

Breastfeeding and the workplace environment:

Does employment affect the rate of breastfeeding in the Black population?

An honors thesis for the Department of Child Development

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Abstract

Benefits to breastfeeding range from reducing childhood obesity and infections to decreasing cancer risks in mothers. However, the practice of breastfeeding is not done uniformly across populations in America. Non-Hispanic Black women consistently have the lowest rates of breastfeeding. Barriers to breastfeeding in all populations have been explored in literature and include, among others, race, socioeconomic status and employment. However, specific aspects of employment as a barrier in this population have not been discussed. This research study aimed to explore what specific aspects of employment, if any, influenced the decision to breastfeed among non-Hispanic Black women. Working with the Mattapan Community Health Center, data was collected in two phases from women (n=11) as well as their employers (n=5) using in-person and over-the-phone administered questionnaires. Early findings indicate that while women did not find employment to be the most significant barrier to breastfeeding, they also had little to no knowledge of company policies regarding breastfeeding policies. When speaking with employers, the new legislation of the Patient Protection and Affordable Care Act was not mentioned, indicating the possibility that employers are not aware of the Act's effects on working mothers. These findings can guide future efforts towards increasing breastfeeding rates in this population by focusing efforts on educating employees and employers on policies and legislation regarding breastfeeding.

Keywords: breastfeeding, working mothers, employment, non-Hispanic Black population

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CHAPTER ONE:

Introduction to the problem

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Introduction

The topic of breastfeeding has been discussed at length across academic, scientific, and medical journals. As a parent, the choice about what to feed your infant is often the first one made regarding parenting. Formula is sometimes seen as an easier solution for busy and working mothers, yet breastfeeding is known to have a wide array of health benefits. Although it is known nationwide how important breastfeeding is, the practice of breastfeeding is not done uniformly across racial and ethnic populations in the U.S. For example, in the non-Hispanic Black population, breastfeeding rates fall 50% lower than those of White Americans at birth, six months, and 12 months. Possible reasons for this have been vaguely mentioned in previous literature as “work” (US DHHS, 2011). This “work” rationale, often given by women, could be triggered by the fact that the United States is severely lacking in paid maternity leave options for women when compared to other countries in the world. And when using the phrase “severely lacking,” this actually signifies that the U.S.A. is only one of four countries in the world without standard paid maternity leave, as seen in this image from the New York Times.

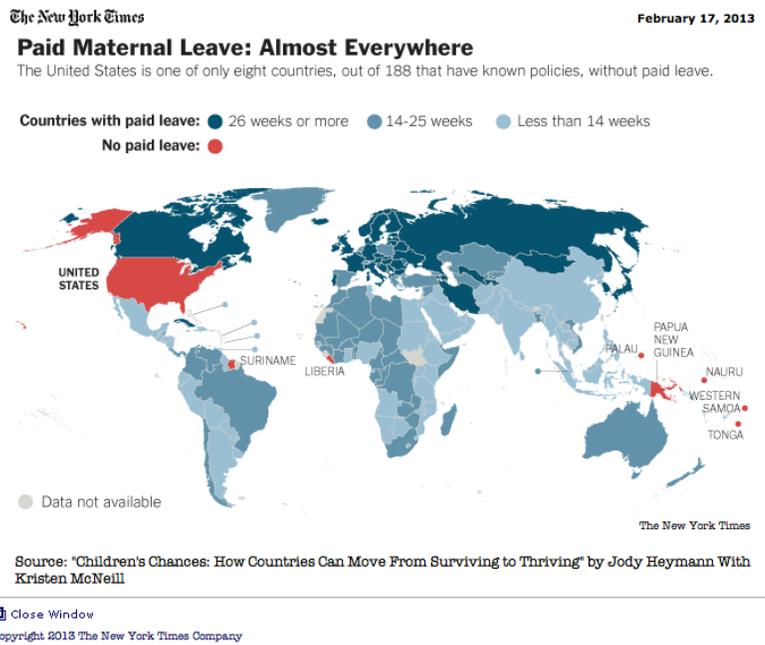


Figure 1.1. Countries with and without paid maternity leave policies. The New York Times (2013)

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While still far away from offering paid maternity leave, the United States federal legislation has progressed recently in terms of providing for breastfeeding women. Specifics about the legislation will be discussed in detail further on into this thesis, but as of 2010 and the passing of the Patient Protection and Affordable Care Act pushed forward by President Barack Obama, all employers are required to provide women who wish to express breast milk or breastfeed at work with a private place (other than a bathroom) to do so and allow this to happen during breaks.

The decision to breastfeed is an extremely complex one. Factors such as race and ethnicity, education, employment, marital status, income, and education all play a role in a woman's decision. While there is a plethora of studies on the benefits of breastfeeding and what has been proven to affect a woman's decision to breastfeeding, literature specific to aspects of work, and those aspects of employment that affect breastfeeding, is lacking. It's possible that certain aspects of employment may contribute to the disparity between rates of breastfeeding amongst Black and White women. This thesis will attempt to answer the question of whether employment affects the breastfeeding rate in the Black population.

Throughout the course of this thesis, many references will be made to disparities, inequities, and inequalities. These terms are sometimes used interchangeably in the public health field, but do in fact have different definitions. Understanding these terms and viewing breastfeeding among racial and ethnic populations as both a public health and child development issue is crucial for its complete understanding.

What is a disparity?

The term disparity, as defined by Merriam-Webster's dictionary, simply means a great difference. In public health literature and studies, this term is typically seen as "health disparity."

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The first attempt at officially defining this term was developed by the National Institute of Health and the United States Government in 1999, stating that “health disparities are differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States” (National Cancer Institute, 2010). In this paper, disparity will typically be used to demonstrate the large difference between breastfeeding rates of African American/Black infants compared to White infants right after birth (initiation) as well as at specific time points after birth, usually at three, six, and twelve months (duration).

What is the difference between inequality and inequity?

Many researchers in the public health field use inequity and inequality interchangeably. This will not be the case in this thesis, as the two words have distinct definitions. Oftentimes, people accurately define an inequality as something that is unequal. The World Health Organization (WHO) defines a health inequality simply as a difference in health status or in the distribution of health determinants between different population groups (World Health Organization, 2013). The phrase “health determinants” simply explains what factors work together to impact our health status. Health determinants usually refer to a person’s social, emotional and physical environment as well as a person’s individual characteristics and behaviors (World Health organization, 2013). Examples of common health determinants that will be discussed in this thesis are social support networks, income and social status, education, as well as the physical environment and employment/working conditions.

What is important to realize in terms of health inequalities is what causes such differences to occur. Some health inequalities seen in the United States and across the world are attributable to biological variations or individual free choice, while others are attributable to the

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external environment, governmental policies, and conditions outside the control of the individuals concerned (World Health Organization, 2013). In the first case, these inequalities may be unavoidable. However, in the second case, these inequalities and uneven distribution of diseases may be unnecessary and even avoidable, leading the inequalities to be unjust or unfair. In this case, the health inequality also becomes a health inequity (World Health Organization, 2013).

How can this study contribute to reducing the breastfeeding disparity?

Literature has already found that the disparity between rates of breastfeeding among Black and White infants exists. Although recent literature shows the gap between these populations narrowing, the gap still remains (Drago et al. 2010). As previously stated, studies have shown that employment has often been listed as a barrier to breastfeeding in many women. However, what literature fails to investigate is what specifically about employment deters mothers from breastfeeding. In addition, literature fails to explore if employment as a barrier to breastfeeding is consistent across all racial populations. The recent federal legislation of the Patient Protection and Affordable Care Act includes various clauses and policies intended to aid working mothers and encourage breastfeeding; however literature has not specifically determined if awareness of such policies has reached all individuals, regardless of race and socioeconomic status, as well as if employers and human resource departments are aware of these policies.

This thesis will use in-person administered questionnaire data from a sample (N=11) of self identified Haitian and African American/Black women in the Boston (Mattapan) area to determine if employment affected their decision to breastfeed as well as how their employers interpret the various state and federal policies that may be applicable to their businesses and

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employees. This thesis has the potential to add valuable research to the field in terms of how employment affects this population, how employers around Boston view breastfeeding, as well as other influences to breastfeeding in this population.

CHAPTER TWO:

The importance of breastfeeding

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Importance of breastfeeding

Literature has documented the benefits of breastfeeding. Breastfeeding gives rise to many important psychosocial, economic, and health benefits for infants, young children, and even mothers. It's not surprising that because of these, exclusive breastfeeding has been recommended by several prominent organizations of health professionals, including the American Academy of Pediatrics, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, the American College of Nurse-Midwives, the American Dietetic Association, the American Public Health Association, and the Surgeon General of the United States (DHHS, 2011). Exclusive breastfeeding is mostly strongly promoted by the American Academy of Pediatrics (AAP), which recommends exclusive breastfeeding for six months, with continuation for one year or more, and it is also recommended by the World Health Organization and the Institute of Medicine (Eidelman and Schranier, 2012).

Health Benefits:

In addition to benefits found with exclusive breastfeeding, benefits are also seen in infants who have been fed a combination of breast milk and formula. The length of the duration of breastfeeding has been shown to affect health outcomes differently. For example, any breastfeeding is associated with a 64% reduction in the incidence of nonspecific gastrointestinal tract infections, and this effect lasts for 2 months after cessation of breastfeeding. (Eidelman and Schranier, 2012). In addition to nonspecific gastrointestinal tract infections, any breastfeeding is also associated with a 31% reduction in the risk of childhood inflammatory bowel disease (Eidelman and Schranier, 2012). It is also associated with a reduction in sudden infant death syndrome (SIDS). The rate of this syndrome is reduced 45% with any breastfeeding and 73% with exclusive breastfeeding (Eidelman and Schranier, 2012). Additionally, infants who were

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breastfed also showed a lower risk for adolescent depression in all race and socio-economic statuses (Woo, et al, 2008).

Outcome	Excess Risk* (%)
Among full-term infants	
Acute ear infection (otitis media) ²	100
Eczema (atopic dermatitis) ¹¹	47
Diarrhea and vomiting (gastrointestinal infection) ³	178
Hospitalization for lower respiratory tract diseases in the first year ⁴	257
Asthma, with family history ²	67
Asthma, no family history ²	35
Childhood obesity ⁷	32
Type 2 diabetes mellitus ⁶	64
Acute lymphocytic leukemia ²	23
Acute myelogenous leukemia ⁵	18
Sudden infant death syndrome ²	56
Among preterm infants	
Necrotizing enterocolitis ²	138
Among mothers	
Breast cancer ⁸	4
Ovarian cancer ²	27

* The excess risk is approximated by using the odds ratios reported in the referenced studies. Further details are provided in Appendix 2.

Figure 2.1. An excerpt from U.S. Department of Health and Human Services “The Surgeon General’s Call to Action to Support Breastfeeding” (US DHHS 2011) showing excess risk for disease among infants who are not breastfed.

More data on reduction of certain illnesses is available when comparing a longer length of exclusive breastfeeding in infants. For example, when comparing infants breastfed for between four and six months, the risk of hospitalization for lower respiratory tract infections in the first year is reduced 72% if infants are breastfed exclusively for more than 4 months. However, infants who exclusively breastfeed for 4 to 6 months have a fourfold increase in the risk of pneumonia compared with infants who exclusively breastfeed for more than 6 months. In addition to this, exclusive breastfeeding for six months (in comparison to just four) showed reduced risk of gastrointestinal diseases, otitis media (ear infections), and respiratory illnesses

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(Eidelman and Schranier, 2012). Exclusive breastfeeding for more than 3 months reduces the incidence of otitis media by 50%. Exclusive breastfeeding for 3 to 4 months also is associated with a reduction in asthma, atopic dermatitis, and eczema by 27% in a low-risk population and 42% in infants with positive family history (Eidelman and Schranier, 2012). Serious colds and ear and throat infections are reduced by 63% in infants who exclusively breastfeed for 6 months (Eidelman and Schranier, 2012). Besides minor colds and infections, risk of other, more serious diseases can also be reduced by breastfeeding. A reduction in leukemia is correlated with the duration of breastfeeding, as acute lymphocytic leukemia is reduced by 20%, and acute myeloid leukemia is reduced by 15% in infants breastfed for 6 months or longer (Eidelman and Schranier, 2012).

In addition to reducing the risk of many diseases, breastfeeding has also been shown to reduce obesity. Although many factors confound studies of obesity, breastfeeding is associated with a 30% reduction in adolescent and adult obesity (Eidelman and Schranier, 2012). Perhaps the strongest example of recent years advocating for breastfeeding as a strategy for obesity prevention can be seen in the Center for Disease Control (CDC) recommendations in their *Morbidity and Mortality Weekly Review*. The CDC created a panel process that suggested six main behavioral areas, and 24 total strategies, to prevent obesity. In this process, breastfeeding was one of the six main target areas for preventing obesity, listed alongside well known prevention measures such as food choices and exercise (Center for Disease Control, 2009). In fact, according to the review, each additional month of breastfeeding was associated with a 4% decrease in the risk of obesity. While the protective factors are not completely known between breastfeeding and obesity, it is hypothesized that breastfeeding promotes an infant's ability to self regulate as well as contributes to metabolic and hormonal cues for eating (Center for Disease

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Control, 2009). Because rates of obesity are significantly lower in breastfed infants, literature often suggests that national campaigns to prevent obesity should begin with breastfeeding support.

Not only has breastfeeding been found to lower risk of disease and improve physical health of infants, but it has been shown to affect the mental health and intelligence of infants as well. Consistent differences in neurodevelopment outcome between breastfed and formula-fed infants have been reported. When analyzing these results, it is important to realize the confounding effects of differences in parental education, intelligence, home environment, and socioeconomic status. With all of this accounted for, adjusted outcomes for intelligence scores and teacher's ratings are significantly greater in breastfed infants. Higher intelligence scores and higher teacher ratings are noted in infants who are breastfed exclusively for 3 months or longer (Eidelman and Schranier, 2012).

Pre-term infant-specific outcomes

Infants born prematurely, or at less than 37 weeks of gestation, have a higher risk of many infections, diseases, and other health complications (World Health Organization, 2013). However, research has shown that breastfeeding may lower such risks and complications. Lower rates of sepsis and necrotizing enterocolitis (NEC) indicate that human milk contributes to the development of the preterm infant's immature host defense. The incidence of NEC is significantly reduced (anywhere from 58% to 83%) with breastfeeding, even when fortified with cow milk. However, preterm infants fed an exclusive human milk diet compared with those fed human milk supplemented with cow milk-based infant formula products had a 77% reduction in NEC and NEC surgery (Eidelman and Schranier, 2012). The benefits of feeding human milk to preterm infants are realized not only in the NICU but also throughout the infant and toddler age,

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as breastfed pre-term infants see fewer hospital readmissions for illness in their first three years (Eidelman and Schranier, 2012).

Maternal Benefits

In addition to serving as a protective factor for many infant infections, breastfeeding also contains many benefits for the mother. Research has shown that not only does breastfeeding aid in a speedy recovery from childbirth, it can also possibly reduce or prevent maternal depression (Allen, 2005). Prospective cohort studies have noted an increase in postpartum depression in mothers who do not breastfeed or who wean breastfeeding early (Eidelman and Schranier, 2012). In addition to these health benefits, several studies have found the risk of breast cancer to be higher for women who have never breastfed, indicating that breastfeeding lowers the risk of breast cancer. Similarly, the risk of ovarian cancer was found to be 27 percent higher for women who had never breastfed than for those who had breastfed for some period of time (US DHHS, 2011).

Economic benefits

Not only is breastfeeding a wise decision for mothers to make because of the health benefits, but it is also cost effective. While the numbers vary depending on the type and date of the studies being conducted, one study conducted more than a decade ago estimated that families who followed optimal breastfeeding practices could save more than \$1,200–\$1,500 in expenditures for infant formula in the first year alone. When adjusting for inflation and current dollar amounts, this figure could end up being even larger (DHHS, 2011). In addition to individual and family costs, sub-optimal breastfeeding rates cost our economy \$13 billion annually in the form of increased health visits and other health care costs. Along with these

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expenses, women who are choosing not to breastfeed and programs that provide formula (such as WIC) end up spending \$1,577 per infant per year on formula (Bartick, 2011).

Other literature and academic studies have found a variety of figures that estimate the money that could be saved if more women were to breastfeed. Bartick (2011) argues that if programs were put into place to encourage about 90% compliance with breastfeeding recommendations, the United States as a whole could expect to see a reduction of \$2.5 billion in direct health care costs, \$1.2 billion in indirect costs, and \$3.94 billion in excess formula costs. A study conducted in 2001 on the economic impact of breastfeeding for three illnesses—otitis media, gastroenteritis, and NEC—found that increasing the proportion of children who were breastfed in 2000 to the targets established in *Healthy People 2010* would have saved an estimated \$3.6 billion annually (DHHS, 2011). A more recent study that used costs adjusted to 2007 dollars and evaluated costs associated with additional illnesses and diseases (sudden infant death syndrome, hospitalization for lower respiratory tract infection in infancy, atopic dermatitis, childhood leukemia, childhood obesity, childhood asthma, and type 1 diabetes mellitus) found that if 90 percent of U.S. families followed guidelines to breastfeed exclusively for six months, the United States would save \$13 billion annually from reduced direct medical and indirect costs and the cost of premature death. If 80 percent of U.S. families complied, \$10.5 billion per year would be saved (DHHS, 2011). These numbers present a strong case that breastfeeding programs are fiscally feasible.

Developing countries and global benefits

Because breastfeeding reduces overall infant mortality for all the reasons discussed, the global health implications are enormous. In the 42 developing countries wherein 90% of the world's childhood deaths occur, exclusive breastfeeding for 6 months and weaning after 1 year is

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the most effective intervention, with the potential of preventing more than 1 million infant deaths per year, equal to preventing 13% of the world's childhood mortality (Eidelman and Schranier, 2012).

