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Racial/Ethnic Status and Perceived Stigma for Breastfeeding in Public

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by

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Abstract

The World Health Organization recommends babies be exclusively breastfed for at least six months. However, the Centers for Disease Control reported that only 18.8% of American mothers exclusively breastfed their children to six months in 2014. Past studies have indicated that Minority women breastfeed at rates lower than Caucasian women. The current study aimed to determine if perceived stigma associated with breastfeeding in public is a possible factor in this phenomenon. It utilized a hardcopy and online version of a survey that was distributed at Women Infant Children's (WIC) offices in New Hampshire and online breastfeeding support groups. The sample size for the study was N= 238. A *t*-test found that Caucasian participants reported more perceived stigma than Minority participants (t (236) = 1.96 p = .05). A one-way ANOVA examined perceived stigma and racial/ethnic subgroups and did not yield significant results (F (6, 231) = .95, p = .46). Further, acculturation level did not predict higher perceived stigma scores: F (1,73) = 2.83, p = .10, with acculturation accounting for 4% percent of the variance in perceived stigma (R^2 = .04). Prior knowledge about breastfeeding, education level, and social supports were used as moderators for the relationship between race/ethnicity and perceived stigma. Moderated Multiple Regression did not yield statistically significant results for these analyses. Future research should examine the amount of knowledge health care professionals possess about breastfeeding as the Baby Friendly Hospital Initiative, which centers on health care professionals being knowledgeable about breastfeeding, is believed to increase breastfeeding initiation and duration. In addition, future researchers should examine the following as potentially stigmatizing factors among breastfeeding mothers: maternal/child skin tone, anxiety and maternal race/ethnicity, and the age of the child being breastfed. Psychologists who work with children and families are advised to include information on the benefits of

breastfeeding in parenting skills oriented psychotherapies. In addition, third-wave Cognitive Behavioral Therapies are recommended for working with individual women experiencing stigma for breastfeeding in public. Finally, partnerships with outside health care professionals and breastfeeding support groups in the communities are also recommended to better support breastfeeding clients.

Keywords: breastfeeding, stigma, Minorities

Racial/Ethnic Status and Perceived Stigma for Breastfeeding in Public

Chapter 1: Statement of the Problem and Literature Review

There is a wide range of evidence supporting breastfeeding as the healthiest and most beneficial infant feeding choice for both mothers and babies. The World Health Organization (WHO) and American Academy of Pediatrics (AAP) both recommend exclusively breastfeeding (conceptualized as breastfeeding without supplementation with formula, food, or water) for the first six months of a child's life and continued breastfeeding up to one year of age and beyond (AAP, 2012; WHO, 2012). However, rates of breastfeeding in the United States remain low. The Centers for Disease Control (CDC)'s 2014 Breastfeeding Report Card stated that although 79.2% percent of mothers initiate breastfeeding at birth by the time their babies are six months old, only 49% of mothers are breastfeeding at all. Numbers for exclusive breastfeeding are significantly lower, with only 18.8% percent of mothers exclusively breastfeeding by the time their babies are 6 months old (CDC, 2014). In 2012, Save the Children published a Breastfeeding Policy Scorecard based on statistics from world health and labor organizations on 36 of the world's developed countries. On this scorecard only one country, Malta, ranked below the United States for breastfeeding initiation. Additionally, the United States was in the bottom ten developed countries for duration of breastfeeding to six months (Save the Children, 2012). Low rates of breastfeeding in the United States are particularly surprising when one considers the clear benefits of breastfeeding for both babies and mothers.

Breastfeeding is Beneficial for Babies

Breastfeeding is linked to several health benefits for babies. These benefits include lower instances of diarrhea, ear infections, necrotizing enterocolitis, respiratory infections, asthma, obesity, food allergies, celiac disease, inflammatory bowel disease, childhood leukemia, atopic

dermatitis, and Sudden Infant Death Syndrome (SIDS; AAP, 2012). The United States Department of Health and Human Services (2010) reported that for every 1,000 babies not breastfed, there are "2,033 excess physician visits, 212 excess hospitalization days, and 609 excess prescriptions for ear, respiratory, and gastrointestinal infections" (slide 10). Unlike infant formula, breast milk offers babies immunological inoculation and is more easily digested than formula (United States Department of Health and Human Services, 2010). Beyond initial immunological benefits, antibodies in a mother's milk are continually targeted against infectious agents within the mother's environment as long as breastfeeding continues (Lauwers & Swisher, 2011).

