastfeeding durations differ among various occupations and industries. In addition, rich descriptive data should be gathered to examine the reasons why women today discontinue breastfeeding, especially in light of the documented health benefits it can provide. Finally, there needs to be a clearer picture illustrating the relationship between breastfeeding, workplace support, and maternal employment in general. These findings would assist organizations in defining their role, responsibility, and investment in assisting women in integration of their productive and reproductive lives.

REFERENCES

American Academy of Pediatrics, Work Group on Breastfeeding. (1997). Breastfeeding and the use of human milk. *Pediatrics, 100,* 1035-1040.

Ball, T., & Wright, A. (1999). Health Care Costs of Formula-feeding in the First Year of Life. *Pediatrics, 103,* 870-885.

Bar-Yam, N. (1997). *Nursing mothers at work: An analysis of corporate and maternal strategies to support lactation in the workplace.* Unpublished doctoral dissertation, Brandeis University, Waltham, MA.

Bauer, G., Ewald, L., Hoffman, J., & Dubanoski, R. (1991). Breastfeeding and cognitive devolopment of three-year-old children. *Psychological Reports, 68,* 1218.

Black, R., Blair, J., Jones, V., & DuRant, R. (1990). Infant feeding decisions among pregnant women from a WIC poplulation in Georgia. *Journal of the American Dietetic Association, 90,* 255-260.

Blau, D., Guilkey, D., & Popkin, B. (1996). Infant health and the labor supply of mothers. *Journal of Human Resources, 31,* 90-140.

Chalmers, B., Ransome, O., & Herman, A. (1990). Working while breastfeeding among coloured women. *Psychological Reports, 67,* 1123-1128.

Chezem, J., & Friesen, C. (1999). Attendance at breastfeeding support meetings: relationship to demographic characteristics and duration of lactation in women planning postpartum employment. *Journal of the American Dietetic Association, 99,* 83-86.

CIGNA Corporation (2000, June 15). *UCLA study of CIGNA corporate lactation program proves that helping working moms breastfeed is good business* [Press Release]. P. R. Newswire Association, Inc.

Cohen, R., Mrtek, M.B., & Mrtek, R.G. (1995). Comparison of maternal absenteeism and infant illness rates among breastfeeding and formula-feeding women in two corporations. *American Journal of Health Promotion, 19(2),* 148-153.

Duckett, L., Henly, S., Avery, M., Potter, S., Hills-Bonczyk, S., Hulden, R., & Savik, K. (1998). A theory of planned behavior-based structural model for breastfeeding. *Nursing Research, 47*(6), 325-336.

Edwards, J.R., & Rothbard, N. P. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of Management Review, 25,* 178-199.

Faught, L. (1994). Lactation programs benefit the family and the corporation. *Journal of Compensation and Benefits, Sept-Oct,* 44-47.

Fein, S. B. & Roe, B. (1998). The effect of work status on initiation and duration of breastfeeding. *American Journal of Public Health,88,* 1042-1049.

Freed, G. (1993). Breastfeeding: time to teach what we preach. *JAMA, The Journal of the American Medical Association, 269*(2), 243-246.

Galtry, J. (1997). Suckling and silence in the USA: The costs and benefits of breastfeeding. *Feminist Economics,3,* 1-24.

Gates, D.M., & O'Neill N.J. (1990). Promoting maternal-child wellness in the workplace. *AAOHN Journal, 38 (6),* 258-263.

Geilen, A. C., Faden, R.R., O'Campo, P. Brown, H., & Paige, D. (1991). Maternal employment during the early postpartum period: effects on initiation and continuation of breastfeeding. *Pediatrics, 87,* 298-306.

Glass, J. & Estes, S. (1997). The family responsive workplace. *Annual Review of Sociology, 23,* 289-314.

Glass, J. & Riley, L. (1998). Family responsive policies and employee retention following childbirth. *Social Forces, 76,* 1401-1436.

Greenhaus, J.H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 16,* 76-88.

Hills-Bonczyk, S. G., Avery, M.D., Savik, K., Potter, S. & Duckett, L.J. (1993). Women's experiences with combing breastfeeding and employment. *Journal of Nurse-Midwifery, 38(5),* 257-266.