Contraindications for breastfeeding

While breastfeeding is recommended for most infants due to the aforementioned benefits, it is also recognized that a small number of women cannot or should not breastfeed. For example, the American Academy of Pediatrics (AAP) states that breastfeeding is not recommended for mothers with HIV, human T-cell lymphotropic virus type 1 or type 2, active untreated tuberculosis, or herpes simplex lesions on the breast. The AAP also recommends that infants with galactosemia, a galactose processing disorder, should not be breastfed. Additionally, breastfeeding is not recommended for any mothers using certain drugs or treatments, including illicit drugs, antimetabolites, chemotherapeutic agents, and radioactive isotope therapies (DHHS, 2011).

Conclusion

Breastfeeding has been recommended and endorsed as the healthiest feeding method for infants by a variety of reputable organizations, most notably the American Academy of Pediatrics. Benefits of breastfeeding include a decrease in risk of many infections and health diseases, as well as numerous benefits specific to economics, maternal health, and pre-term infant health.

CHAPTER THREE:
Legislation and policies

Legislation and Policy

Throughout the past few decades, there have been many federal and state laws that have been enacted to either directly or indirectly affect working mothers, in both positive and negative manners. Knowing the history and background to the laws that dictate how a female employee must act in the workplace is crucial for understanding the current relationship between employment and a mother's decision to breastfeed.

Looking back more than fifty years ago, the Civil Rights and Pregnancy Discrimination Act of 1964 stated that employers were prohibited from discriminating on the basis of gender (Murtagh and Moulton, 2011). More than a decade later, in the Pregnancy Discrimination Act of 1978, an amended Title VII was enacted to protect against discrimination solely on the basis of pregnancy, childbirth, or related medical conditions. However, just after that Title was amended, the case of *Derungs vs. Walmart stores* found that the Pregnancy Discrimination Act's protection does not extend to discrimination based on breastfeeding (Murtagh and Moulton, 2011). Another act that many female employees have often cited when dealing with employment issues regarding breastfeeding is the Americans With Disabilities Act. Title I of the Act prohibits employers from discriminating against an individual with a disability "who, with or without reasonable accommodation, can be perform the essential functions of the employment position that such individual holds or desires" (Murtough and Moulton, 2011). Many employees have presented breastfeeding and/or pregnancy as a disability to seek protection through this act, but nearly all have not found it to protect breastfeeding and/or pumping breast milk in the workplace.

Throughout history, there has always been a line between work and home. That line, however, was already breaking down during the 1990s, and perhaps earlier, due to the emergence of many other options for breastfeeding moms: expressing breast milk in the

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workplace as well as different options for maternity leave. Although no precise numbers are available on the extent of expressing breast milk, literature suggests the practice is increasingly recognized as being valuable and encouraged both at work and at home. In 1993, the Family and Medical Leave Act (FMLA) was enacted by the Clinton administration. This Act entitles eligible employees of covered employers to take unpaid, job-protected leave for specified family and medical reasons with continuation of group health insurance coverage under the same terms and conditions as if the employee had not taken leave (Murdoch and Moulton, 2011). The Act entitles eligible employees to take a total of 12 work weeks off from work during 12 months for a period of the birth of a son or daughter of the employee and in order to care for such son or daughter. However, this act also comes with quite a few exceptions. For example, only 56.3% of privately employed women with children aged 18 months or younger were entitled to FMLA (Murdoch and Moulton, 2011). The Act also only applies to employees who have worked for at least 12 months and for a minimum of 1250 hours and to employers of at least 50 employees who reside within 75 miles of the place of work (Murdoch and Moulton, 2011). In addition to this, the leave provided by FMLA is unpaid, so many eligible employees cannot make practical use of it. With even another exception, the FMLA must be taken as continuous leave, i.e. all 12 work weeks at once, and cannot be used to reduce weekly hours or take flexible breaks for breastfeeding actions (Murdoch and Moulton, 2011). With all of these regulations and restrictions, the FMLA is oftentimes not a reasonable option for newly hired, financially restricted mothers.

In 1997, the American Academy of Pediatrics (AAP) issued a policy statement that, in part, urged employers to support expressing breast milk at work (Drago et. al 2010). A year later, Representative Carolyn Maloney introduced a bill in the U.S. Congress explicitly supporting the

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practice (Drago et. al 2010). By 2000, the International Labor Organization (2000) issued a Maternity Protection Convention, which included a provision for paid nursing breaks or reduced work hours to allow new mothers to breastfeed. With this variety of new legislation, breastfeeding or pumping during work became more popular. According to National Survey of Employer data from the Families and Work Institute, the percentage of U.S. employers providing a private space or lactation room for this purpose rose from 37 percent in 1998 to 53 percent in 2008 (Drago et. al 2010). Most recently, the U.S. Congress passed the Patient Protection and Affordable Care Act of 2010 (PPACA), which provides for nursing breaks and a private, sanitary place other than a bathroom for many employed mothers to express breast milk.

In the past few years, laws regarding break time in the workplace environment have changed. Before the enactment of reasonable break time in the PPACA federal law provided almost no protection to working mothers. The passage of the PPACA is the first federal legislation in the USA to protect pumping breast milk at work (Hawkins et. al 2012). Under the PPACA, signed into law on March 23, 2010 by President Obama, the Fair Labor Standards Act (FLSA) was amended in regards to breastfeeding break times provided by employers. According to the PPACA, employers are required to provide “reasonable” break time for an employee to express breast milk for her nursing child for one year after the child’s birth each time such employee has a need to express milk. In addition to providing break time, employers are also required to provide a place, other than a bathroom, that is shielded from view and free from intrusion from coworkers and the public which can be used by an employee to express breast milk (U.S. Dept. of Labor, 2012).

While the amendment to the FLSA provided a wonderful start to encouraging women in the work force to pump breast milk, the amendment does have a few major provisions. The

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amendment states that employers are not required to compensate an employee receiving reasonable break time for any work time spent for pumping or traveling to and from a workplace's designated pumping area. In addition to this clause, employers with less than fifty employees are not subject to the requirements of the amendment if such requirements would impose an "undue hardship" by causing the employer significant difficult or expense in relation to the size, financial resources, nature, or structure of the employer's business (U.S. Dept. of Labor, 2012).

With these exceptions and room for interpretation (or misinterpretation) in terms of words and phrases such as "reasonable" break time or "undue hardship" for employers, there is a lot more missing to this amendment than first meets the eye. For example, what constitutes a "reasonable" amount of time to breastfeed? How is this different than compensating an employee who may take a "reasonable" amount of time on her break to smoke or consume a snack? The Department of Labor (DOL) states that rest periods of short duration, such as between five and twenty minutes, are common in the industry. It even goes as far as to say that they promote the efficiency of the employee and are customarily paid for as working time (Cornell University Law School, 2012). However, the federal government's source for women's health information provides additional information for nursing mothers in the workplace. It states that working and pumping mothers should expect to express milk for ten to fifteen minutes approximately two to three times during an eight hour work day. Many mothers who are new to breastfeeding and pumping will testify that the process of getting to the lactation room, setting up the pump and various equipment, pumping, and disassembling the equipment takes longer than the average twenty minute break. Depending on the length of a standard break and the flexibility of employers in some workplace locations, this could lead to unpaid breaks and negative

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consequences for the employee. Oftentimes women find themselves succumbing to work regulations that push them into stopping exclusive breastfeeding and increasing formula supplementation.

While the Department of Labor and other federal agencies have put in place federal guidelines for breastfeeding, these do not override more lenient individual state policies. Between states, breastfeeding legislation varies greatly. For example, Massachusetts was the third to last state to make a law about breastfeeding in public. This law was put into place in 2009, and has since been known to be one of the stricter public breastfeeding laws in the United States, with fines upwards of \$500 if any member of the public tries to force a woman to stop breastfeeding (Enos, 2009). While organizations such as the Massachusetts Breastfeeding Coalition have numerous articles promoting breastfeeding and pumping in the workplace and assisting companies that wish to establish a lactation program, Massachusetts does not have separate state legislation regarding policies and practices for breastfeeding or pumping (Massachusetts Breastfeeding Coalition, 2010).

The most surprisingly thing to come out of the numerous decades of laws, legislations, and battles between employers and employees is that many of the organizations in American do not contain sufficient policies or offer the recommended amount of leave. The International Labor Organization recommends that countries provide 18 weeks of paid leave for new mothers and that this leave be paid for by a wider base than only employers. It also recommends that the paid leave cover the full wage or the earnings used for the purpose of computing benefits (Mandal 2010). However, even through all of this legislation and work by advocacy and non-profit organizations, many United States businesses do not provide the necessary support and/or facilities necessary to help encourage breastfeeding amongst their eligible employees.

CHAPTER FOUR:

External influences on breastfeeding

External influences on breastfeeding

Breastfeeding is a complex process with many known influences. The idea of breastfeeding can vary from intention to breastfeed (before the actual birth of the child), to initiation immediately after birth, to duration of breastfeeding over a period of time. Whether it is regarding intention, initiation, or duration, many mothers are thinking about breastfeeding. There are racial and ethnic profiles that research has shown have tended to favor breastfeeding over formula feeding, as well as certain socioeconomic status, income and education levels, and employment types that affect breastfeeding rates. In order to fully understand how complex a decision what to feed an infant actually is, breastfeeding must be examined in a social context.

One of the most applicable theories to describe and understand breastfeeding in a social context is Bronfenbrenner's Ecological System's Theory. Specifications of Bronfenbrenner's theory will soon become obvious throughout this thesis, as external factors are examined to determine if they influence breastfeeding. The individual (and her decision to breastfeed) is placed at the center of a system in which each exterior layer (often represented by concentric circles) affects the individual to some degree. In this situation modeling the individual's decision to breastfeed or not, external factors could include friends and family, media influences, external support systems, employment, and attitudes and ideologies of the culture.

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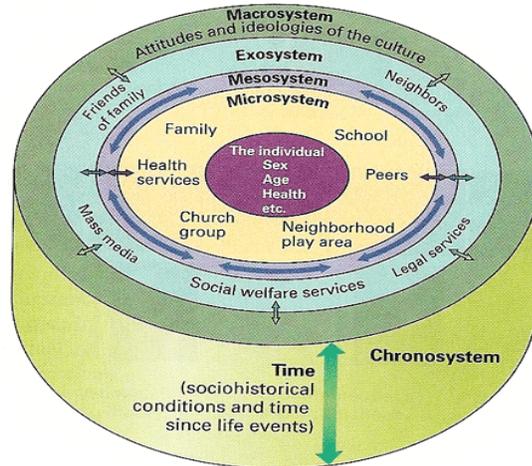


Figure 4.1. The concentric circles of Bronfenbrenner’s Ecological System’s Theory. Child development theorist (2013).

While originally designed to model a child’s development and ability to adapt and change based on external factors, not specifically in relation to breastfeeding, the Ecological System’s Theory describes the many of influences that influence an individual when making a decision about what to feed her infant. As seen in the two images incorporated into the thesis, by using the mother/child dyad as the center of the system, we can easily see just how many external influences are present in regards to making a decision about breastfeeding, many of which are oftentimes outside of the control of the mother.

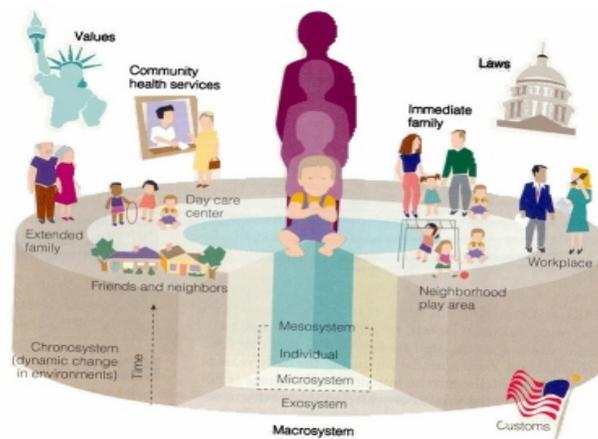


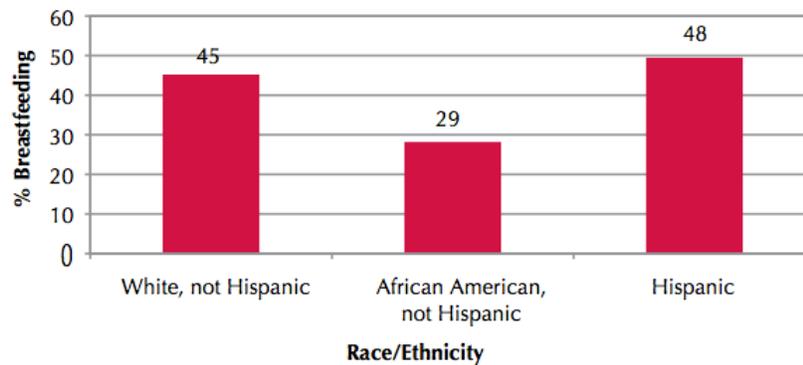
Figure 4.2. An alternative view on the concentric circle model of Bronfenbrenner’s Ecological Systems theory. Child developmental theorists (2013).

Ethnicity and Country of Origin

Ethnicity and birthplace are two socio-demographic factors that often lead to variability and disparities in many health and public health areas. In terms of breastfeeding, these factors are just as present in causing disparities. Large disparities have been seen in terms of breastfeeding initiation and duration amongst racial and ethnic populations in the United States, thus concluding that both ethnicity and country of origin influence a mother's decision to breastfeed or formula feed her infant.

National prevalence data consistently reports that Black women have the lowest rates of breastfeeding despite the fact that multivariate analyses find diminished effects of ethnicity, education, income, age, and other factors on breastfeeding. Thus, low-income Black women are routinely cited as a priority for breastfeeding promotion and support activities, while Hispanic and White women are viewed as less at risk for not initiating or discontinuing breastfeeding (Bonuck et. al 2005). While it is important to consider the fact that confounding variables may come into play when discussing ethnicity, such as income, education, employment status, and many other factors that may influence breastfeeding, numerous research studies have found a significant link and predictive power between ethnicity, country of origin (i.e. foreign or U.S. born) and breastfeeding. U.S. born women who identify as African American or Black are consistently found to have lower rates of breastfeeding initiation and duration when compared to other racial and ethnic groups. Although they still consistently have lower rates of breastfeeding, the gap between White and Black mothers in initiation of breastfeeding has diminished over time, from 35 percentage points in 1990 to 18 percentage points in 2007. Yet, the gap in rates of breastfeeding continuation at six months still remain significant at around 15 percentage points throughout this period (DHHS, 2011).

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Source: Figures for mothers of children born in 2006 from CDC analyses of the National Immunization Survey (undated).

Figure 4.3. The effects of race/ethnicity on breastfeeding rates. Drago et. al (2010)

The sharp difference in breastfeeding rates between populations in the United States is not new. For the past twenty years, although breastfeeding rates have increased across the nation as a whole, African-American women remain the group least likely to breastfeed their infants (Sharp et al. 2003). During the 1990's, numerous reports cited low rates of breastfeeding amongst Black mothers. A 1995 survey showed that while 48% of all births were breastfed, 56% of those were White infants and only 23% were Black infants. The same report showed that the median duration of breastfeeding was 5.25 months for White infants, yet only 3.38 months for Blacks (Forste et. al 2001). In 2000, only 50.8% of African American women initiated breastfeeding in the hospital compared to 70.8% of Hispanic women and 71.5% of White women. This gap is of particular concern, since it parallels the higher infant mortality and morbidity found among lower-income African American infants (Sharp et. al 2003) In another recent report using data from the National Family Growth Data, Black women were less likely to have ever breastfed than White women, even when controlling for foreign birth and Hispanic

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ethnicity, which raises the possibility of another influencing factor, such as cultural differences and cultural backgrounds that may be especially present in this population (Bonuck et. al 2005). According to the National Health and Nutrition Examination Study (NHANESIII), breastfeeding initiation rates for non-Hispanic White (61%) and Spanish-speaking Mexican American mothers (63%) were more than twice that of non-Hispanic Black mothers (26%). English-speaking Mexican American mothers had initiation rates (51%) that were higher than Blacks, but lower than Whites and their Spanish-speaking counterparts (Lee et. al 2005).

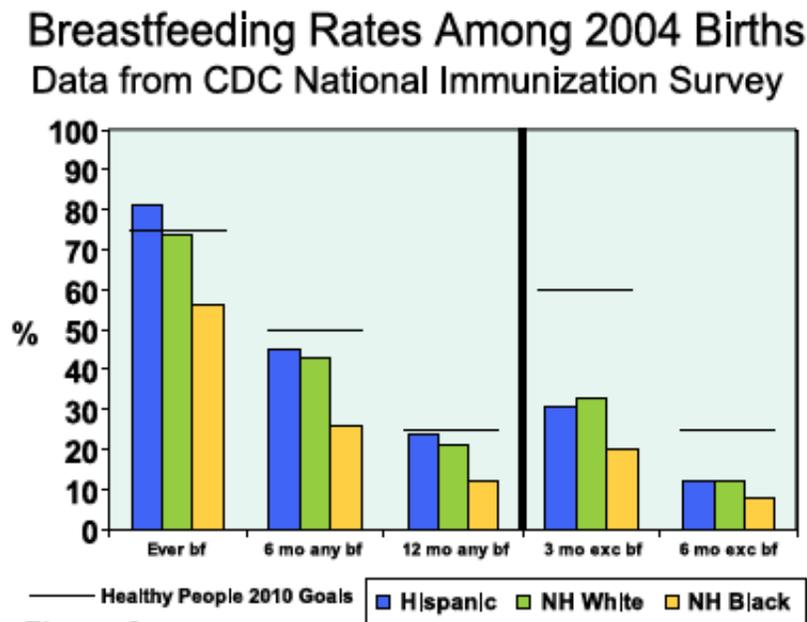


Figure 4.4. Ethnic populations and breastfeeding duration rates. The Center for Disease Control (2007)

These statistics introduce an interesting exchange between birthplace and country of origin and breastfeeding. Continental US–born women differ from foreign-born women in their intentions to initiate breastfeeding. Compared with foreign-born women, they are more undecided about their feeding choice (15% vs 8%) and less likely to plan to provide exclusive (24% vs 42%) or any (72% vs 87%) breastfeeding (Bonuck et. al 2005). When examining only breastfeeding intentions, immigrant (foreign born) women have been found to have a higher likelihood of anticipated breastfeeding when compared with non-Hispanic White women.