Breastfeeding is Beneficial for Mothers

Breastfeeding is linked to many health benefits for women. The AAP (2012) found that breastfeeding mothers report lower rates of Postpartum Depression, diabetes, obesity, heart disease, hypertension, breast cancer, rheumatoid arthritis and ovarian cancer than bottle-feeding mothers. Further, if breastfeeding mothers suffer from Postpartum Depression, they experience less severe symptoms than formula feeding mothers. The AAP also reports a correlation between breastfeeding and lower rates of child abuse and neglect.

In addition to health benefits, breastfeeding offers monetary and occupational benefits for mothers. Breast milk itself is entirely free whereas annual formula expenses were estimated at $3,163.86 in 2005 (Bonyata, 2005). In the United States, health care costs and insurance claims are lower for breastfed infants. Furthermore, mothers of breastfed infants are less likely to miss work due to their child's illnesses (Hench, 2005). Although breastfeeding offers benefits to both mothers and babies, historical attitudes toward breastfeeding have not fostered a culture that supports breastfeeding in the United States.

Breastfeeding Was Not Historically Applauded in the United States

Although breastfeeding may be the original infant feeding method, it has a complicated history in the United States. Before the development of infant formula in the 19th century, mothers who could not, or did not wish to breastfeed either hired a wet nurse to feed their babies or utilized dry feeding techniques (Lauwers & Swisher, 2011). Hiring a wet nurse was costly and, therefore, was reserved for affluent families (Lauwers & Swisher, 2011). Dry feeding involved mixing cow milk with bread or breadcrumbs to feed the infant (Thulier, 2009). Use of dry feeding resulted in the death of many infants, so the creation of infant formula in the 1800s decreased the mortality rates among children in institutions (Thulier, 2009). Infant formula became more readily available during the Industrial Revolution and was originally produced by pediatricians (Wolf, 2003). However, breast milk still remained the more cost effective option, and as such, formula feeding was originally associated with mothers of higher socioeconomic status (Wolf, 2003).

Two mid-20th century developments accelerated the adoption of formula feeding as the normative infant feeding method in the United States. First, more mothers began entering the workplace, especially during World War II, which meant they were not physically present to breastfeed their babies. Second, the birthing and feeding of infants came increasingly within the scope of the medical profession between 1930 and 1950. Modern medicine was disdainful of many natural or indigenous practices regarding childcare and held to a belief in the nutritional superiority of formula. As a result, the precision of formula dosing came to prevail in the United States during this time (Thulier, 2009; Wolf, 2003). Parenting books and manuals from the 1950s advised against breastfeeding if milk was thin, if breastfeeding occurred too often or for too long, or if breastfeeding resulted in sore nipples (Thulier, 2009). Due to this misinformation many

mothers began to believe that breastfeeding was not the best infant feeding choice for their babies (Thulier, 2009).

The women's movement in the 1960s struggled with the idea of breastfeeding. Many feminist leaders decried the practice as a form of male control, and other feminist leaders stated that the use of formula was designed by men to deny mothers the experience of breastfeeding (Thulier, 2009). In the 1970s, when breastfeeding rates were at an all-time low, medical studies began to show the benefits of breast milk over formula feeding (Wolf, 2003). In the 1980s, the United States Office of the Surgeon General held its first workshop promoting breastfeeding in an effort to encourage the practice among working mothers (United States Department of Health and Human Services, 2010). At this time the United States Department of Health and Human Services also began to actively promote breastfeeding, and years later an increase in breastfeeding initiation was listed in its Healthy People 2010 goals.

Breastfeeding rates have, in fact, increased in the United States since the 1980s, yet there are many possible reasons why formula feeding persists at high rates today. The history of breastfeeding in the United States has created mothers who themselves were likely formula fed and therefore may not be as familiar with breastfeeding. American mothers may continue to choose to formula feed due to the enduring association of breastfeeding with lower socioeconomic status. Further, the notion that formula feeding is healthier and more reliable than breastfeeding may still circulate among a woman's family and friends who were taught this idea by doctors in the past. Family and friends who hold to this belief may be unsupportive of breastfeeding (Lauwers & Swisher, 2011). Additional factors in a woman's life, such as socioeconomic status, social supports, prior knowledge about breastfeeding, acculturation level, and perceived stigma for breastfeeding in public may act as barriers to breastfeeding success.