Katcher, A. L. & Lanese, M.G. (1985). Breastfeeding by employed mothers: A reasonable accommodation in the work place. *Pediatrics, 75(4),* 644-647.

Kearney, M.H. & Cronenwett, L. (1991). Breastfeeding and employment. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 20(6),* 471-480.

Klerman, J.A., & Leibowitz, A. (1994). The work-employment distinction among new mothers. (Women's work, wages and well-being: Women's employment behavior) *Journal of Human Resources, 29,* 277-254.

Kossek, E. E. & Ozeki, C. (1998). Work-family conflict, policies, and the job-life satisfaction relationship: A review and directions for organizational behavior-human resource research. *Journal of Applied Psychology, 83(2),* 139-149.

Lindberg, L. (1997). Women's decisions about breastfeeding and maternal employment. *Journal of Marriage & the Family, 58,* 239-251.

Miller, N., Miller, D., & Chism, M. (1996). Breastfeeding practices among resident physicians. *Pediatrics, 98,* 434-438.

Moore, J.F., & Jansa, N. (1987). A survey of policies and practices in support of breastfeeding mothers in the workplace. *Birth, 14 (4),* 191-195.

Morse, J, & Bottorff, J. (1989). Intending to breastfeed and work. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 18,* 493-500.

Murtaugh, M. (1997). Optimal breastfeeding duration. *Journal of the American Dietetic Association, 97,* 1252-1255.

Roe, B. Whittington, L, Fein S. B., & Teisl, M. F. (1999). Is there competition between breastfeeding and maternal employment? *Demography, 36(2),* 157-171.

Shalowitz, D. (1993). Lactation program speeds mothers' return to work. *Business Insurance, 27* (40), 21.

Volling, B. & Belsky, J. (1993). Maternal employment: Parent, infant, and contextual characteristics related to maternal employment decisions in the first year of infancy. *Family Rleations,42,* 4-12.

Walker, C.K. (1991). Healthy babies for healthy companies. *Business & Health, 9,* 29-30.

Yimyam, S., Morrow, M., & Srisuphan, W. (1999). Role conflict and rapid socio-economic change: Breastfeeding among employed women in Thailand. *Social Science & Medicine, 49,* 957-965.

APPENDIX

QUESTIONS ASKED OF RESPONDENTS AS FORMATTED IN NLSY DATABASE

APPENDIX

Breastfeeding Variables

CHILD BREASTFED?
Responses: YES or NO

WEEKS IN AGE OF CHILD WHEN BREASTFEEDING ENDED:
Responses: (in weeks)

Workplace Support Variables

Health Insurance Variable
(DOES/DID) YOUR EMPLOYER MAKE AVAILABLE TO YOU...MEDICAL, SURGICAL, OR HOSPITAL INSURANCE THAT COVERS INJURIES OR MAJOR ILLNESSES OFF THE JOB?
Responses: YES or NO

Maternity Leave Variable
(DOES/DID) YOUR EMPLOYER MAKE AVAILABLE TO YOU...MATERNITY LEAVE THAT WILL ALLOW YOU TO GO BACK TO YOUR OLD JOB OR ONE THAT PAYS THE SAME AS YOUR OLD ONE?
Responses: YES or NO

Job Flexibility Variable
(DOES/DID) YOUR EMPLOYER MAKE AVAILABLE TO YOU... FLEXIBLE HOURS OR WORK SCHEDULE?
Responses: YES or NO

Child-care Variable
(DOES/DID) YOUR EMPLOYER MAKE AVAILABLE TO YOU...COMPANY PROVIDED OR SUBSIDIZED CHILDCARE?
Responses: YES or NO

Job Satisfaction Variable
HOW (DO/DID) YOU FEEL ABOUT (THE JOB YOU HAVE NOW/YOUR MOST RECENT JOB)? (DO/DID) YOU LIKE IT VERY MUCH, LIKE IT FAIRLY WELL, DISLIKE IT SOMEWHAT, OR DISLIKE IT VERY MUCH?
Responses:
1 DISLIKE VERY MUCH
2 DISLIKE SOMEWHAT
3 LIKE FAIRLY WELL
4 LIKE VERY MUCH

Demographic Information Variables

Marital Status

Responses:

0 NEVER MARRIED
1 MARRIED
2 SEPARATED
3 DIVORCED
5 REMARRIED
6 WIDOWED

Education Variable

HIGHEST GRADE COMPLETED BY MOTHER AS OF _____ INTERVIEW:

Responses:

0 None
1 First Grade
2 Second Grade
3 Third Grade
4 Fourth Grade
5 Fifth Grade
6 Sixth Grade
7 Seventh Grade
8 Eighth Grade
9 Ninth Grade
10 Tenth Grade
11 Eleventh Grade
12 Twelfth Grade
13 First Year College
14 Second Year College
15 Third Year College
16 Fourth Year College
17 Fifth Year College
18 Sixth Year College
19 Seventh Year College
20 Eighth Year College or more
21 Ungraded

Age Variable

AGE OF MOTHER AT BIRTH OF CHILD

Responses: (in years)

General Employment Variables

Industry Variable

INDUSTRY OF MOTHER AT MAIN JOB, 2ND QUARTER AFTER BIRTH OF CHILD

Responses:

1	17-28	Agriculture, Forestry, Fisheries
2	47-57	Mining
3	67-77	Construction
4	107-398	Manufacturing
5	407-479	Transportation, Communications, Public Utilities
6	507-698	Wholesale & Resale Trade
7	707-718	Finance, Insurance, Real Estate
8	727-759	Business & Repair Services
9	769-798	Personal Services
10	807-809	Entertainment & Recreation Services
11	828-897	Professional & Related Services
12	907-937	Public Administration

Occupation Variable

OCCUPATION OF MOTHER AT MAIN JOB, 2ND QUARTER AFTER BIRTH OF CHILD

Responses:

1	01-195	Professional, Technical, and Kindred
2	201-245	Managers, Officials, and Proprietors
3	260-285	Sales Workers
4	301-395	Clerical and Kindred
5	401-575	Craftsmen, Foremen, and Kindred
6	601-715	Operatives and Kindred
7	740-785	Laborers, Except Farm
8	821-824	Farm Laborers and Foremen
9	901-965	Service Workers (except Private Household)
10	980-984	Private Household

Professional vs. Non-Professional

0	Non-Professional	Categories 3-10 under "Occupation Variable"
1	Professional	Categories 1 & 2 under "Occupation Variable"

Class of Worker Variable

CLASS OF WORKER OF MOTHER AT MAIN JOB, 2ND QUARTER AFTER BIRTH OF CHILD

Responses:

1	Private Company
2	Government
3	Self-Employed
5	Working in Family Business

Income Variable
USUAL EARNINGS OF MOTHER AT ALL JOBS, 2ND QUARTER AFTER BIRTH OF CHILD
Responses: (in dollars)

Return to Work Variable
NUMBER OF WEEKS AFTER BIRTH OF CHILD MOTHER BEGAN EMPLOYMENT
Responses: (in weeks)

Hours Worked Variable
USUAL HOURS WORKED PER WEEK BY MOTHER AT MAIN JOB IN 2ND QUARTER AFTER BIRTH OF CHILD.
Responses: (in hours)

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Cardenas, R., & Major, D.A. (2002, March). *Work-Life Benefits: Developing "best practices" for implementation and evaluation.* Paper presented at the 23rd Annual Industrial/Organizational and Organizational Behavior Graduate Student Conference.

Cardenas, R., Clarke, S. & Major, D.A. (2002, May). *School nurses: Barriers to work effectiveness.* Paper presented at the 12th Annual Conference on Feminist Scholarship at Old Dominion University.

Major, D. A., Clarke, S., & Cardenas, R. (2002, August). *The impact of child health on work and family life.* Paper to be presented at the 110th Annual Meeting of the American Psychological Association, Chicago, IL.

TECHNICAL REPORTS

Major, D. A., Cardenas, R., & Clarke, S. (2001). *Allies Against Asthma needs assessment: School nurse focus group report.* Prepared for the Allies Against Asthma work group of the Consortium for Infant and Child Health (CINCH).

Major, D. A., Clarke, S., & Cardenas, R. (2001). *Allies Against Asthma needs assessment: Physician focus group report.* Prepared for the Allies Against Asthma work group of the Consortium for Infant and Child Health (CINCH).

Cardenas, R., & Bernas, K. (2002). *City of Norfolk: Assessment of work-family culture.* Prepared for the City of Norfolk, Human Resources Department.