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Foreign-born Black women and other Hispanic women, even after adjustment for other explanatory variables, continued to be about six times more likely to report that they planned to breastfeed their infant than non-Hispanic White women (Lee et. al 2005). When going beyond simple intentions to breastfeed and examining breastfeeding initiation, a different report using National Survey of Family Growth Data found that foreign-born women were more likely to initiate breastfeeding than their U.S. born counterparts, even when controlling for ethnicity. Specific figures show that foreign born women can be up to 75% more likely to have breastfed their infants than US born women (Forste et. al 2001). Phrased an alternate way, other studies have found that immigrants have 5 times greater odds of initiating breastfeeding than native-born mothers (Kimbrow, 2006). This introduces a large contrast in foreign born vs. U.S. born women, especially amongst women identifying as Black.

Not only are African American mothers significantly more likely to have lower rates of breastfeeding initiation and duration compared to their White counterparts, but they are also more susceptible to other factors that may promote early breastfeeding cessation. For example, Black mothers were more likely to stop breastfeeding when working full time compared to other ethnic populations (Johnston and Esposito 2007). In one study by Forste et. al (2001), half of the Black women in the sample had total household incomes below \$16,000, compared with only 23% of the White mothers. These findings indicated the role that income may play as a confounding variable when discussing ethnicity and breastfeeding, and the Forste et. al (2001) study indicates a potential connection between identifying as Black and also earning a lower yearly income. In addition to income, the study reiterated the trend seen throughout scientific literature that Black infants are more likely to be low weight at birth when compared to their White counterparts (11% vs. 4%) which could affect breastfeeding initiation and duration (Forste

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et. al 2001). This study introduces us to the idea that being a Black, U.S. born mother not only predicts for having lower breastfeeding initiation and duration rates compared to other ethnic groups, but also ties in with other qualities that may predict lower breastfeeding rates.

Even after controlling for income, education, marital status, low birth weight, and residency, ethnicity continues to have an independent effect on the decision to breastfeed. Forste et. al (2001) found that when women were given the option to list why they did not breastfeed, only 10% listed because of employment conflicts, while another 14% reported having medical or physical problems. Other options reported were having a “preference for bottle-feeding.” This preference, once stratified based on population categories, shows a much higher percentage of reporting for Black mothers, at 83% compared to 62% for Whites. This indicated that Black women bottle-feed their infants not because of employment or physical difficulties but rather because of personal preference – alluding to the vast array of influencing factors on breastfeeding besides just ethnicity and country of origin.

Another aspect of breastfeeding that seems to be unique to the Black population is the importance of the intention to breastfeed. When attempting to determine why this trend occurs, numerous studies have found that the intention to breastfeed among Black women is one of the most significant factors influencing breastfeeding. For example, in one study, Bonuck et. al (2005) found that the intention to breastfeed was the most significant factor to influence initiation and continuation past 7-10 days amongst an African American population. In the same study, medical provider advice specifically to African Americans in the Women, Infants, and Children (WIC) program was found to predict breastfeeding intention (Bonuck et. al 2005). Intention to breastfeed is so important in this population that some studies have shown that the reported intention to breastfeed to actually be higher amongst Black women than White. In a

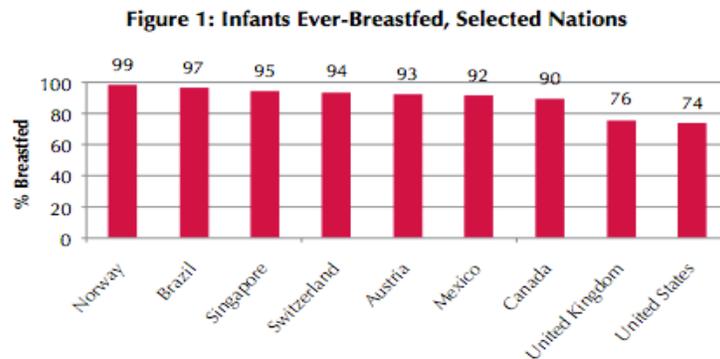
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study by Lee et. al (2005), US born African Americans in their low income sample were more likely to report that they intended to breastfeed than non-Hispanic White respondents. This study finding must be interpreted cautiously, however, as it simply focused on intention to breastfeed.

Employment Status

Background

Many world-wide studies have shown that the United States, as a nation, has a lower rate of breastfeeding when compared to other nations similar in development and other identifying qualities. This may be surprising. After all, America is oftentimes referred to as the Promised Land, the land where dreams are made, the land where everyone has a future and a plan. What the United States does not have when compared to many other similar countries is a nation wide, mandated, paid maternal/paternal/family leave policy. This lack of policy presents working class mothers with an incredible challenge in terms of choosing between their family and young infants and work. In nearly all research studies that focus on the relationship between employment and breastfeeding, employment is listed as a barrier to breastfeeding. The category of “employment” is extremely broad, and can be further broken down and seen as a barrier by examining the varieties of contexts in which employment affects an individual. For example, employment as a barrier to breastfeeding comes into play when examining income levels, employment positions and types, employment payments (in hourly or salaried workers), and the various government policies and programs surrounding employment practices.



Source: World Health Organization Global Data Bank on Infant and Child Feeding, most recent years available. <<http://www.who.int/nutrition/databases/infantfeeding/countries/en/index.html>>

Figure 4.5. A view of breastfeeding in similarly developed countries to the United States. Drago et. al 2010.

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History

Throughout the past fifty or so years in American history, the role of the female figure has changed dramatically. After the feminist movement in the 1960's and 1970's, America saw an increasing amount of women entering the workforce. The prevalence of married working mothers with young children in the workforce doubled between 1970 and 1990, reaching a high of 60% in 2000. By 1990, 54% of new mothers were working by their child's first birthday. Of those working full-time before the birth of their child, 75% were back working full-time by the time their child was 6 months olds (Kimbrow, 2006). Of those working, one study found the following break down of available maternal leave policies: of those surveyed, 27.2% had fully paid leave, 17.9% partially paid leave, and 54.9% unpaid leave (Mandal et. al 2010). The percentage of women in the U.S. workforce has increased dramatically over the last century, particularly in the last 50 years. In 2004, more than 70 percent of women of childbearing age (20–44 years) were in the civilian labor force. An estimated 67 percent of mothers who had their first child in 2001–2003 worked during their pregnancy, mostly on a full-time basis. In 2009, 50.1 percent of all mothers with children younger than 12 months were employed, and 69 percent of those employed worked full-time (35 or more hours per week) (DHHS, 2011). What is apparent from these findings is the incredibly large number of mothers who must go without pay after the birth of their infant if provided with only unpaid leave – a choice that oftentimes prompts mothers to return to work earlier than they would like. In the United States, lower rates of initiation and shorter duration of breastfeeding are generally observed among mothers who return to work after a child's birth than among mothers who do not return to work (Mandel et. al 2010).

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Full time employment

While lower rates of initiation and duration of breastfeeding are seen when a mother returns to work postpartum, the extent of this influence of work on breastfeeding varies between mothers who return to work full time versus those who return to work part time. In 2000, only 11% of mothers who worked full time were still breastfeeding at 1 year, but 19% of mothers who worked part time and 22% of mothers who did not work continued to breastfeed (Kimbrow, 2006). Mandal et. al (2010) found that full time employment status is negatively correlated with breastfeeding initiation and duration and remains a significant barrier to breastfeeding. Women working full-time during pregnancy typically quit breastfeeding their infants before returning back to full time work, often at the 6 week or 3 month marks that are extremely common to US maternity leave policies (Kimbrow, 2006). Even just one month after a mother starts work, she has a 32% higher odds of terminating breastfeeding than a mother who is not at work (Kimbrow 2006).

When compared to part time work, full time employment has a much greater effect on breastfeeding cessation. Working greater than 20 hours a week had a strong negative effect on duration relative to not working, but working fewer than 20 hours/week had only a marginal negative effect when compared to not working (Mandal et. al 2010). To further emphasize this point, the study also examined the effect of work after a maternity leave of twelve weeks and found similar results. Among mothers who returned to work after 12 weeks, working full-time decreased duration but working any type of part-time schedule did not. Duration also decreased, as expected, if mothers returned to full-time work before 12 weeks (Mandal et. al 2010). While initiation rates may start off being similar between working and non working mothers, duration

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rates at six months post partum are found to be between 9% (Johnston and Esposito, 2007) and 12% (Ryan et. al 2010) lower in working moms than moms who remain unemployed.

Mothers who work fulltime post partum are not only less likely to continue breastfeeding, but less likely to initiate breastfeeding in the first place (Kimbrow, 2006). Not only does actually working full time affect breastfeeding rates, but the expectation to work full time affects rates as well. Expecting to work full time was significantly associated with decreased odds of initiation (Mandal et. al 2010). In the same study, Mandal et. al (2010) found that the available maternity leave offered to working mothers did not affect initiation rates of breastfeeding. This indicates that the return to work was such an influencing factor on breastfeeding that not even available maternity leave would positively influence a mother to breastfeed and increase initiation rates.

Hourly vs. Salaried workers

Employment alone is not the sole determination or predictor of breastfeeding initiation or duration. In addition to employment status, the difference between hourly and salaried workers is a large predictor of breastfeeding. Most women (63%) in the United States, have hourly paid positions and/or minimum wage jobs, which may not offer the flexibility or workplace programs needed to facilitate continued breastfeeding (Ryan et. al 2006). Hourly positions impact breastfeeding in different ways than salaried positions do. For example, one study reported that 79% of salaried employed mothers but only 66% of hourly employed mothers attempted to express breast milk in the workplace (Drago et. al 2010). Often times, hourly workers do not have the flexibility to take numerous breaks throughout the day to pump and/or breastfeeding that salaried workers may. Salaried workers face different time challenges than hourly waged workers. Salaried employees usually have more control over their schedules than hourly workers do. However, the demands of a higher paid/salaried job (attending meetings, working late,

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supervising others, etc) may limit time for pumping or breastfeeding. Hourly employees may have pumping time deducted from their pay or may have to make up the time (Johnston and Esposito 2007, DHHS 2011).

Employment Industry

Not all types of employment are created equal; and it is simply unfair, not to mention unwise from a researcher's perspective, to try and lump all employment types into the same category. For example, in 2009, the Society for Human Resource Management reported that only 25 percent of companies surveyed had lactation programs or made special accommodations for breastfeeding. Of business types, small businesses (fewer than 100 employees) are the least likely to have lactation programs, and whether the workplace is large or small, infants are generally not allowed to be there (DHHS, 2011). Common sense allows even the most un-informed layperson to realize that environmental pressures from a workplace environment will affect a mother differently depending on the type of workplace environment. For example, a mother trying to breastfeed while working as an Massachusetts Bay Transportation Authority (MBTA) subway conductor will have a much different experience than that of a mother who works as a professor in a academic institution with a private office. A mother's experience who is a full time elementary school teacher will differ from that of a mother who is returning to full time work delivering mail. Research findings reiterate this phenomenon. Studies find that mothers with administrative and manual occupations are more likely to terminate breastfeeding than stay at home moms (35% higher odds of quitting), whereas women in service and professional occupations are not significantly different in their odds of quitting from women who do not work (Kimbro, 2006). Additional research examining slightly different occupational categories found that women in management and professional occupations had a greater

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likelihood of initiating breastfeeding compared with women in administrative occupations (Ogbuanyo et. al 2011). In the past decade, the overall trend of breastfeeding while returning to some type of work post partum has increased. Ryan et al (2006) found that there has been a large increase in rates of breastfeeding at 6 months among full time working mothers, and alluded this finding to potentially be the result of increased access to flexible workplace environments that are more supportive of continued breastfeeding.

Policies and maternal leave

In America, employment dictates many aspects of our lives. Insurance and many government programs and policies are based on employment status. Currently, among 173 countries, the United States is one of only four without a national policy requiring paid maternity leave (the others are Swaziland, Liberia, and Papua New Guinea) (DHHS, 2011). When comparing the United States to one of our closest neighbors, Canada, we see that they provide 50 weeks of partially paid maternity and parental leave, while the United States does not (DHHS, 2011). In addition to this, The International Labor Organization (ILO) recommends a minimum of 18 weeks of paid maternity leave. In the European Union (EU), 13 member countries meet this minimum, however, the United States does not (DHHS, 2011).

While the United States does not have a federal policy regarding paid maternal leave, it is available for many jobs. However, it is very rare in hourly paying jobs (and even in some salaried positions). For example, the U.S. Department of Labor estimates that of those with an average wage of more than \$15 per hour, only 11 percent have paid leave. However this is more than double than those making less than \$15, of which just 5 percent receive paid leave. Additionally, some employment sectors are more likely to have paid maternity leave than others. Studies estimate that 14 percent of management, professional, and similar workers have a paid

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family leave benefit, while only 5 percent of service, 9 percent of sales and office, and 4 percent of industrial workers have it (DHHS, 2011).

In addition to federal leave policies, many programs that are based on employment status affect working mothers. For example, many individuals receive governmental assistance from the Temporary Assistance for Needy Families (TANF) program. This program was developed in 1996 to reform the previously existing welfare program (Drago et. al 2010). It has been estimated that more than 25,000 mothers living in poverty do not breastfeed their infants through 6 months because of the work requirements under TANF (Drago et. al 2010). It's estimated that TANF affects 2.6 percent of new mothers and, as a result, almost half of these mothers (1.2 percent of all new mothers) abandoned breastfeeding by the time their infant was six months old (Drago et. al 2010).

The recent passing of the Patient Protection and Affordable Care Act (PPACA) greatly impacts individuals not only in terms of health insurance, but also through its clause that mandates pumping accommodations in the workplace environment. An estimated total of 19 million employed women of childbearing age are covered by the PPACA provisions, most of whom are hourly workers (Drago et. al 2010). The first cautious projection of effects of the PPACA on rates of breastfeeding show a potential increase of 165,000 mothers annually who will breastfeed until 6 months (Drago et. al 2010). Alternately, this can be seen has an increase in the rate of breastfeeding at six months among covered mothers from 36 to 51 percent (Drago et. al 2010). Though examples concerning TANF, the FMLA, and the PPACA, it's clear that the idea of working, the physical workplace environment, as well as various programs associated with employment status may potentially influence breastfeeding.

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Societal opinions

Not only does employment, especially full-time employment, create a barrier to breastfeeding in terms of physical separation and time constraints, but it also is tied in with societal pressures and judgments regarding the working mother. For example, renowned and respected child development theorist John Bowlby saw a working mothers' daytime absence from her infant as a cause of maternal deprivation and lasting harm so severe that he equated it to being similar to that of wartime loss (Blum, 1999). Bowlby, who is known for his theory of attachment between infants and mothers, often used breastfeeding as a metaphor for good mothering, believing, as is clear from his previous statement, that working mothers were not being "good" mothers. While societal pressures will be discussed in depth as an influence on breastfeeding decision making unique from the pressures brought upon by employment, it is important to acknowledge the new "super mom" society has created. This "supermom," as described by Blum (1999) in her book, can easily juggle work, pumping, breastfeeding, and raising a child. What is more, the "super mom" knows that "good" mothers can overcome the barriers to workplace pumping with careful planning. In today's society, the workplace environment may be seen as a legitimate barrier to breastfeeding, but also as one that the "super mom" can easily overcome (Blum, 1999). This mindset by society puts an incredible amount of pressure on working mothers to breastfeed, forcing them to adapt to "supermom" status.

Conclusion

As demonstrated above, employment status plays a huge role in many individual's lives in the United States. For mothers who may want to breastfeed their infants, this is no exception. The extent of the influence of employment on breastfeeding initiation varies greatly, and aspects ranging from type of job, hourly vs. salaried payment, and full time vs. part time work all

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potentially influence a woman's decision. While the above named research studies have found links and predictive factors between many of these aspects and breastfeeding initiation and duration rates, it is important to acknowledge the fact that employment effects could be potentially confounded by many external factors. The above mentioned studies sometimes did not mention if race/ethnicity, income level, education, and other demographic information was taken into account. All of these factors have the potential to affect employment and breastfeeding, both positively and negatively.

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Societal and Cultural Norms

Thus far, factors that influence breastfeeding have included employment policies as well as ethnicity and place of birth. In addition to these factors, the people surrounding a mother and the values she believes in may also influence her infant feeding decision. Some researchers also hypothesize that societal and cultural norms, as well as how an individual sees herself in the larger social construct, are important factors to consider regarding infant feeding decisions.

Linda Blum, a sociologist, feminist, and professor at the University of New Hampshire, conducted research and literature reviews regarding societal expectations and pressures on the mother. In her book, *At the Breast* (1999), she goes into detail about how historical gender roles and racism as well as current societal norms shape our definition of “good” mothers. Though it is important to keep in mind that the majority of her book is based off of her theories and previous literature reviews in feminist and sociological fields, she also basis her knowledge off of interviews she conducted with 26 African American working class mothers in Michigan. Through her interviews, Blum investigated her hypothesis that history and family play a role in a woman’s infant feeding decisions.