Potential Barriers to Breastfeeding

Breastfeeding rates vary by race/ethnicity. Breastfeeding initiation and duration varies among mothers from different racial and ethnic backgrounds. A review of data from the National Health and Nutrition Examination Survey from the years 1999-2006 by the CDC indicated that Caucasian women from higher socioeconomic statuses were more likely to initiate breastfeeding and have higher breastfeeding duration than Minority mothers regardless of their socioeconomic status (Mcdowell, Wang, & Kennedy-Stephenson, 2008). In another study, the CDC (2006) determined that African American mothers had much lower rates of breastfeeding than Caucasian mothers, and that Caucasian mothers had higher rates of breastfeeding duration and initiation. Data reflecting higher breastfeeding rates among Caucasian mothers was also found in a research study regarding breastfeeding behavior of women during the years 1985-1995 (Wright & Schanler, 2001). However, more recent studies have indicated a shift toward more variance in breastfeeding initiation and duration across racial/ethnic backgrounds. Chapman and Perez-Escamilla (2012) examined survey data from a 2007 National Immunization Survey and found that only 60% of African American women initiated breastfeeding, a number lower than Caucasian, Latina, Asian, and Native American women who all initiated breastfeeding at rates in the 80% range. In the Chapman and Perez-Escamilla (2012) study Asian American women had higher rates of breastfeeding initiation and duration than Caucasian, Latina, Native American, and African American women. A 2013 study of 8,508 mothers in Hawaii found that by 8 weeks 51.9% of Caucasian mothers in the study were still breastfeeding whereas rates for Korean (38%), Black (37%), Chinese (33.8%), Native Hawaiian (31.8%), Japanese (29.4%), Filipino (28.9%), and Samoan (24.2%), mothers was much lower (Hayes et. al, 2013). In addition, in a review of National Health and Nutrition Examination Survey from 2004-2008, the Centers for

Disease Control (2010) determined that African American mothers had lower rates of initiation and duration of breastfeeding than any other racial/ethnic group. This review also found that Asian mothers had higher rates of both initiation and duration than mothers from other racial/ethnic backgrounds.

Breastfeeding success becomes less likely with lower socioeconomic status. Despite breastfeeding being the more economic infant feeding choice, women of lower socioeconomic status have the lowest breastfeeding rates in the United States regardless of racial or ethnic group (United States Department of Health and Human Services, 2010). Socioeconomic status lacks a standard definition, though most sociologists and research studies operationalize it on the basis of income, employment/occupation, and education level (Bradley & Corwyn, 2002). Although the APA's task force on socioeconomic status notes the importance of power inequalities and quality of life factors (APA, 2007), literature relevant to infant feeding choices restricts itself to socioeconomic status defined on the basis of occupation, income, and education level.

***Employment and occupation affect breastfeeding*.** Establishment of milk supply and the breastfeeding relationship requires frequent breastfeeding in the early weeks of an infant's life, with breastfeeding occurring eight to 12 times in a 24-hour period and milk supply finally establishing itself four to six weeks postpartum (Office of Women's Health, 2010). Full-time employment thus constitutes a barrier to effectively establishing breastfeeding and milk supply. The United States Department of Health and Human Services (2010) reports that full-time employment reduced breastfeeding duration by an average of eight weeks and found that higher breastfeeding initiation occurred when mothers were granted more than seven weeks of maternity leave. The United States, unlike most developed nations, does not ensure paid maternity leave. Instead, the United States offers the Family Medical Leave Act, which allows

mothers to take up to 12 weeks of unpaid leave without losing their jobs (United States Department of Health and Human Services, 2011). Lower income women would clearly have greater difficulty affording unpaid leave. Although breastfeeding is more economical than purchasing formula, that calculation shifts if it costs income opportunities; breastfeeding may not be practical for some women who must retain full-time employment.

***Lower income, lower breastfeeding rates*.** The National Health and Nutrition Examination Survey for 1999–2006 found that breastfeeding initiation and duration were lowest for children from low-income families (McDowell et al., 2008). In a study of California mothers' infant feeding choices, breastfeeding duration was lowest among women with lower incomes and whose partners had lower incomes than the national average (Heck, Braeman, Cubbin, Chavez, & Kiely, 2006). A Women Infant Children (WIC) program in Michigan reported that pregnant women from higher income brackets were more likely to indicate intention to breastfeed (Mitra, Khoury, Hinton, & Carothers, 2004). Additionally, many mothers with low incomes belong to WIC programs and can receive formula allotments as part of their supplemental food packages (United States Department of Agriculture, 2012), shifting the economic considerations toward formula feeding.

***Education is associated with higher probability of breastfeeding*.** Several studies have found correlations between successful breastfeeding and higher levels of education. A study of Canadian mothers found that exclusive breastfeeding correlated highest with a mother's age and education level (Dubois & Girard, 2003). Additionally, Chin, Myers, and Magnus (2008) found that African American mothers in Louisiana were less likely to breastfeed than Caucasian mothers, but that the likelihood of breastfeeding increased among both groups with education levels. In general, breastfeeding rates are highest among college-educated women and women 35

years or older, and are lowest among single, less educated mothers, especially those in WIC programs (Lauwers & Swisher, 2011).

Social supports are strongly associated with breastfeeding success. Social supports for breastfeeding mothers include their partners, family, and friends. Chin (2010) found that women from lower socioeconomic statuses believed that lack of community and employer support were hindrances to breastfeeding. Trust (2011) found that women with partners, family members, and friends who were supportive of breastfeeding had greater breastfeeding success. Several studies have shown that when male partners are unsupportive of breastfeeding, mothers are more likely to choose bottle-feeding (Clifford & McIntyre, 2008; Lawrence & Lawrence, 2005; Mitchell-Box & Braun, 2012). In a summary of American, Canadian, and British literature from 1980 to 1995 regarding fathers and breastfeeding, Bar Yam and Darby (1997) found that fathers influence the decision to initiate breastfeeding, play a role in assistance with breastfeeding, and influence the duration of breastfeeding. Overall then, social support, particularly from significant others, influences whether breastfeeding is initiated and whether it is successful.

Knowledge about breastfeeding improves rates of breastfeeding. Many studies have shown a correlation between prior knowledge about breastfeeding and the initiation and duration of breastfeeding. A Scottish study found that in a sample of 108 pregnant couples, mothers were more likely to initiate and continue breastfeeding if they were more knowledgeable about breastfeeding prior to the birth of their children (Shaker, Scott, & Reid, 2003). Undergraduate women who scored higher on a breastfeeding knowledge scale were found to have more positive attitudes toward breastfeeding and were more likely to say they would breastfeed their own children (Marrone, Vogeltanz-Holm, & Holm, 2012). In a qualitative study on initiating and

sustaining breastfeeding among African American mothers, all participants believed that the biggest reason to begin breastfeeding was that it was a healthier choice for the baby than formula feeding. In the same study, many of the mothers reported that familiarity with breastfeeding was another reason to initiate breastfeeding (Lewallen & Street, 2010). Additionally, mothers in the Lewallen and Street study stated that breastfeeding duration was related to advice and information from professionals and mothers who had breastfed previously.

Stigma and Breastfeeding

The word *stigma* originally described a mark or tattoo given to undesirable people such as criminals or slaves ("stigma," 2013). Currently, the online Oxford Dictionary (2015) defines stigma as "a mark of disgrace associated with a particular circumstance, quality, or person." Those who are stigmatized are likely to report experiencing discrimination and prejudice due to certain personal attributes or characteristics (Scheyett, 2005). Theorists on social stigma believe that stigma is formed through the interaction of social and behavioral processes.

Formation of stigma. According to Link and Phelan (2001), stigma occurs through a five-step process. First, an attribute is deemed abnormal by society. Second, this attribute is associated with negative stereotypes, creating an easily applied label for those who have the attribute. Third, these labels and stereotypes create an *us* versus *them* mentality for those without the attribute. Fourth, the *us* versus *them* mentality influences societal behaviors toward those with said attribute. These behaviors are commonly known as discrimination. As stigma becomes more solidified, those with the attribute experience stigma as a group and as individuals. Finally, stigma is reinforced via the larger social, economic, and/or political system within a society.

The Link and Phelan (2001) study aligns well with social cognitive theories on stigma purposed by Corrigan (2000), who describes stigma as a three-step process. This process

involves (a) the labeling of certain attributes, which then become signal cues for stigma; (b) the creation of stereotypes, which creates negative attitudes toward those with the attribute; and (c) discrimination against those who possess said attributes. In Corrigan's (2000) social-cognitive model of stigma, discrimination creates the feeling of stigmatization. In both models stigma occurs contextually and has psychological and behavioral consequences.