The United States has a history of racism; slavery and discrimination are inescapable in our roots. According to Blum’s research, the African American mother in today’s society is keenly aware of this. During her interviews, Blum found that when White mothers were unable to breastfeed, they often displayed signs of failure. However, when Black mothers were unable to breastfeed, they did not refer back to this failure to perform to society’s standards of a “good” mother (Blum, 1999). Blum hypothesizes that these results appear in part due to historical factors. Throughout the racist and segregated history of the United States, Black women have been told that they are inadequate, disgraceful, and not respected. Blum hypothesizes that some

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of the societal pressures to be a “good mother” (i.e., to breastfeed) may not affect a Black woman as drastically as it would a White woman due to the fact that, based on historical roles, the Black woman may feel that she is excluded from the definition of a “good mother” (Blum, 1999).

When comparing how breastfeeding was described between African American and White women, Blum also observed that while both sets of women at one point described breastfeeding as being burdensome, African American women then stated they preferred to bottle feed infants so that others could help alleviate that burden. Blum hypothesizes that shared child rearing among individuals was valued as an important support system (Blum, 1999). The supportive system in African American cultures is especially important. In fact, among African American mothers, a close friend who plays a supportive role to encourage breastfeeding is more important than a supportive husband, mother, or other family member (Blum, 1999). This alludes to the fact that while certain support systems may play a large impact in a White woman’s decision to breastfeed, others, such as the support of a friend, play a more crucial role among Black women.

During her interviews, Blum found that while many African American mothers described a variety of factors that influenced their decision that were similar to those described by White mothers, they also all stated one factor that differed. These mothers described the difficult public vs. private boundary that they felt strongly about not crossing. Black mothers were constantly stating the privacy needed for their bodies and how explicitly breastfeeding in public or at work violated that privacy (Blum, 1999).

While Blum’s small study can certainly not be generalized to the entire Black population across the world or even in the United States, she brings up an important hypothesis that historical context may be unique to the African American and Black population. According to

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Blum's hypothesis, deeper issues of gendered, classed, and raced bodies are ultimately central to understanding mothers' infant-feeding stories and decision making process (Blum, 1999).

According to Blum's hypothesis, "the legacy of slavery clearly casts different meaning on African-American women's breasts and their public exposure, as on the meaning of privacy itself" (Blum, 1999). Understanding that this unique background of slavery, as well as the many other influences on breastfeeding decisions shared with White mothers, could play a role in determining the feeding practices of African American mothers is essential for understanding the racial disparities that occur in breastfeeding rates across America.

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The “WIC” Program

WIC is a common abbreviation used to describe the Special Supplemental Nutrition Program for Women, Infants, and Children run by the United States Department of Agriculture Food and Nutrition Service. Qualified women and children are those who are pregnant and up to six weeks after birth or after the termination of pregnancy, breastfeeding women up to the infants first birthday, non-breastfeeding postpartum women up to six months after the birth of an infant or after the pregnancy ends, all infants up to their first birthday, and children up to their fifth birthday (United States Department of Agriculture, 2013). All participants must be earning income between 100 and 185% percent of the federal poverty guidelines. Generally, participants are automatically deemed eligible if they already receive SNAP benefits (Supplemental Nutrition Assistance Program, also run by the federal government), Medicaid, or Temporary Assistance for Needy Families. The program annually provides for about 9 million individuals across the U.S., and 53% of all infants born annually across the country (United States Department of Agriculture, 2013). WIC provides a variety of different benefits to participants, including supplemental nutritious foods, nutrition education and counseling at WIC clinics, and screening and referrals to other health, welfare, and social services.

In the past, WIC had been criticized for the food and formula packages that were promoted to current and potential participants. Many critiques believed that WIC was promoting formula feeding as opposed to breastfeeding to eligible mothers. As a result of this critique, WIC created a campaign to enhance the food packages available to exclusively breastfeeding mothers as well as increase the counseling and peer support services available to participants considering switching from breastfeeding to formula feeding. As of 1996, WIC had implemented a “Loving Support Makes Breastfeeding Work” campaign, which included promotional materials and flyers to encourage breastfeeding among participants (United States Department of Agriculture, 2013).

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Included in this campaign was a more attractive food package benefit system for mothers who were able to exclusively breastfeed their infants. However, participation in the WIC program has been linked to decreased initiation and duration of breastfeeding across the country. In fact, in one study by Ryan et. al (2006), researchers have even gone as far as to say that holding the status of a WIC participant is the strongest determinant of lower breastfeeding initiation and duration. The lowest rates for initiation of breastfeeding occurred among mothers in the study who had a low birth-weight infant and who were Black, younger than 20 years old, and participating in the WIC program. The results were nearly identical for continued breastfeeding at six months after delivery; the lowest incidence of breastfeeding at this time occurred among mothers who were Black, younger than 20 years old, and enrolled in the WIC program. Mothers in the study who were not enrolled in the WIC program were more than twice as likely to continue breastfeeding to 6 months of age than mothers who participated in the WIC program (Ryan et. al 2006).

WIC serves many individuals, and statistics presenting it as the sole reason for a decreased level in breastfeeding initiation and duration could be flawed by sample size and location, as well as the other naturally confounding variables that may be associated with participants in the WIC program, such as low income, employment type, and care of medical providers. For example, in a separate study, researchers found that African Americans who participated in WIC were more likely to receive information and advice on formula feeding their infants as opposed to White mothers who received more promotional information on breastfeeding practices (Beal et. al 2003). While the researchers concluded that these interactions did not directly account for the racial disparity found in breastfeeding across the nation, it is a clear example of the complexity and multi-factorial nature of the WIC program that must be

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taken into account when analyzing how participation in the program affects breastfeeding intention, initiation, and duration.

Background to breastfeeding: In conclusion

In conclusion, we can see from numerous research studies that there are multiple areas of the environment that may influence a woman's decision to breastfeeding. From ethnicity, to employment, to participation in the WIC program, we know that there are many external factors influencing women in today's society. In addition to this, we also know that the non-Hispanic Black population consistently has the lowest rates of breastfeeding among any other population in the United States. While literature has gone in depth about many of these factors and hypothesized various explanations for this disparity, there lacks conclusive evidence on if employment influences the non-Hispanic Black population's decision to breastfeed, and, if so, what specifically about employment is influencing this decision. The study implemented and described throughout the rest of this thesis sets out to discover more details on the relationship between employment and breastfeeding decisions in the non-Hispanic Black population.

CHAPTER FIVE:
Research study methodology

Methodology

Research Question

This study set out to discover whether or not employment affects the rate of breastfeeding in the Black population.

Study Design

This study was a two phased, mixed method qualitative and quantitative study that used questionnaires administered over the phone and in person to collect data. Phase one of data collection involved data from mothers with young children and phase two involved data from their employers. The aim of breaking this research into two distinct phases was to gather information not only on the opinions of mothers and determine what influenced their decision to breastfeed or formula feed their infant, but also to gather information on the official policies of their place of employment from a Human Resource or Administrator perspective. By gathering data from both of these populations, the study could determine if there was a gap in knowledge both in what the employers knew about applicable federal and state policies for their business, but also in what the women participants knew concerning workplace policies that are applicable to them. A complete timeline of the research, implementation, and data analysis can be found in Appendix E.

Institutional Review Board Approval

The research protocol was approved by the Tufts Institutional Review Board (IRB) in November of 2012 for one year. This process involved a literature review and application to the IRB, as well as numerous revisions to meet IRB standards. The IRB required that any modifications to protocol be submitted and approved before implementation. All Principal

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Investigators and Faculty Advisors were required to complete the Tufts Collaborative Institutional Training Initiative, a web-based educational program in the protection of human subjects in research.

One aspect of the study that remained in the protocol despite a lengthy conversation with the IRB was the decision to waive the documentation of informed consent for the participants, yet still require that they sign an acknowledgement of the gift card payment. This was done for a specific purpose. The signing of an informed consent document would have been the only link between participants and the documentation about workplace research. Since this study inquires about workplace environment, it was anticipated that signing any type of documentation may have made participants wary and fearful that information may be leaked to their employer, even though confidentiality in the study was guaranteed. While all researchers and IRB reviewers know and understand that consent and data are stored separately to preserve confidentiality, it was anticipated that women participants may have still felt uneasy about signing a paper that contained detailed information about a study about their workplace and that linked them to research involving their workplace environments. The receipt of payment sheet simply stated that they received a giftcard, with no information that linked them to a study specifically about workplace environments, thus alleviating the concern on the end of the participant. The signature on the receipt of payment was necessary to prevent participants from claiming duplicate payments (purposefully or accidentally). Above all, the participants' comfort was a priority for this research, and the waiver of documentation of consent was intended to provide the most reassurance possible to the women and alleviate any concern about a breach of confidentiality that could have made them wary to participate.

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Study population

Subjects: Mothers

Phase one of the study involved only women subjects. A total sample of eleven women participated in the study. All women were patients of Mattapan Community Health Center, where data collection and recruitment took place. To be eligible for participation in the study, all women needed to have at least one child under the age of three and self identify as Black. Race and ethnic categories used in the study measures were based off of the U.S. Census Bureau's categorization of populations in the 2012 "Statistical Abstract of the United States" (U.S Census Bureau, 2012). The sample consisted of 73% African American/Black women and 27% Haitian women.

Subjects: Employers

Out of the ten possible employers given by participants, data was collected from a total of five. Four employers were unable to be reached (did not return phone calls or voice mails, etc.). One employer refused participation in the study. The gender of representatives from the places of employment varied but was not specifically recorded. All employers who were contacted and proceeded with the questionnaire consented verbally over the phone and requested that their answers be published anonymously (without the business or representative name attached). Areas of employment and types of businesses ranged from administrative positions in offices and flexible positions delivering goods, to positions in the healthcare industry and governmental sector. Results from the data collected on employers can be found below.

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Study procedures

Recruitment

Recruitment and sampling took place through a convenience/availability sampling strategy. Recruitment methods included hanging flyers around the Women, Infant, and Children (WIC) offices, waiting rooms, bathrooms, and OB/GYN and pediatric offices at the Mattapan Community Health Center (MCHC). A diagram of involvement/visually appealing letter was also distributed around the health center for potential participants. This letter contained the same information as the flyer in a different format. A “Letter to the Institution” was also prepared to distribute to all MCHC staff members to alleviate any concerns about their participation in these initial recruitment measures. Each method of recruitment stated that individuals were eligible to participate in the study if they self identified as African American/Black and had given birth to a child within the last 36 months. Individuals had lengthy time to consider their participation in the study; potential participants reached out to the principal investigator through phone calls to show their interest in the study.

Participants were recruited through the MCHC for a variety of reasons. The primary reason was that MCHC, with its location in Mattapan, Massachusetts, was an ideal location close to the urban center of Boston, MA. In addition to this, Mattapan is one of the areas surrounding Boston that has a high percentage of individuals identifying as African American/Black (Lima & Melnik, 2013) a criterion for participation in the study. Finally, the health center was chosen as area for recruitment based on its well established ties in the community; the most successful community health based research studies use community based participatory research and the health center was the ideal location to reach the maximum amount of participants.

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Data collection: maternal subjects

In total, four trips were made to the health center to collect data on consecutive Tuesdays during February and March of 2013. These trips were made during the day, making it probable that any potential participants who were not able to come to the center during the day (due to work or various other reasons) were unintentionally excluded from the sample. In total, data from eleven participants was collected. Out of these eleven participants, ten were working at the time of pregnancy, and all ten consented to having their employer contacted.

A waiver of documentation of informed consent was used in this study to administer consent to the female participants. The consenting process took place before the administration of the in person questionnaire at the MCHC. Participants were given at least fifteen minutes to consider their participation in the research study (a Tufts IRB requirement) to avoid any feelings of coercion or forced participation. The rationale behind the waiver of documentation was that potential participants had a high probability of being low-income, minority women who may be especially vulnerable as new mothers. The waiver of documentation of consent allowed the principal investigator to sign in place of the participants, ensuring not only that all participants were informed of the items that were originally in the consent form, but also that there was absolutely no signatures or names tying them to a study that asked questions about their workplace. As stated earlier, the participants were asked to sign a form acknowledging the receipt of payment (\$15 Gift Cards) at the end of the questionnaire. This may seem contradictory, as the waiver of documentation of consent was put forth to eliminate all participant signatures and ties to the research process, however, the receipt did not list details or the name of the study, thus maintaining the utmost confidentiality for the participants.

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Individuals had lengthy time to consider their participation in the study before data collection took place, as potential participants reached out to the principal investigator through phone calls after reviewing the recruitment material to show their interest in the study. Private, in-person administered questionnaires were then scheduled with the principal investigator. All interviews took place in a private conference room at the MCHC. Each questionnaire took about 10-15 minutes to administer, and participants were encouraged to ask any questions or to have information repeated before the administration of the questionnaire. Participants could skip any questions or stop the questionnaire at any point. Participant responses were recorded by hand on the questionnaire by the principal investigator during administration and later transcribed to an electronic format. All questions were either fill in the blank (e.g. “How old was your child when you went back to work? ____ weeks”), multiple choice format, or an ordinal response (e.g. a rating of one through five). Questions began with demographic information of the mother and child (e.g. age, ethnicity, breastfeeding practices and employment status) and progressed to questions regarding current breastfeeding policies (e.g. workplace options for breastfeeding and maternal leave). The complete questionnaire administered to the participants can be found in Appendix C.

Data collection: Employer subjects

If participants consented during the administration of the in-person questionnaire, then their employers were called to collect further data on their workplace environment through a separate, over-the-phone questionnaire. Each participant provided her employer’s name and phone number, and when incomplete or incorrect information was provided, additional information was determined through employer web pages. If a participant had changed jobs recently, for example was working one place when pregnant and another place after giving birth,

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all attempts were made to collect data from her place of employment after birth (i.e. when she would be most likely to be breastfeeding). When a participant only listed a place of employment before birth (i.e. did not return to work after giving birth), then that employer was contacted.

When calling employers, the principal investigator primarily spoke with representatives in the Human Resource Department. When the business did not contain a Human Resource Department or the Human Resource Department could not be reached, data was collected from a business representative who could best answer the questions. No original participant information was given to employers. Employers were told that research was being conducted to learn more about how employees balanced work and home life with young infants and that calls were being made to a variety of local businesses around Boston. Employers were not told that any of their employees had already participated in the study; all original women participant information was kept completely confidential. Employers were given the option to have a standard consent form mailed/e-mailed to their location to sign and return before scheduling a phone interview or allowed to consent verbally over the phone at time of initial contact and complete the phone interview at the same time. All employers consented verbally over the phone. Once consent was obtained, employers answered seven questions that aimed to determine what company policies were in place for breastfeeding women and if employers knew of any federal policies (such as the Patient Protection and Affordable Care Act) concerning breastfeeding women that impacted their business. Questions were open-ended and focused on available policies and practices that the company offered to support breastfeeding and work-home life balance. Employers were not offered any gift cards/monetary compensation for their time. The complete survey can be found in Appendix D.

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Study measures

Data collection took place through two separate questionnaires. In order to create a reasonable questionnaire length that was requested for any involvement with the Mattapan Community Health Center, the decision was made to only ask participants questions regarding feeding practices and employment information. Participants were therefore not directly asked about their socioeconomic status, educational level, age, marital status, or involvement with the Women, Infant and Children (WIC) program, all of which are factors that have been previously discussed to influence breastfeeding decisions. While asking these questions would have provided more complete data on what influences breastfeeding decisions in women of this sample, such a large scale questionnaire and statistical analysis was beyond the scope of study for this research.

The format of the in-person administered questionnaire for the participants was also strategically designed. An in-person administered format was chosen for administration as this type of data collection tends to get the most and most accurate data. That being said, the questionnaire was also designed so that if necessary it could be done over the phone or by a participant on their own time at the health center by using all multiple choice, scale ratings, or yes/no question answers. All questionnaires ended up being completed with the preferred method of in-person administration. Questions began with demographic information of the mother and child (e.g. age, ethnicity, breastfeeding practices and employment status) and progressed to questions regarding current breastfeeding policies (e.g. workplace options for breastfeeding and maternal leave). The complete questionnaire contained twenty-two questions.

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The structure of over the phone-administered questionnaire for all employers differed from that of the maternal participants in phase one. Unlike the participant questionnaire, it was never designed to be administered in-person. Also unlike the participant questionnaire, it was designed with open-ended questions to not only gather data and information about workplace policies and practices concerning breastfeeding, but also to see how Human Resource representatives and other administrative personnel answer the questions. The questions were fairly non-specific and open ended regarding breastfeeding topics, federal and state policy knowledge of employers, services offered by employers to support breastfeeding, as well as employer opinion on the ease of work/home balance in the workplace. All questions were administered without any guidance, direction, or deviance from the question script to allow for the most accurate representation of how business administrators interpret and retain knowledge on different policies.

Data analysis

Upon completion of all data collection, data was transcribed from the hand-written questionnaires to an electronic format. Questions were grouped together based on how they related (e.g. all questions regarding maternal leave) and analyzed using Microsoft Excel and Microsoft Word products.

CHAPTER SIX:

Results

Results

Participant Data

All data was collected from a sample of 11 participants and 5 out of a possible 10 employers. The participant population self identified entirely as African American/Black and had children ages .75 to 30 months. Data was collected using an in-person administered survey with a total of twenty-two questions to determine if the workplace environment of participants affected their decision to formula feed or breastfeed their infant. While the results of each question are discussed below along with brief descriptions of the measures, the complete questionnaire instrument can be found in Appendix C of this report. During the consent process, every participant consented to having the principal investigator contact their employer for follow up questions, and all but one participant had a place of employment (N=10).