Stigma negatively affects psychological well being. Corrigan, Larson, and Rüsch (2009) state that those who regularly experience stigma may exhibit a "why try" effect, wherein they internalize stereotypes and discrimination. In the "why try" effect, stereotypes are internalized and the stigmatized individual develops lowered self-esteem, accepts devaluation of the self, and displays less self-efficacy. In accordance with the Corrigan, Larson, and Rüsch (2009) study, stigma has been associated with depression, low self esteem, decreased interest in relationships, and lower levels of hope and empowerment across several other studies (Graf et al., 2004; Livingston & Boyd, 2010; Markowitz, 1998; Roeloffs, Sherbourne, UnÜtzer, Fing, Tang, & Wells, 2003).

Stigma affects behavior. Social Reaction Theory states that people who feel stigmatized might engage in a conforming response wherein they reduce or hide their behavior to comply with social norms (Scheyett, 2005). Stigmatization can also provoke a resistant response, accentuating commitment to practicing a stigmatized behavior (Cioffi, 2000). Further, feelings of and reactions to stigma can be contextually based (Cioffi, 2000). For example, a breastfeeding mother may feel less stigma breastfeeding on a bench in the mall than at a restaurant. In this situation, the mother may alter her behavior for each situation based on her feelings of stigma. As will be seen, the general public in the United States views breastfeeding disapprovingly. This disapproval has implications for maternal infant feeding behavior.

Public attitudes toward breastfeeding are negative and lead to stigma. Research indicates that Western society singles out breastfeeding as an inappropriate behavior, although it is believed to be more appropriate if the nursing mother covers her breast/baby while breastfeeding (Avery & Magnus, 2011; Kaufman, Deenadayalan, & Karpati, 2010; Ruowei, Rock, & Gummer-Strawn, 2007; Spurles & Babineau, 2010). Acker's (2009) study and a series of studies performed by Smith, Hawinkinson, and Paull (2011) found that participants believed breastfeeding mothers to be less competent and intelligent than bottle feeding mothers. In congruence with Link and Phelan's (2001) theory on the formation of stigma, Acker (2009) and Smith et al.'s (2011) study points to the existence of stereotypes regarding breastfeeding mothers' intelligence and competence. Further, a belief that breastfeeding mothers are less competent and less intelligent likely leads the public to engage in behavior changes and discrimination.

Nursing mothers fear breastfeeding in public due to stigma. The general public's stigmatizing views toward breastfeeding are reflected in nursing mothers' feelings and experiences regarding breastfeeding in public. Nursing mothers in several studies cited fear of public breastfeeding to be a barrier to their breastfeeding journey (Acker, 2009; Lewallen & Street, 2010; Scott & Mostyn, 2003). One qualitative study asked nursing mothers in a focus group in Scotland about their experiences of breastfeeding in general. These women stated that their negative experiences while breastfeeding in public caused embarrassment and shame when it came to breastfeeding in general (Scott & Mostyn, 2003). Shannon, O'Donnel, & Skinner (2007) state that two of the most common concerns women have regarding breastfeeding are fears of breastfeeding in public and fear of criticism/lack of social support from significant others. Trust (2011) found that women rated breastfeeding as easier when they were able to

comfortably breastfeed in public and felt supported for doing so by significant others. The age of the nursing child may play a factor in nursing mother's feelings of stigmatization for breastfeeding, both in public and in general. In a qualitative study by Stearns (2011), mothers reported that they felt pressure to wean their children if their children were over 12 months old or appeared to be over 12 months old. These mothers stated that they felt judged for breastfeeding by their friends, family, and the public if their babies met these criteria. The experiences of the women in the Stearns' study were congruent with the definition of stigma offered in this dissertation. Furthering the findings from Stearns' study, a quantitative study on factors that influenced mothers' decisions on breastfeeding duration found that mothers felt less public approval and more feelings of stigma the longer they breastfed (Rempel, 2004). Therefore, public opinion plays a role in women's infant feeding decisions and this role may become more prominent as nursing children grow older.

Minorities, stigma, and public breastfeeding

Many Minority mothers, or those who do not identify themselves racially or ethnically as Caucasian or European in origin, report lower rates of breastfeeding than Caucasian mothers (Caucasian/European in origin) mothers. Lower breastfeeding rates among Minorities, particularly among African Americans, suggest possible cultural factors that may influence Minority mothers' infant feeding choices. According to research regarding stigma, those who already feel stigmatized, such as Minorities, are likely primed to feel stigmatized due to other attributes (Scheyett, 2005). When polled about their infant feeding choices, Hispanic and African American mothers across several studies endorsed feelings of embarrassment and shame for breastfeeding in public (Lee, Elo, & Culhane, 2009; McKee, Zayas, & Jankowski, 2004; Moreland, Lloyd, Braun, & Heins, 2000). Participants in two qualitative studies on breastfeeding

and Minorities listed fear of embarrassment for public breastfeeding as a barrier to breastfeeding (Gill, Reifsnider, Manna, Villarreal, & Tinkle, 2004; Hannon et al., 2000). Finally, a meta-ethnographic study of migrant women found that embarrassment for public breastfeeding was cited in all studies in the review and that many of the participants in the studies listed fear of public breastfeeding as a reason to switch to formula feeding (Schmied et al., 2012).

Existing literature suggests that Minority groups view breastfeeding in public negatively and that they may view public breastfeeding more negatively than Caucasians. Li, Fridinger, and Grummer-Strawn (2002) polled 2,351 adults participating in the Healthstyles 2000 national mail survey about their attitudes toward breastfeeding. Their results found that Minority participants (that is, Black and Hispanic mothers) rated breastfeeding more negatively than Caucasian respondents. Some qualitative studies have revealed that Hispanic and African American mothers believe breastfeeding in public to be inappropriate, disrespectful, threatening, and sexually suggestive (Gill et al., 2004; Kaufman et al., 2010). In the Kaufman et al. (2010) study a participant stated that only "bad mothers" breastfed in front of their other children and family members. Research regarding acculturation and breastfeeding rates points to societal and cultural influences on Minority mothers' infant feeding choices.

Higher acculturation levels are linked to lower breastfeeding rates. Stigma for breastfeeding in public in a culture that views bottle feeding as more normative may be impacting the infant feeding choices of Minority immigrant mothers. In a study examining data from 10,550 WIC eligible mothers, Sparks (2011) determined that out of seven racial and ethnic groups (Non-Hispanic Whites, Foreign-Born Mexican Origin Hispanics, U.S. Born Mexican-Origin Hispanics, Non-Hispanic Blacks, Native Americans, Asians, and Other Hispanics), Foreign-Born Mexican Origin Hispanic mothers (n=750) had the highest

breastfeeding duration rates with 28.5% breastfeeding to six months; Comparatively, only 11.37% of U.S. Born Mexican-Origin Hispanics breastfed to six months, indicating that acculturation levels may play a factor in breastfeeding success. Previous research focusing on acculturation level and infant feeding choice suggests that higher acculturation levels are correlated with lower rates of breastfeeding. This indicates that American society's views on infant feeding choice affect Minority women's behaviors. Sussner, Lindsay, and Peterson (2008) found that low-income immigrant Latino mothers were more likely to initiate breastfeeding and breastfeed for longer if their acculturation levels were lower. The same study found a significant relationship between being exposed to breastfeeding (i.e., being breastfed and watching one's relatives breastfeed) and initiation and duration of breastfeeding. Because bottle-feeding is more normative in Western culture, it is plausible that highly acculturated women are not exposed to breastfeeding as much as less acculturated women, and this may impact their infant feeding choices. Choudhry and Wallace (2010) also found that acculturation level was correlated with infant feeding choice. In this study Southeast Asian immigrant women who had higher levels of acculturation were less likely to breastfeed than Southeast Asian immigrant women with lower acculturation levels. Similar to these findings, a comparative study of infant feeding practices among low-income inner city immigrant mothers found that lower levels of acculturation for African mothers were associated with higher breastfeeding rates (Lee et al., 2009).