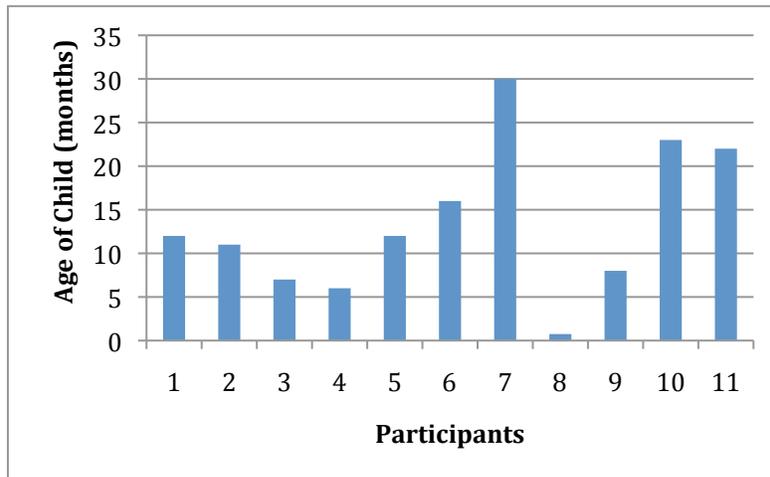


Figure 5.1. Age of participant children. This figure depicts the age of participant children in months.

The first two questions asked the age of the participant’s child and the race/ethnicity of the participant. These questions were asked first to determine eligibility of participants for participation in the research. Participants were eligible for participation in the research if they had one or more children under the age of three (thirty six months). The eleven participants had

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children that ranged in ages from .75 to 30 months, with a median age of 12 months and a mean of 13.43 months.

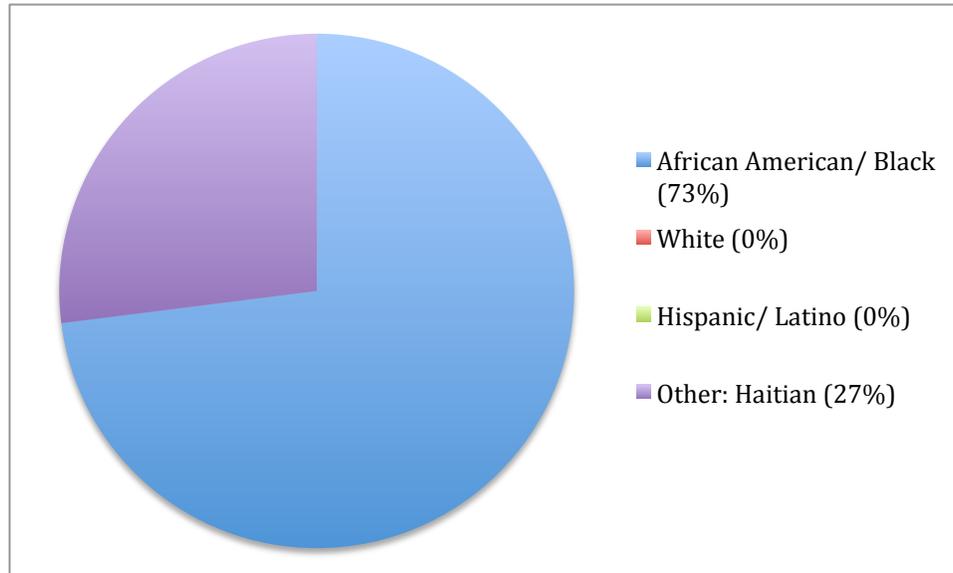


Figure 5.2: Race/Ethnicity of participants. This figure illustrates the percentage of participants who self identified as African American/Black or Other: Haitian.

Participants were eligible for participation in the research if they self-identified as African American or Black. Participants were asked to select a race/ethnicity from the following options: African American/Black, White, Hispanic/Latino, or Other. Responses varied from African American/ Black (n=8, 73%) to Other: Haitian (n=3, 27%). Participants who identified their race as “other” and then went on to identify as being from a West Indian or Caribbean country, such as Haiti, were considered under the category of “African American/Black” and allowed participation in the research, similar to the methodology and sampling decisions in the work done by Bonuck et. al (2005) regarding racial impacts on breastfeeding intentions. The responses of “Other: Haitian” suggest discrepancies in country of origin amongst participants (foreign vs. U.S. born), a question that was not explicitly asked in the survey but has been shown to impact breastfeeding statistics.

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Following eligibility questions, participants were asked the age of their child when they returned to work as well as if they returned to working full time (35-40 hours a week) at one job, full time between two jobs, part time (1-25 hours a week), or if they were currently unemployed. Child age at the time of the participant's return to work ranged from 1 month to 7 months, with a median age of 2.5 months and a mean age of 3.1 months. Two participants did not return to work following the birth of their child, and one participant was still at home with her child and planning on returning to work full time 2.5 months after giving birth. Out of the remaining eight participants, three returned to work part time and five returned to work full time.

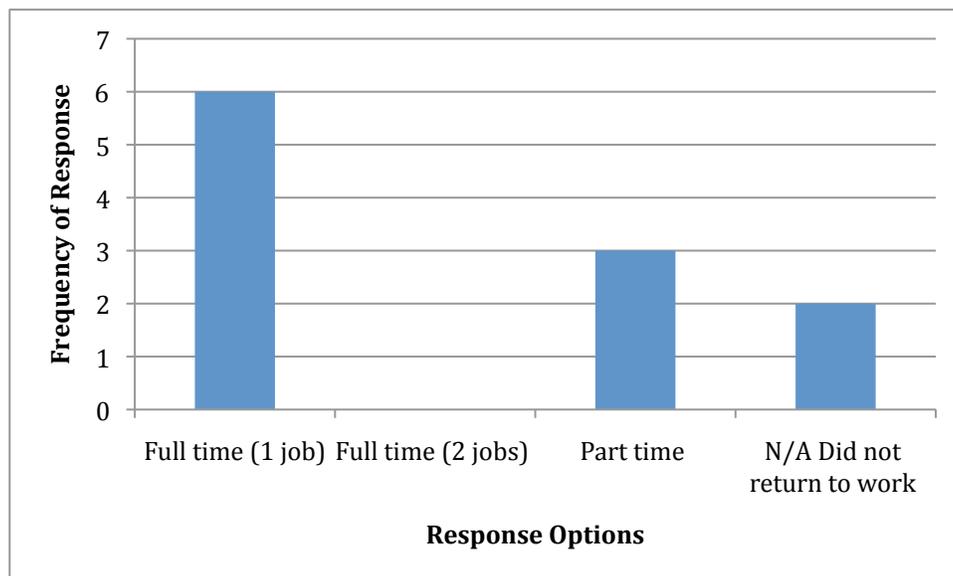


Figure 5.3: Employment status post-partum. This figure shows the type of work participants returned to after maternity leave.

Participants were asked if they had ever breastfeed, or currently were breastfeeding, their child. Response options were chosen from yes [exclusively]; yes, a combination of breast milk and formula; and no. One participant (9%) responded with “yes”, eight participants (73%) with “yes, a combination of breast milk and formula,” and two participants (18%) responded with “no.”

BREASTFEEDING AND THE WORKPLACE ENVIRONMENT

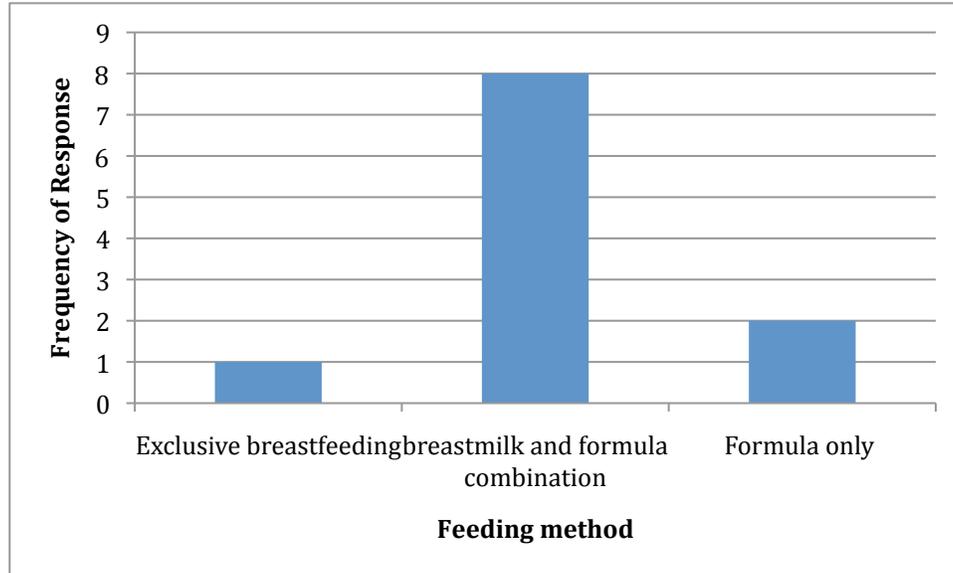


Figure 5.4: Infant feeding practices. This figure illustrates the feeding choices that participants made for their infants.

Following questions regarding their infant feeding practices and demographics, participants were asked questions regarding their workplace. All participants, if applicable, provided an employer name and phone number when asked where they were currently employed as well as where they were employed while pregnant and immediately following the birth of their child. If the two answers differed, for example if a mother was currently not employed at the same location as when she first returned to work post partum, follow up questions were directed to the place of employment post partum. When follow up calls and questionnaires were administered to employers, all employers requested to answer anonymously and to not have their names published. While specific places of employment cannot be published in this publication, what can be obtained from the information provided is the type of industry in which participants are employed. Of the ten participants who were employed during pregnancy or returned to work post partum, they returned to work in the following industries: health care or health administration (five, 50%), temporary and full time employment hiring agencies (two, 20%),

BREASTFEEDING AND THE WORKPLACE ENVIRONMENT

administrative/clerical (two, 20%), and governmental (one, 10%). All participants were paid hourly (as opposed to a salaried worker).

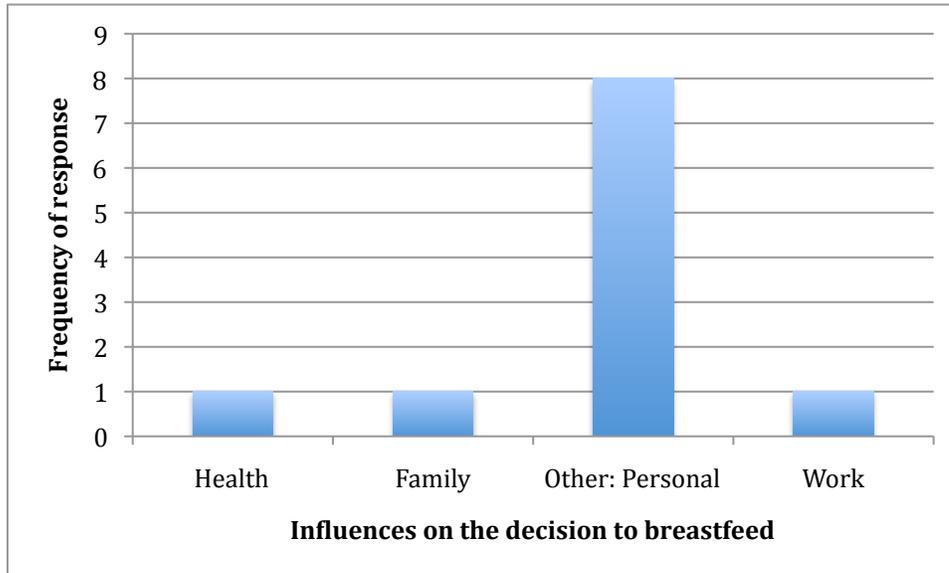


Figure 5.5. Most influential factor on the decision to breastfeed. This figure depicts the variety of participant responses and opinions on what influenced their decision to breastfeed the most.

Participants were asked to identify, from a list of options, what (or who) influenced their decision to breastfeed. Following their response, participants were asked to identify what (or who) influenced their decision the *most*. Responses from this question ranged from health, family, personal influences, and work, with the most common influence listed as personal (73%), and the least common influence listed as health, family and work (9% each). While a personal influence was not originally listed as an option in the questionnaire, participants listed this in the “other” response category.

The next series of questions asked participants to think about their current workplace environment, or, if different than when they had given birth to their child, their post partum workplace environment. Participants were asked if they knew any rules or policies about breastfeeding in this workplace environment, and could respond with “yes,” “no,” or “I don’t know.” Of the ten employed participants, five (50%) answered “no” and five (50%) answered “I don’t

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know.” No participants knew of any rules or policies concerning breastfeeding at their place of employment.

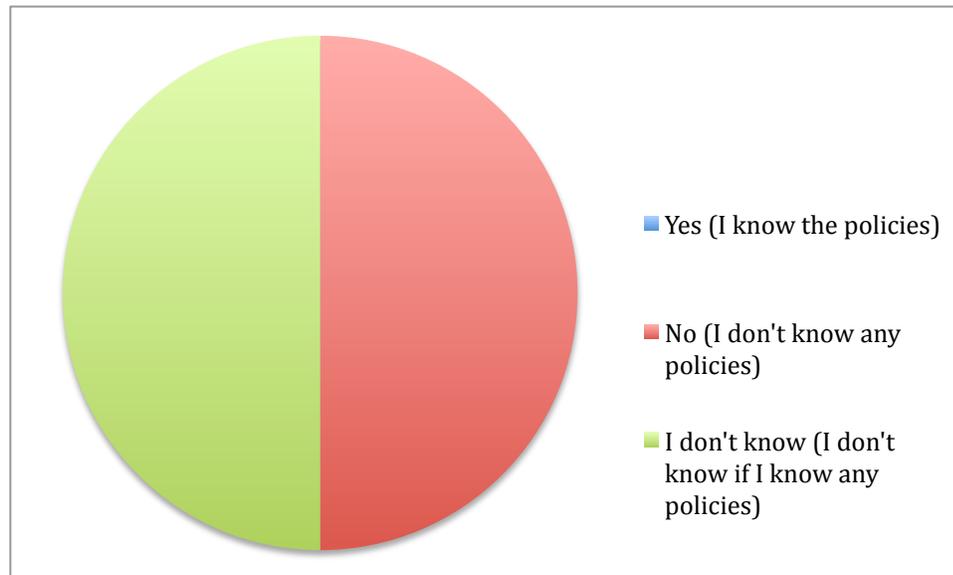


Figure 5.6. Participant knowledge of workplace policies. This graph shows the percentage of participants who did not know, or were unsure of their knowledge, regarding workplace policies surrounding breastfeeding.

As a follow up question, participants were asked if they had every discussed the aforementioned rules or policies with their employer with the same response options. All ten employed participants (100%) answered no to this question.

Participants were then asked about the different options for pumping or breastfeeding at their place of employment. Participants were asked to select from the following options that could be present at the workplace environment:

1. A room specifically designed for pumping
2. Breaks (paid or unpaid) for pumping
3. A fridge specifically for breast milk
4. Pumping equipment available on site
5. Childcare available on site
6. A policy allowing you to bring your infant to work to breastfeed

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The most frequent response to this question was for a workplace environment to provide unpaid or paid breaks that could be used for breastfeeding or pumping milk, and no participants listed childcare or pumping equipment as being offered by their employer.

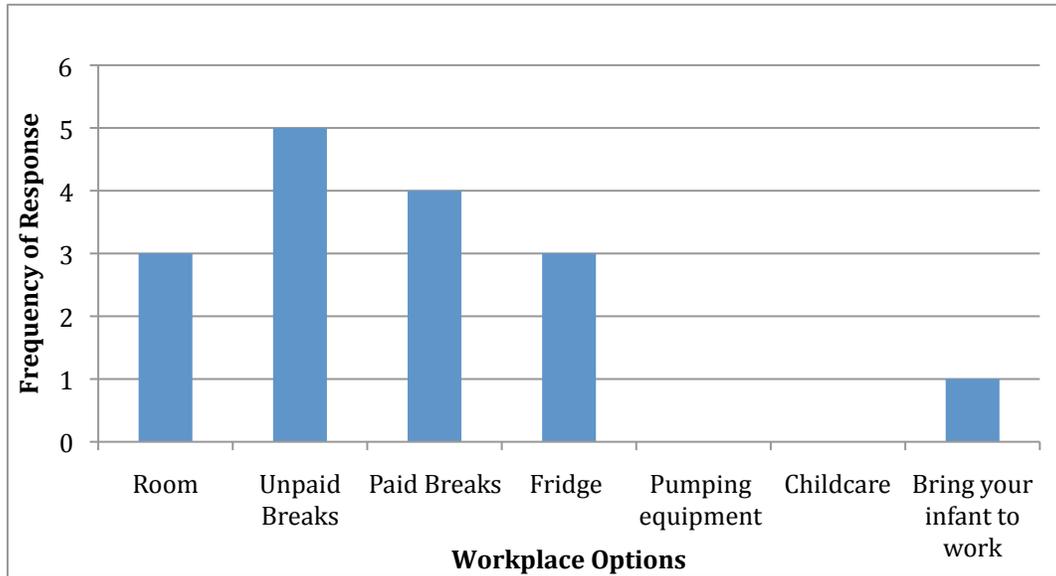


Figure 5.7: Equipment, amenities, and options for breastfeeding mothers. This figure depicts participant responses when asked what was available to support breastfeeding mothers at their workplace.

Following this question, women were asked how the addition of any of the same items to their workplace environment would influence their decision to breastfeed. Participants could choose from the options that the addition of one or more of these items would either make them more likely to breastfeed their infant, not change their decision on what to feed their infant, or that their workplace already has all of these items. Seven out of eleven participants (72%) responded that the addition of one or more of these items to their workplace environment would make them more likely to breastfeed their infants.