Summary of Literature Review

Although there is clear evidence that breastfeeding is beneficial for both mothers and babies, the rates of breastfeeding in the United States remain low: 79.2% percent of mothers begin breastfeeding when their children are born but by six months, only 18.8% percent of mothers are still exclusively breastfeeding their babies (CDC, 2014). Many studies have found

that there are possible indicators of racial/ethnic status influencing breastfeeding initiation and duration (CDC, 2010; Hayes et al., 2013). Possible reasons for low breastfeeding rates include a dominant culture that was previously influenced by formula advocacy by medical professionals and that associates formula with affluence (Thulier, 2009), acculturation level of breastfeeding mothers (Sparks, 2011), occupational and socioeconomic variables that increase barriers for breastfeeding mothers (United States Department of Health and Human Services, 2010), lack of education and knowledge about breastfeeding (Lee et al., 2009; McKee, et al., 2004), and lack of social support (Trust, 2011). Finally, stigma for breastfeeding in public has been found to play a role in infant feeding choices and may be more prevalent among certain racial/ethnic groups (Acker, 2009; Boyer, 2010; Kaufman et al., 2010; Lewallen & Street, 2010; Moreland et al., 2000; Scott & Mostyn, 2003). Several previous studies have found that public attitudes toward breastfeeding are largely negative (Avery & Magnus, 2011; Kaufman et al., 2010; Spurles & Babineau, 2010). Moreover, some racial and ethnic groups may feel more negatively toward breastfeeding than others, as was seen by Li et al. (2002).

It is clear that women across racial and ethnic groups experience stigma for breastfeeding in public. What remains to be seen, and what is the core of the current study, is whether this stigma affects certain racial and ethnic groups more than others. Additionally, this study aims to discover whether higher socioeconomic status, greater breastfeeding knowledge, and higher social supports influence women's feelings of stigma for breastfeeding in public. By examining these factors the researcher hopes to determine potential ways to increase breastfeeding rates across racial and ethnic groups.

Research Questions

The reasons for lower rates of breastfeeding in America remain elusive, with many

researchers believing that low rates are related to various systemic impacts on infant feeding choice. This dissertation postulates that among other variables, breastfeeding behavior may be negatively impacted by stigma for breastfeeding in public, especially if mothers are from certain racial or ethnic groups. The current study first measures the amount of stigma mothers report feeling while breastfeeding in public. It then examines whether there is a difference in stigma scores based on ethnic or racial status. Further, the study includes several potential moderators that may affect reported stigma. These moderators are based on prior breastfeeding research and include education level, social supports, and prior knowledge about breastfeeding. Research questions for this study include:

- Do women report experiencing stigma for breastfeeding in public?
- Do Minorities report experiencing more stigma for breastfeeding in public than Caucasians?
- Is higher acculturation level associated with higher stigma scores?
- Is the relationship between racial/ethnic status and breastfeeding stigma moderated by education level, social supports, and/or prior knowledge about breastfeeding?

Chapter 2: Methods

Procedures

Consent was acquired using procedures approved by the Antioch University New England's Institutional Review Board (IRB; see Appendix B). Participants were recruited from flyers posted at two Women, Infants, and Children (WIC) offices in New Hampshire: one in Nashua, NH, and one in Manchester, NH. The flyers contained information about the study and web links to the survey. Participants were given the option to provide their email address via a different weblink to enter a randomized drawing for one of four $20.00 gift cards to Target. Additionally, these WIC offices included support from lactation consultants who asked breastfeeding mothers if they would like to participate and provided them with hardcopies of the survey to complete. Breastfeeding mothers at the WIC offices in New Hampshire were given $5.00 gift cards to Amazon.com for their participation. Administrators of online breastfeeding support groups were contacted with information about the study and provided with contact information for the Antioch University IRB. The survey was then posted online on the Facebook pages of WIC offices throughout the country, breastfeeding support groups, and one research group page (The University of Massachusetts Breast Milk Lab Facebook page). The process of posting the survey online garnered the attention of two additional WIC offices, one in Virginia Beach, VA and another in American Samoa. These WIC offices volunteered to post links to the electronic version of the survey in their physical offices and posted the web link to the survey on their Facebook pages.

Considerations regarding race and ethnicity. Racial/ethnic status is a central consideration in this study. Therefore, WIC offices in Manchester, NH and Nashua, NH as well as online breastfeeding support groups that targeted racial/ethnic Minority mothers were selected

as data collection sites. According to the WIC Breastfeeding Coordinator for the state of New Hampshire, the WIC offices in Manchester, NH and Nashua, NH service the most ethnically and racially diverse group of breastfeeding mothers in New Hampshire (B. O'Connell, personal communication, June 17, 2013). The study included online and hardcopy versions of the survey in order to achieve a larger and more diverse sample.