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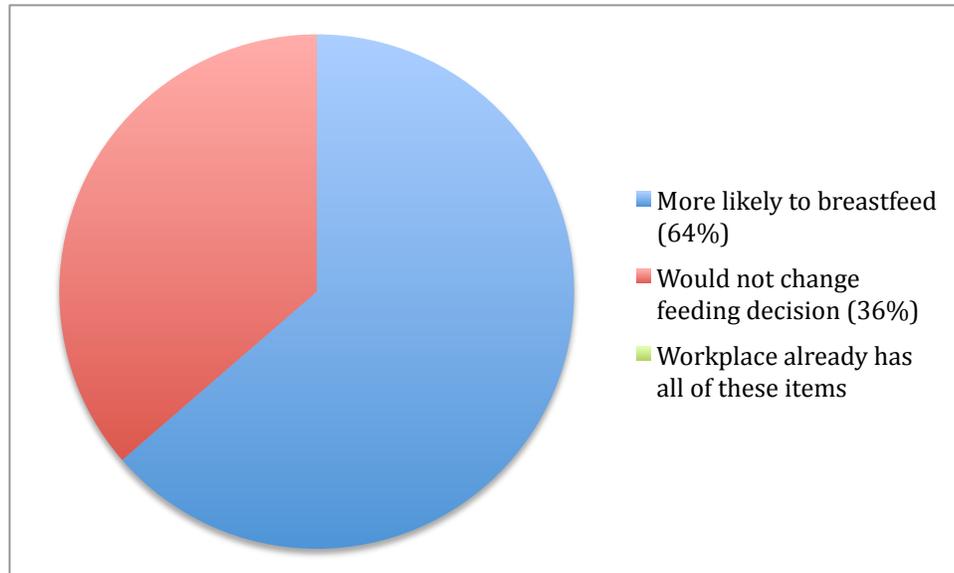


Figure 5.8: Breastfeeding decision after increased support at the workplace. This figure shows the percentage of participants who would alter their feeding decision after the addition of supportive factors at the workplace.

In addition to being asked about policies and supportive items at their workplace that may have affected their decision to breastfeeding, participants were also asked about their maternity leave. Participants were asked if they took maternity leave from work and if their maternity leave was paid, unpaid or a combination of paid and unpaid. Answer options for time of maternal leave were grouped into categories of 0-1 month, 1-3 months, 3-6 months, or greater than 6 months. Both the median and most frequent maternal leave time reported was 1-3 months. Eighty seven percent of participants had maternal leave that was unpaid. These responses are as expected, given that the Family and Medical Leave Act provides for 12 weeks (3 months) of unpaid leave from employment. Participants were then asked to think about their maternity leave, both in terms of length and if it was paid or unpaid, and determine if they were overall satisfied or unsatisfied with their available maternity leave.

Of the 9 participants who took maternity leave, 6 (62.5%) reported that they were not satisfied with their maternity leave. Finally, participants were asked if their maternal leave (or the absence of leave) affected their decision to breastfeed or formula. 8 out of the 10 participants

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who returned to work after employment (87%) reported that their maternal leave (or absence of leave) did not affect their decision to breastfeed. We can see in the table below that when stratifying the results based on time of maternal leave, the percentages of women who are satisfied with the leave vary, as does those who feel that the leave did not affect their decision to breastfeed.

Leave time (months)	% sample with this leave	% paid	% unpaid	% satisfied	% dissatisfied	% leave influenced decision	% leave did not influence decision
0-1	25	0	100	50	50	0	100
1-3	50	25	75	25	75	0	100
3-5	25	0	100	50	50	50	50
6 +	0	0	0	0	0	0	0
Total sample	N=8	12.5	87.5	37.5	62.5	12.5	87.5

Table 5.1. Maternal leave policy. A combination of question responses are seen in this table, with data from questions on the length of leave, payment option of leave, participant satisfaction with their leave, as well as percent of participants whose feeding decision was influenced by their leave policy.

Finally, participants were asked a series of questions that focused on possible support systems in the workplace. Participants were asked to rate the following statements on a scale of 1 – 5, where 1 signified strongly disagree, 3 represented a neutral response, and 5 stood for strongly agree:

“If I wanted to breastfeed, my supervisor would support me”

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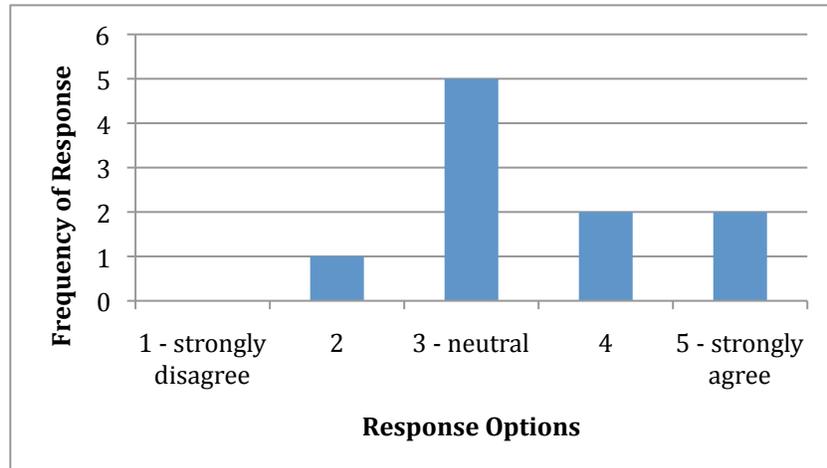


Figure 5.9. Supervisor support. This figure shows the participant response to questions regarding whether or not their supervisor would support their decision to breastfeed.

The most frequent response to this question was “3” – or a neutral response, and only two participants strongly agreed. What the numbers and graph do not show are the qualitative comments and additional information that participants shared on this particular question. Many participants added comments on this question in particular, something that was not seen in any other question. Participants said statements such as “I’m not sure,” “I would never discuss this, it’s too personal” or gave looks of shock or surprise that this question was even being asked. Such qualitative responses, especially in a time in United States history where federal legislation has been specifically created to encourage employer support for breastfeeding mothers, are surprising.

“If I wanted to breastfeed, the people I work with would support me”

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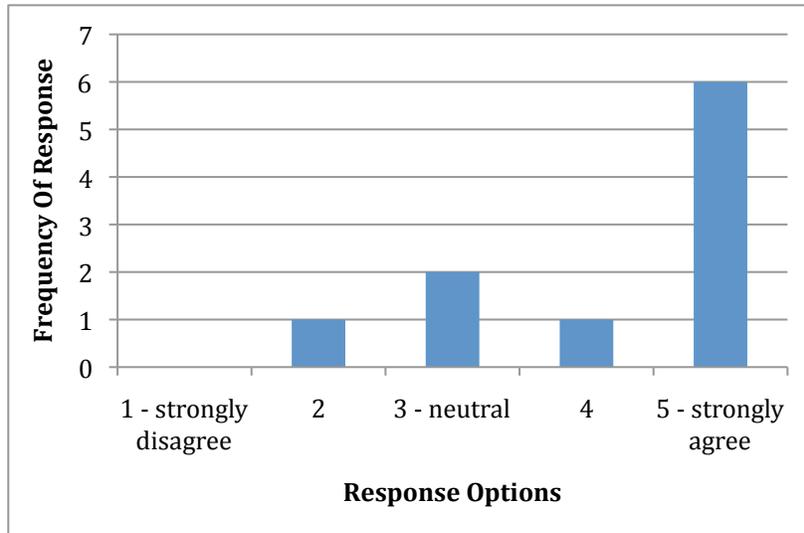


Figure 5.10: Colleague support. This figure shows the participant response to questions regarding whether or not their colleague would support their decision to breastfeed.

The most frequent response to this question was a 5, or strongly agree. In research and previous experiments, colleague and peer support has been found to be a key aspect of social support that is often necessary for encouraging breastfeeding support, especially in the African American population (Blum, 1999). This research finding supports this result.

“I feel comfortable talking to my supervisor about women’s health, breastfeeding, and maternal leave/time off policies”

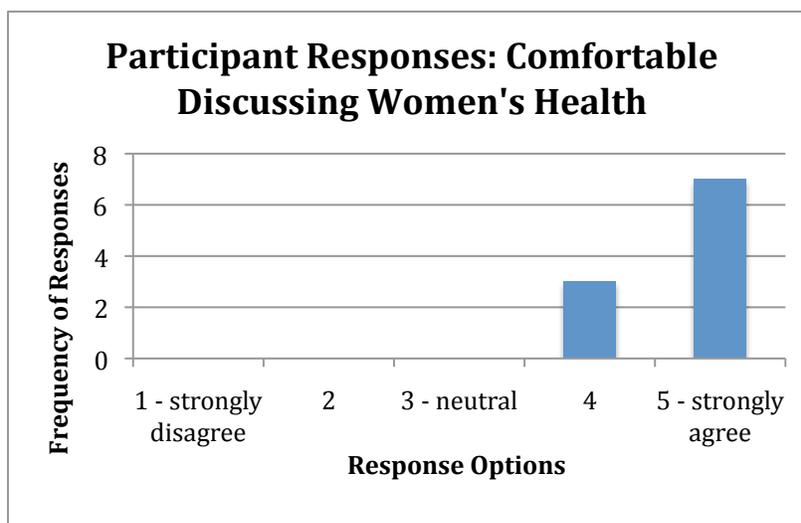


Figure 5.11: Comfort discussing women’s health. This figure shows the participant response to questions regarding whether or not they were comfortable discussing women’s health topics with their supervisor.

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Responses to this question were extremely positive. No participants responded with a score of lower than four, leading to the conclusion that the sample of participants felt very comfortable talking to supervisors about maternal leave and other women's health issues. This is surprising given the less positive responses from the earlier question examining supervisor support for breastfeeding.

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Employer Data

Out of the 11 total women participants, 10 were employed either during pregnancy or post partum and consented to having their employer contacted. Out of those ten, six employers were able to be contacted. One place of employment refused participation in the study, and the other five consented to participate anonymously. All five that consented to participation consented verbally over the phone. Out of the businesses that were contacted and provided data, the majority were of the healthcare industry.

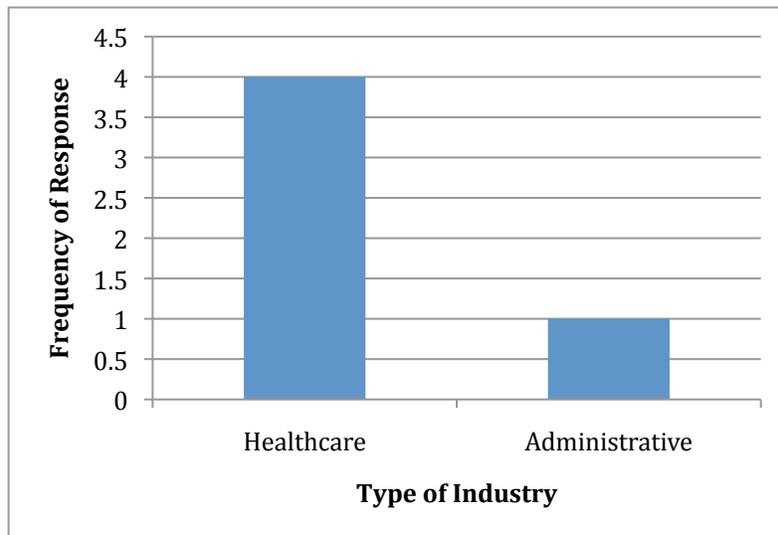


Figure 5.12. Business industry. This figure shows the business industry of only the employers that consented and provided data.

The first question on the questionnaire asked employers to think about if it was easy, difficult, very difficult, or other for their employees to balance their work and home life.

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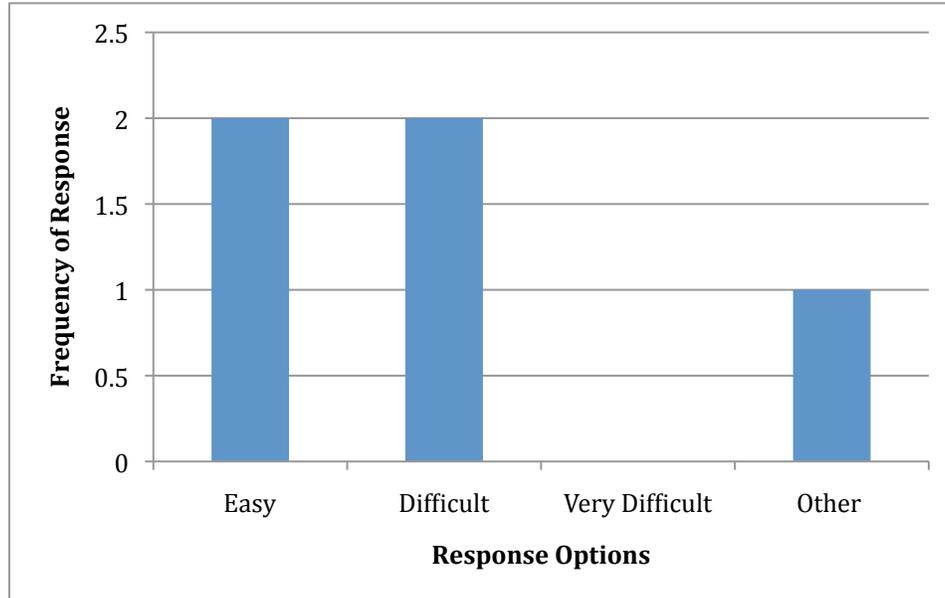


Figure 5.13: Employer view on balancing work home life. This figure shows the responses of employers when asked if balancing work and home life at their business was easy, difficult, very difficult, or other.

In the next series of questions, employers were asked to share both policies and practices as well as activities that their company has to encourage work-life home balance. When asked about the policies and practices that that encourage work-life balance, the majority of the employers responded with flexible scheduling options. While some employers outright used the phrase “flexible scheduling” and went on to further describe options for employees (adjusted work day schedules, working from home, etc.), other employers mentioned certain aspects of flexible scheduling (vacation time, shortened work days for emergencies, etc) and their responses were therefore labeled as “flexible scheduling” as well.

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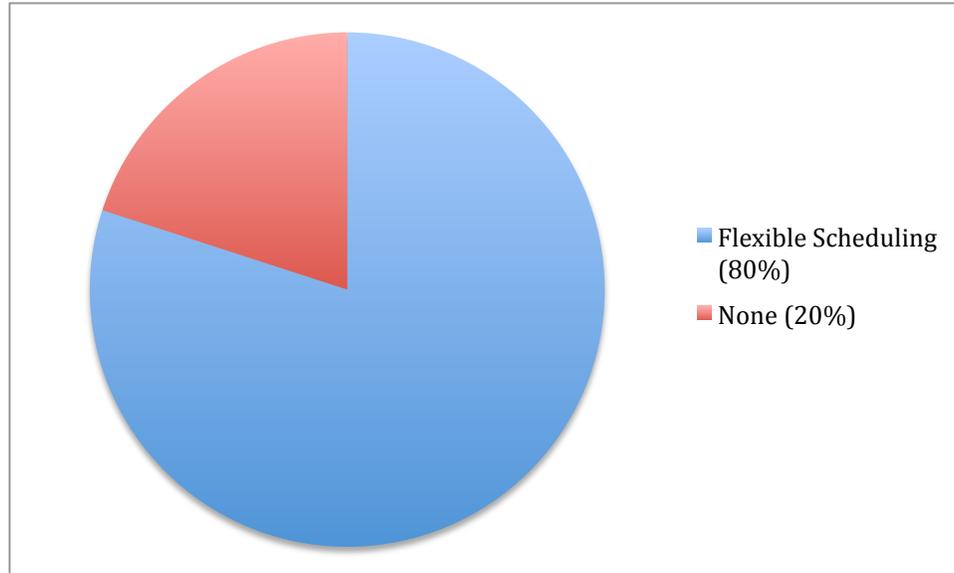


Figure 5.14. Policies and practices to encourage work/home balance. The figure shows the percentage of employers who offer flexible scheduling to assist employees in balancing work and home life.

In the following question, employers were asked to think outside of official policies that their business may provide to employees and instead address any activities or single events that their company offered to promote work and home life balance. The question wording asked if there were any additional activities besides those provided in the previous question. The responses that say “none” do not mean that there are no activities in the workplace that promote work and home life balance, but that those employers did not feel there were any *additional* activities that hadn’t already been covered in the previous question. The “Red Heart” program was described as a program that all employers work towards to promote heart health among women.

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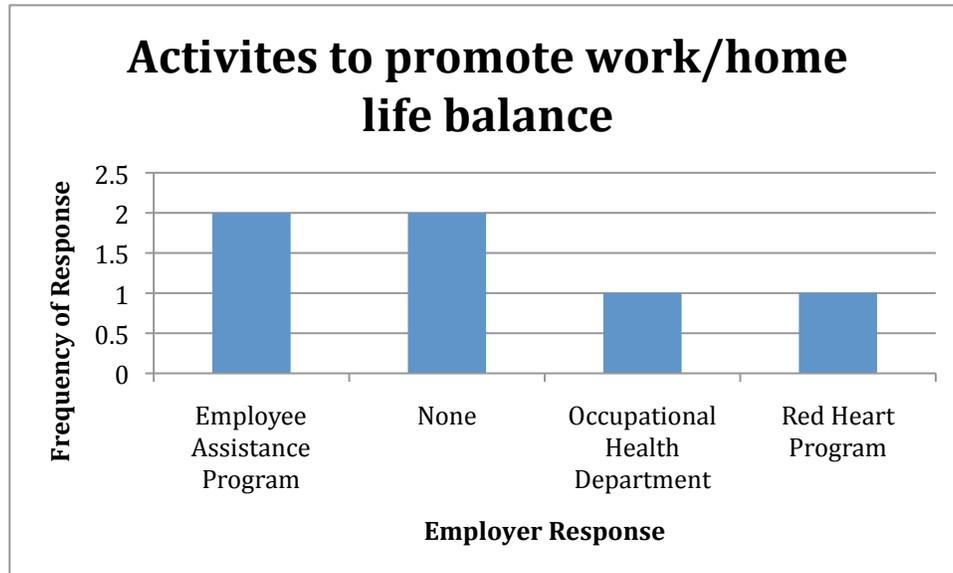


Figure 5.15. Addition activities. This figure illustrates the variety of responses when employers were asked if there were any *additional* policies and practices that may assist employees when balancing work and home life.

After considering more general policies that affect work and home life balance, employers were then asked to reflect and share any company policies that provide support services for women who are currently breastfeeding or may want to breastfeed in the future. In keeping with the theme of addressing various programs that aide with breastfeeding and are specific to employees that are mothers, employers were also asked what options women currently have for pumping and storing breast milk during the work day.

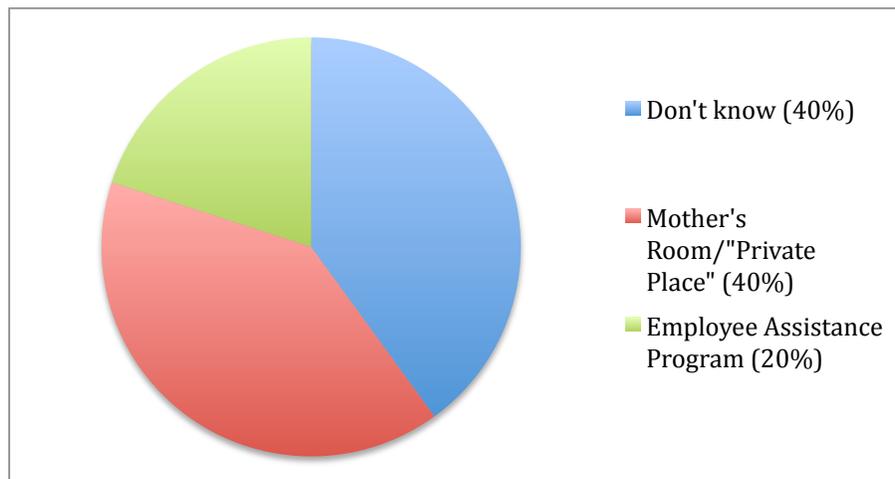


Figure 5.16. Company policies that provide support services for employees who wish to breastfeed.

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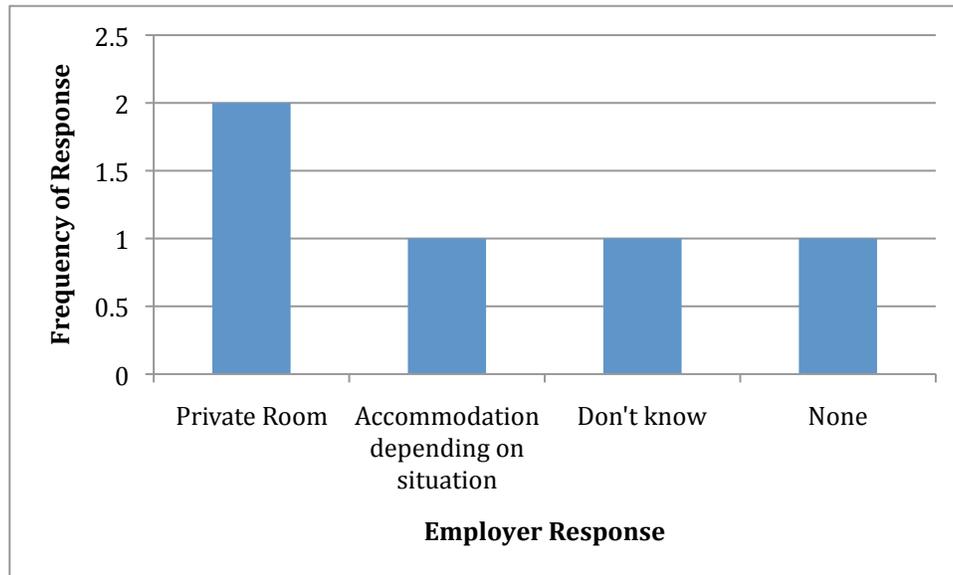


Figure 5.17. Workplace options for pumping and storing breast milk during the work day.

Finally, employers were asked about their maternal/paternal leave policy including (if available), if it was paid, the length, and any other details that were applicable. Response answers can be seen below in the figure. Part of the rationale behind answering this question was to determine how well employers that were contacted knew the various policies. Since all efforts were made to contact Human Resource administrators, a job that generally tends to know the policies of the company, it is assumed that the answers given were representative of the company and no further research was done to confirm the answers or find more detailed information.

Results to this question varied greatly, and all information that follows is from the data collected from employers *not* what may be actually true of the federal policies or guidelines. For example, in a hypothetical situation, an employer could state that the company follows a federal act which is 8 weeks of paid maternity leave, when in fact the act is 10 weeks of unpaid leave. The answer that the employer gave in data collection will be the answer reported below. More information on policies that affect working mothers was seen in earlier sections of this thesis.

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The most common answers provided to this question were the Family Medical Leave Act (FMLA) which is unpaid, 12 weeks of leave available after working at least one year and 1250 hours, the Massachusetts Maternity Policy which offers 8 weeks of unpaid leave, and the use of Short Term Disability which varies depending on employee status (i.e must be full time and working more than 30 hrs/week). Short Term Disability can be used to cover all or part of an employee's salary. Other paid leave options suggested by employers as a response to this question included use of an employee's paid vacation time (which varies on employee status and earnings). Other employers listed vague responses, such as "standard pregnancy leave" (without specifications) or "90 days of paid leave, I think." These responses were noted, but due to the unspecified nature are grouped together in the figure below. Both employers that responded with FMLA and Massachusetts Maternity Policy stated that while both of these policies apply for working mothers, they run concurrently, meaning that they cannot be used one after another in combination, and both start immediately after the birth of the child.

Finally, employers were asked if there were any federal and state policies regarding mothers with young infants that affected their business practice. It was expected that in this question, employers would reference the most recent federal legislation if applicable, the Patient Protection and Affordable Care Act, which has introduced a new clause into federal legislation that includes private spaces to express breast milk and the option to do so on break time. However, 80% of respondents reported that no federal and state policies regarding mothers with young infants affect their business practice, and 20% repeated federal and state maternity leave policies that were applicable to their business.

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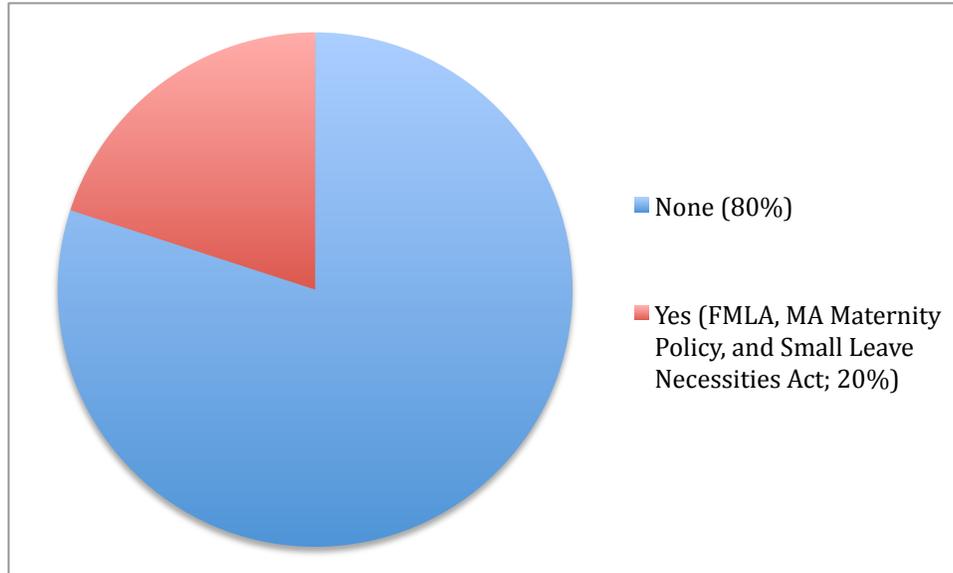


Figure 5.18. Federal and state policies impacting mothers. This figure illustrates the responses from employers when asked if there were any federal and state policies that impacted mothers in their business.

CHAPTER SEVEN:

Discussion and implications for the future

Discussion

Results from this study both support and refute previous studies regarding breastfeeding and employment. In examining maternal data, major findings indicate that in this sample 73% of women had fed their infants some breast milk with a combination of formula. While this is slightly higher than the statistic of 55% of non-Hispanic Black infants who have ever been breastfed as reported by the Center for Disease Control (Center for Disease Control, 2009), it does support literature that the majority of the non-Hispanic Black infant population has had some exposure to breast milk. Other findings from this study showed that the majority maternal subjects (73%) felt that their personal beliefs were the greatest influence on their decision to breastfeed. The idea that personal beliefs and motivations influence feeding decisions, especially in the Black population, supports previous literature. Forste et. al (2000) found that when women of all populations were given the option to list why they did not breastfeed, only 10% listed employment conflicts, while another 14% reported having medical or physical problems. Other options reported were having a “preference for bottle-feeding.” This preference, once stratified based on populations, showed a much higher percentage of personal preference influences for Black mothers, at 83% compared to 62% for Whites (Forste et. al 2000). Both studies focus on the decision making process in infant feeding practices, and the high emphasis on personal preference and lower on employment or other difficulties in the decision making process for the Black population.

While some results did reinforce previous literature findings, there were many results from this study that were surprising and do not support previous studies. Only one participant in this sample indicated that employment was the most influential aspect in her infant feeding decision-making process, which is surprising given the large amount of resources that focus on

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employment as a barrier to breastfeeding. To further reinforce the fact that maternal participants did not consider aspects of employment to impact their feeding decisions, the availability, length, and salary of maternity leave did not impact the majority (87%) of the sample in this study in regards to their feeding decision; those women reported that they were overall satisfied with their maternity leave. There may, however, have been an indirect influence from employment on breastfeeding that perhaps the participants were not aware of. None of the participants in this sample knew workplace policies pertaining to breastfeeding and milk expression in the workplace. In addition to these surprising results, participants reported that they were, for the most part, comfortable discussing women's health, maternity leave, and topics regarding breastfeeding with their supervisor. However, they also reported that they did not think their supervisor would be supportive of (or would remain neutral regarding) their decision to breastfeed.

These results indicate that aspects of employment that are traditionally referred to in the literature as barriers to breastfeeding, such as lack of maternity leave and lactation programs, cannot solely be used to define the aspects of employment that influence a feeding decision. In this sample of Black women, those aspects of employment and whether they were available or not were not the most influential factor in the decision making process regarding breastfeeding. What can be inferred, and most certainly merits further research, is that the lack of knowledge of policies and practices to support breastfeeding in the workplace environment among this population could indirectly play a role in the decision making process and serve as a barrier to breastfeeding.

In addition to maternal subject data, employer subject data provided both expected and unexpected results. When asked what policies and practices of their business impact employees

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who wished to breastfeed, employers in this sample reported the expected answers of flexible scheduling, mothers' rooms, as well as employer assistant programs. The awareness of lactation support services is consistent with literature findings that suggest that breastfeeding among working mothers is increasing (Drago et. al 2010). However, employers did not mention the Patient Protection and Affordable Care Act (PPACA) when asked if there were any state or federal policies that impacted employees in their business that wished to breastfeed. Although this question was open-ended and no specific mention of the PPACA occurred throughout the questionnaire, it was hypothesized that employers would reference sections of the Act that detailed break time for nursing mothers and required rooms for breast milk expression other than bathrooms.

The Act, although met with political controversy and attempts at being overturned, has been in place since 2010. It was expected that at the time of this survey in 2013, employers would be familiar with the Act and reference it as the primary federal policy that impacted working mothers at their business. While the questionnaire results cannot indicate if employers are comfortable with the details of the Act in regards to breastfeeding, it does indicate that employers do not consider it as a piece of legislation that impacts their employees who wish to breastfeed. The PPACA made great strides in terms of federal legislation to increase protection in the workplace for working mothers who wished to continue breastfeeding. However, it is unclear if all employers are aware of the implications of this Act on their employees and therefore, unclear how support could increase in the workplace for women if their employers were aware of this Act.

In conclusion, the results from this study indicate that while working mothers may indicate that there is nothing specific about employment that is deterring them from

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breastfeeding, employment does indirectly affect their decision. This study pushes the definition of “barrier” when it comes to breastfeeding, forcing us to not only think in terms of maternity leave and supportive services for encouraging pumping, but also to include lack of knowledge about workplace policies. This study paves the way for future research that can more thoroughly examine the extent to which knowledge of policies as well as comfort discussing those policies with supervisors may impact infant feeding decisions in the Black population.

Limitations of Study

While this study provided incredibly important information regarding barriers to breastfeeding, it was not without limitations. Such limitations include, but are not confined to, participant sample size in both phases, recruitment methods, and instrument measures.

This study may not have been completed, and if completed certainly would have progressed very differently, without the support of the Mattapan Community Health Center. Recruiting at this center was incredibly advantageous; the center was already an established location and resource in the community. The health center was accustomed to doing research with various students and organizations, and the potential participants (patients) were used to this as well. The center was set in a central location in the community and was easy for participants to reach. However, these advantages were not without limitations. The health center contained a WIC Clinic as well as a frequently visited pre-natal clinic. Since participants were recruited through flyers at the health center, the sample population could have already been at risk for low breastfeeding rates or health complications. Recruitment at a health center signifies an added chance of recruiting an already sick population or, at the other extreme, women who are exceptionally healthy due to increased access to care. In addition to these limitations to sample demographics, data was collected solely on days that coincided with pre-natal clinics at the health center. This was of coincidence based on interviewer and participant schedule, but does introduce confounding factors. For example, women interviewed could have chosen to participate on that date based on a pre-existing appointment with the pre-natal clinic, signifying they have other children, which could factor their decision to breastfeed. In addition to this, interviews were conducted, again by pure coincidence of interviewer schedule, on the same days of the week (Tuesdays) during the day time hours (10:00-2:00pm). This limited the sample of

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women to those that either had the flexibility to take time off from work to attend appointments at the health center or may not have been working full time.

In order to conduct research at the Mattapan Community Health Center, the study measures were conducted under certain restrictions. Before recruitment was approved to begin, the coordinator of family and community health services, Sharon Callender, requested that the survey be relatively short. Both she and the investigator agreed that for the participant benefit, a shorter survey was more reasonable for data collection. While a shorter survey that took between ten to fifteen minutes to administer was more attractive for recruiting participants, it meant that many topic areas could not be discussed. For example, as discussed in the methodology section, the participant questionnaire did not specifically ask about the many other factors known to influence breastfeeding rates, such as educational status, income level, nationality, or marital status (Drago et. al 2010). Other questions were designed to be broad enough to incorporate the entire sample population, yet specific enough so that data could be collected. For example, question four in the participant questionnaire asked if participants had ever breastfed or were currently breastfeeding their infants. The question did not ask for the duration of breastfeeding in order to be sensitive to those who may have not been able to breastfeed as was recommended. Therefore, responses to this question could signify a variety of things. A woman who had exclusively breastfed her infant for four months and then introduced formula and a woman who had only initiated breastfeeding in the hospital and then supplemented with formula could have theoretically answered with the same response of “yes, a combination of breast milk and formula,” when in fact those two responses would indicate very different health outcomes in infants and mothers.

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In addition to the aforementioned limitations, the greatest limitation by far is the size of the study and inability to generalize study results. Due to limited resources, both financially as well as time constraints, both participants and employer sample size are small. Participants were recruited for just a few short months, and employers were recruited based on participant responses and therefore only as large as the participant sample. In the future these limitations could be avoided by recruiting at more than one location or for a longer period of time. Instead of collecting data in two phases, where the employer sample size is contingent on the participant sample size, the study could be broken up into two distinct studies. Recruiting employers separately from participants could have potentially led to a larger sample size. In addition to the sample size limiting the ability to generalize these results to a larger population, the demographics of individuals in Mattapan also limited the results. Mattapan is an area of Boston known for having a high population of individuals who identify as Haitian Creole. Given that women who identify as foreign born and Black have a higher rate of breastfeeding than many populations, including U.S. born White individuals, it suggests that a sample of women from Mattapan could have a skewed rate of breastfeeding due to foreign born status.

Recommendations & Directions for Future

Results from this study indicate that the gap in knowledge of women regarding workplace policies may contribute to the disparity found in breastfeeding rates between populations in the United States. In addition to this gap in knowledge of policies, results indicate that there may be a lack in application of existing policies on behalf of the employer. Based on these findings, I would recommend that studies and programs regarding employment as a barrier to breastfeeding focus not only on emphasizing the benefits of breastfeeding, which seem to be well known but should be reinforced, but also on educating women and employers about the policies that exist regarding breastfeeding and expressing milk in the work place.

Numerous resources already exist that can help facilitate employers and employees as they transition into a place of employment that encourages breastfeeding or even to one that has a lactation program. Through the Department of Health and Human Services, the Maternal and Child Health Bureau, and the Health Resources and Service Administration, the federal government has created a program called “The Business Case for Breastfeeding” (BCB) that can easily be found through womenshealth.gov (Office of Women’s Health, 2010). In the BCB, the government provides numerous resources for both employees and employers. The BCB includes steps to support breastfeeding employees, as well as guidelines to create a program that supports current and future employees. The BCB emphasizes what equipment should be put in a lactation room as well as how to find room in an already existing office to create a lactation room.

In addition to putting emphasis on employers to have more knowledge about breastfeeding in the workplace, I recommend an additional component regarding breastfeeding in the workplace during prenatal education. In the BCB, there are numerous lesson plans for a possible class or classes geared towards pregnant women to help facilitate the integration of

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breastfeeding in the workplace along with prenatal education classes regarding breastfeeding. These lesson plans include suggestions for discussing truths and myths regarding breastfeeding in the workplace as well as how to approach and feel comfortable talking to supervisors about the decision to express breast milk at work (Office of Women's Health, 2010). Additional resources for health professionals, employees, and employers can be found through the United States Breastfeeding Committee. On their website, the Committee lists a variety of frequently asked questions to ease the potential concerns of mothers. Questions address the new legislation regarding break time for nursing mothers in the Affordable Care Act as well as whom to contact if an employee feels that her employer is not following the establish laws (United States Breastfeeding Committee, 2013).

While the above-mentioned resources do exist, I would recommend individual institutions creating and publishing their own materials, even on an informal scale. While the BCB and other governmental resources are thorough and in-depth, they have the potential to be above the English fluency or reading level of many Americans. Additionally, viewing these materials requires Internet or access to a computer with Internet, which often isn't possible for all Americans. In addition to this, these resources are so in-depth that they may seem overwhelming to first time mothers who are just beginning to explore the option of integrating employment and breastfeeding. The opposite of what most organizations, and myself, would want to see happen is a vulnerable population of mothers to view existing material, become overwhelmed, and actually decide *not* to integrate breastfeeding and employment. Therefore, I believe that institutions, such as the Mattapan Community Health Center, could create their own publications (brochures, handouts, etc.) geared toward their patient population. This way those publications could

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effectively convey the same information as already established organizations in a reader-friendly format.

In addition to the preparation of educational materials for employers and employees, I would also recommend further research on this topic. While this study was an excellent starting point, it was collected with a small sample of women from one urban area of Boston and cannot be generalized to the entire population. Future research should look to recruit and enroll a larger sample size of Black women not only from Boston, but from other areas of the nation as well. If possible, future studies should recruit in a variety of locations other than health centers to ensure a diverse sample of women and employers. Finally, I would recommend that future studies incorporate additional questions into data collection measures to adjust for possible confounding factors. As previously stated, the decision to breastfeed is influenced by many factors, such as income, education, and marital status, which were not included in data collection in this study. By incorporating this data, future studies will be able to improve the existing knowledge on how employment as a barrier to breastfeeding is related to other breastfeeding barriers as well.

Conclusion

There is no doubt that breastfeeding leads to numerous benefits for both mother and child. From decreased risk of respiratory infections and diarrhea to decreased risk of childhood obesity and maternal cancer, the benefits are plentiful. Although knowledge of benefits to breastfeeding and breastfeeding itself are increasing across all populations in the United States, rates are still below recommended levels. Governmental and health organizations recognize these benefits and the need to promote breastfeeding, and many have endorsed breastfeeding as the preferred feeding method for infants. The American Academy of Pediatrics recommends at least six months of exclusive breastfeeding for infants, and the United States Department of Health and Human Services includes breastfeeding objectives in the Maternal and Child Health areas of the national Healthy People 2000, 2010, and 2020 goals. The recent legislature of the Patient Protection and Affordable Care Act, put into place by President Obama in 2010, even has amendments to the Fair Labor and Standards Act to protect working mothers who wish to continue breastfeeding.

Although breastfeeding has been endorsed and supported by numerous prominent institutions in the United States, rates across the nation are still below desired values. Rates for breastfeeding across all initiation and duration time points are the lowest in the non-Hispanic Black population. Results from this study that centered around this particularly vulnerable population indicate that while women do not feel that employment directly impacted their decision to breastfeed or formula feed their infant, they also were not aware of any policies that may support their breastfeeding attempts upon return to work. In addition to lack of knowledge and awareness of policies found in maternal participants, there was also a lack of knowledge

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about specific policies found in employer subjects. Future efforts to decrease the disparity in breastfeeding rates across the nation should begin with education of existing policies to both employees and employers so that employment and breastfeeding together seem more feasible.

The ultimate goal of many policies, including those regarding breastfeeding, is to increase health around the nation. With increased knowledge and awareness of breastfeeding-specific policies we can anticipate better health in populations. In many cases, reducing the disparity in breastfeeding rates between populations can also decrease the gap in other health areas. By increasing breastfeeding rates in populations other health complications, such as obesity, may also be reduced. Focusing on breastfeeding and the policies that surround it is one way to increase health outcomes across the nation. Although the act of breastfeeding is typically associated with the beginning of life, its benefits are seen over the course of a lifetime. The benefits of breastfeeding are recognized in many populations. However, those benefits will not be possible for countless infants unless breastfeeding is made more feasible for all individuals. Breastfeeding is just the beginning, but emphasis and education regarding its policies will bring us forward into a healthy future.

CHAPTER EIGHT:

Appendixes and additional information

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Appendix A: Institutional Review Board Approval



OFFICE OF THE VICE PROVOST

Social, Behavioral, and Educational Research
Institutional Review Board
FWA00002063

November 20, 2012 | Notice of Action

IRB Study # 1210009 | Status: ACTIVE

ATTENTION: BEFORE CONDUCTING ANY RESEARCH, PLEASE READ THE ENTIRETY OF THIS NOTICE AS IT CONTAINS IMPORTANT INFORMATION ABOUT PROPER STUDY PROCEDURES.

Title: Does workplace environment affect the rate of breastfeeding in the black population?

PI: Erin Fleurant
Faculty Advisor: Martha Pott, Maryanne Wolf

The PI is responsible for all information contained in both this notice of action and on the following **Investigator Responsibilities Sheet**.

Only copies of approved stamped consent forms and other study materials may be utilized when conducting your study.

This research protocol now meets the requirements set forth by the Office for Human Research Protections in 45 CFR 46 under Expedited Category 7.

Reviewed 11/13/2012 – Expires 11/12/2013

- Approved for 40 participants for the duration of the study.

Protocol Management:

- For all changes to the protocol, submit: *Request for Protocol Modification* form
- All Adverse Events and Unanticipated Problems must be reported to the Office of the IRB promptly (no later than no later than 7 calendar days after first awareness of the problem) using the appropriate forms.
- Six weeks prior to the expiration of the protocol on 11/12/2013, investigators must submit either a *Request for Continuing Review* or a *Request for Study Closure*
- All forms can be found at: <http://www.tufts.edu/central/research/IRB/Forms.htm>

IRB Administrative Representative Initials: _____

Handwritten initials in blue ink, appearing to be "JRS", written over a horizontal line.

BREASTFEEDING AND THE WORKPLACE ENVIRONMENT

Appendix B: Funding Approval from Tufts University Undergraduate Research Fund

Excerpt from an email with Dean Carmen Lowe, Dean of Academic Advising and Undergraduate Studies:

Undergraduate Research Grant

3 messages

Lowe, Carmen <Carmen.Lowe@tufts.edu>

Fri, Nov 16, 2012 at 5:02 PM

To: "erin.fleurant@gmail.com" <erin.fleurant@gmail.com>

Cc: "Pott, Martha" <Martha.Pott@tufts.edu>, "Ferguson, Joanne" <Joanne.Ferguson@tufts.edu>

Dear Erin,

I am happy to inform you that your request for an Undergraduate Research Grant has been approved. You may be reimbursed for up to \$300 for the CVS gift cards for your research participants.

To receive your reimbursement, please submit all receipts to my Administrative Assistant, Joanne Ferguson, in the Office of Undergraduate Education (7th floor, Dowling Hall).

Should your research require travel to Mattapan, the Undergraduate Research Fund can also be used to defray transportation costs. Keep that in mind if you wish to request additional funding for this worthwhile and interesting research project.

Sincerely,

Carmen Lowe

Dean of Academic Advising

& Undergraduate Studies

Tufts University

Medford, MA 02155

Carmen.Lowe@tufts.edu

617-627-4239

BREASTFEEDING AND THE WORKPLACE ENVIRONMENT

Appendix C: Participant Questionnaire

Tufts University
erin.fleurant@tufts.edu

Erin Fleurant
Principal Investigator

Participant Questionnaire:

If at any time you do not wish to answer a question, please let me know by responding with "I do not wish to answer this question." You can choose to skip any question you do not wish to answer. All information is voluntary and completely confidential. Your name will not be recorded. If you choose to receive a gift card at the end of the questionnaire, you will be asked to sign to acknowledge you received the card. Your signature will be stored separately from your answers to these questions and will not be linked to your responses.

1. **How old is your child?**
 - a. ___years ___months

2. **With what race/ethnicity do you identify?**
 - a. African American/black
 - b. White
 - c. Hispanic/latino
 - d. Other _____

3. **How old was your child when you went back to work?**
 - a. ___weeks
 - b. ___months
 - c. I did not return to work

4. **Did you (or are you currently) breastfeeding your infant? Please choose the best response.**
 - a. Yes
 - b. Yes, a combination of breast milk and formula
 - c. No

5. **Please chose the best answer to describe your workplace**
 - a. I work full time (35-40 hours/week) at one job
 - b. I work full time (35-40 hours/week) at two different jobs
 - c. I work part-time (1-25 hours/week) at one job
 - d. I am not employed at this time.

APPROVED
NOV 13 2012
Tufts SBER IRB

EXPIRES
NOV 12 2013
Tufts SBER IRB

If you are employed in more than one location, please answer the following questions based on the place of employment where you spend the most hours/week. If both places of employment have equal hours per week, please choose the one you have worked for the longest time. Your information is confidential and will not be seen by your employers.

6. **I am currently employed at**
 - a. _____ (name) _____ (phone number)

7. **When I was pregnant and immediately following the birth of my child, I was employed at**
 - a. _____ (name) _____ (phone number)

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Principal Investigator

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8. I am paid

- a. Hourly
- b. On a salary

9. Do you know of any rules or policies about breast-feeding in your workplace environment?

- a. Yes
- b. No
- c. I don't know

10. If you answered yes to question #8, have you ever discussed these rules or policies with your employer?

- a. Yes
- b. No
- c. I don't know

11. Does your workplace environment have any of the following (check all that apply)

- A room specifically designed for pumping
- Breaks (unpaid) for pumping
- Breaks (paid) for pumping
- A fridge specifically for breast milk
- Pumping equipment available on site
- Childcare available on site
- A policy allowing you to bring your infant to work to breastfeed

12. Which of the following influences what you feed your infant? (check all that apply)

- Family
- Friends
- Health circumstances
- Work (time commitment, policies, etc.)
- Cost
- Other (please state) _____

13. Out of the options in question 11, please check which one you think influences your decision about what to feed your infant the most:

- Family
- Friends
- Health circumstances
- Work (time commitment, policies, etc.)
- Cost
- Other (please state) _____

14. If your workplace added one or more of items mentioned in question 10, how would this change your perspective on breastfeeding?

- a. I would be more likely to breastfeed my infant
- b. It would not change decision on what to feed my infant
- c. My workplace already has all of these items

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15. At your workplace, did you get maternity leave (time off after the birth of your infant?)

- a. Yes
- b. No

16. If yes, how long was your maternal leave/time off?

- a. 0-1 month
- b. 1-3 months
- c. 3-6 months
- d. 6+ months

17. Was your maternal leave/time off paid?

- a. Yes
- b. No
- c. A combination of paid and unpaid time

18. Thinking about time and salary, are you satisfied with your maternal leave/time off employer policy?

- a. Yes
- b. No

19. Did your maternal leave/time off (or absence of leave/time off) affect your decision to breastfeed or formula feed your infant?

- a. Yes
- b. No

Please rate the following statements on a scale of 1-5
(1=strongly disagree, 3=neutral/don't care, 5=strongly agree)

20. If I wanted to breastfeed, my supervisor would support me 1 2 3 4 5

21. If I wanted to breastfeed, the people I work with would support me

1 2 3 4 5

22. I feel comfortable talking to my supervisor about women's health, breastfeeding, and maternal leave/time off policies 1 2 3 4 5

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Appendix D: Instrumentation (Employer Questionnaire)

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Principal Investigator

Employer Questionnaire:

Questionnaire Phone Script: *Thank you for taking the time to speak with me today. I am calling because I am interested in researching more about how your employers balance their work and home life and make decisions, especially mothers with young infants and children. If at any time you do not wish to answer a question, please let me know by responding with "I do not wish to answer this question." You can choose to skip any question you do not wish to answer. All information is voluntary and completely confidential. Your name/your company's name will not be recorded unless you would like it to be. Before we begin the questionnaire, I'll remind you of the elements of the consent form you received. Please stop me at any time if you have questions.*

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1. **Do you think it is easy, difficult, or very difficult for your employees to balance work and their children?**
 - a. Easy
 - b. Difficult
 - c. Very difficult
 - d. Other _____

2. **What policies and practices does your company have to encourage work and home life balance?**

3. **If not addressed in question 2, what activities or events do your company offer to employees to promote work and home life balance?**

4. **What company policies provide support services for women who are currently breastfeeding or want to breastfeed in the future? Please list as many as you feel are applicable.**

5. **What is the company's maternal/paternal leave policy? Please indicate time allocated, pay options, and any other information you feel is applicable.**

6. **What options do women currently have for pumping and storing breastmilk during the work day? (ex: private office, conference room, etc.) Please list all that are applicable.**

7. **Are there any federal and state policies regarding mothers with young infants that affect your business practices?**

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Erin Fleurant
Principal Investigator

Thank you for taking the time to speak with me today. If you have any questions, you can contact me at 603-724-1205 or the Tufts IRB administrator, Lara Sloboda at 617-627-3417.

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Appendix E: Timeline of Research Protocol

Month	Action	Result
September – December 2012	Literature reviews for Institutional Review Board Approval, apply for Tufts Undergraduate Research Funding	Approved and funded for research study
December 2012 – January 2013	Discussions with Mattapan Community Health Center to begin data collection	Approval to collect data from Sharon Callender at Mattapan Community Health Center
February 2013	Collect data from participants at Mattapan Community Health Center through in person questionnaires	Data (n=11) is collected
February – March 2013	Collect data from employers of participants through over the phone questionnaires	Data (n=5) is collected
March 2013 – April 2013	Data is analyzed and compiled and results are written	
Late April – May 2013	Results are defended for Senior Honors Thesis and presented to Mattapan Community Health Center. Results are shared in various undergraduate presentations at Tufts University	

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Appendix F: Recruitment Materials

Flyer

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Tufts University Research Study

Help us discover if your workplace environment affects how you feed your infant.

YOU CAN HELP CHANGE POLICIES FOR WOMEN

WHO: Black women with children under 3 years of age.

WHAT: A questionnaire to learn about you and your child

WHEN: A 10-15 minute time period convenient for you

WHERE: Here at the Mattapan Community Health Center

Help us: answer a few questions and receive a gift card

Erin Fleurant, PI
603-724-1205,
erin.fleurant@tufts.edu

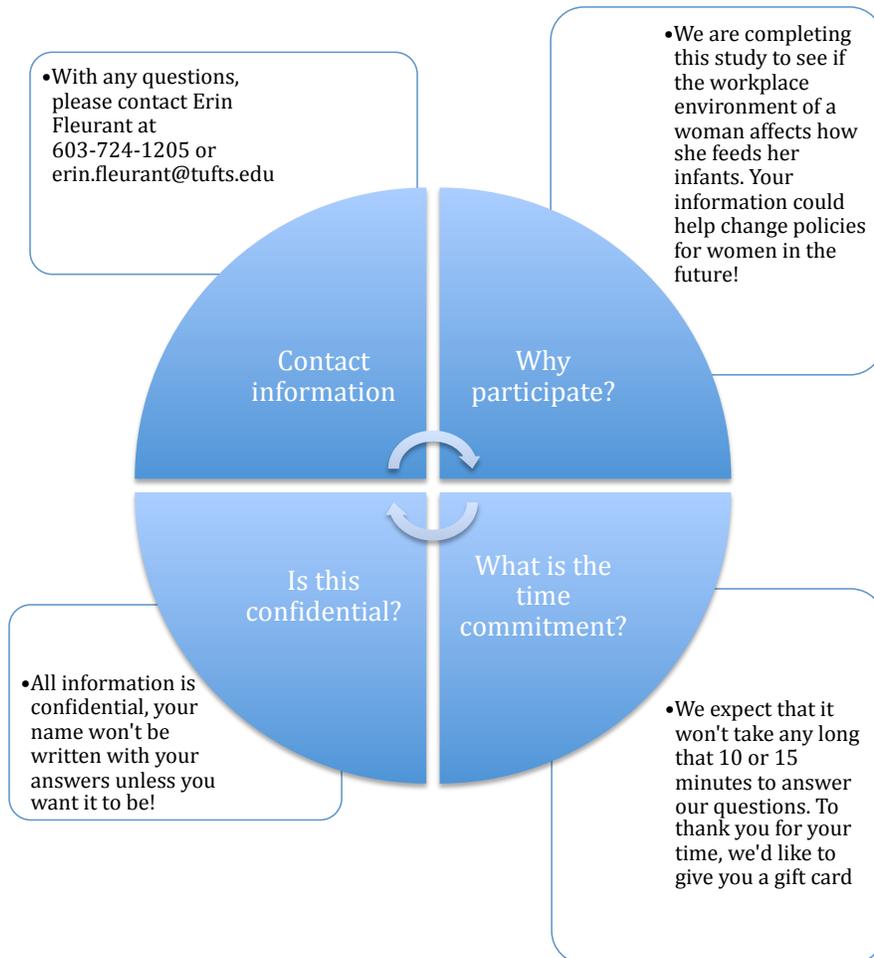
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Informational handout for participants

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Principal Investigator

Information for You



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