Measures

The survey for this study consisted of four different measures and one demographic variable: (a) the Perceived Stigma Scale, (b) Prior Breastfeeding Knowledge Scale, (c) Social Support Scale, (d) the Acculturation Measure, and (e) participant education level. Demographic information was collected through questions from the Barratt Simplified Measure of Socioeconomic Status and two additional questions about participant age and the age of the child or children being breastfed.

Perceived Stigma Scale. The Perceived Stigma Scale included 14 items, ten of which were adapted from the Perceived Ethnic Discrimination Questionnaire (PEDQ; Brondolo et al., 2005) and four of which were created for this study. Participants were asked to rate how often stigmatizing events occurred for them within the past two weeks on an 8-point Likert-type scale, with 0 being never, 1 being once, 2 being twice, 3 being three times, 4 being four times, 5 being five times, 6 being six times, and 7 being seven or more times. The score for each item was summed to compute a total score. The total score was then divided by the number of items to yield an average score for each participant. As such, the highest average score a participant could achieve was 7 and the lowest was 0.

Prior Breastfeeding Knowledge Scale. The Prior Breastfeeding Knowledge Scale was created for this study. This measure included ten "yes" or "no" questions pertaining to behaviors

prior to breastfeeding. The Prior Breastfeeding Knowledge Scale looked at behaviors such as whether the participant sought information about breastfeeding, talked with others about breastfeeding, and/or was given information about breastfeeding from medical professionals. The total score was calculated by counting the answers marked "yes" as 1 and "no" as 0 and then summing the scores to obtain a total score. The maximum total score on this measure was 10, with higher scores indicating greater prior breastfeeding knowledge.

Social Support Scale. The Social Support Scale included questions about whether friends, family members, and significant others have expressed support or encouragement of breastfeeding. These questions were taken from a social support measure created for Trust's (2011) dissertation on social influences and breastfeeding. Respondents rated the six items from Social Support Scale on a 7-point Likert- type scale with 1 being "strongly disagree" and 7 being "strongly agree." Two of the items on this measure were reverse scored, wherein a score of 7 indicated less social support and a score of 1 indicated better social supports. These items were reverse coded before they were summed. A total score was calculated by adding the scores from each item and dividing their sum by the number of total items. This yielded an average Social Support Scale score for each participant, with higher scores indicating more perceived social support.

Education level. In the original research design, socioeconomic status was measured using the Barratt Simplified Measure of Social Status (BSMSS), an updated and shortened measure of socioeconomic status based on the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975). The BSMSS was not used for data analysis because it involved categorization of participant's occupation, their parent's occupation, and their partner's occupation into one of several subjective categories and then summing scores attributed to each

occupation level with scores attributed to education level. The anticipated sample size of 80 participants would have allowed for feasible determination of socioeconomic status using this measure, but when the sample swelled to 238, this process would have been impractical, so we sought a more efficient proxy for socioeconomic status. Participant education level was hypothesized as an acceptable substitute because the BSMSS looks at two key factors: (a) education level (for the participant, her parents, and her partner) and (b) occupation (for the participant, her parents, and her partner). A random number generator was used to randomly select 80 participants (40 Minority participants and 40 Caucasian participants) from the sample of 238 participants. The BSMSS scores for these 80 participants were calculated then correlated with participant education level to assess the extent to which the latter could serve as a proxy for the former. The resulting correlation was 0.51 for Caucasians, and 0.46 for Minorities, both significant at $p < .01$. This moderate correlation was deemed adequate to substitute participant education level for more complex socioeconomic status computations for subsequent analyses.

Acculturation Measure. Acculturation was measured using a modified and condensed version of the questions on the 10-item Psychological Acculturation Scale- English Version (Tropp, Erkut, Coll, Alarcón, & García, 1999). This new version of the Psychological Acculturation Scale-English Version was created for this study and includes three questions that were only answered if a participant marked "yes" when asked if she was an immigrant or a daughter of an immigrant. For the Acculturation Measure the participant was asked to rate each item on a 7-point Likert-type scale with 1 indicating, "strongly disagree" and 7 indicating, "strongly agree." A total score was computed by summing the scores from each item together and then dividing their sum by the number of items, with higher scores indicating greater acculturation.

Chapter 3: Results

Data Cleaning and Sample Selection

The current study focuses on perceived stigma for breastfeeding in public by breastfeeding mothers; it was not intended to examine non-breastfeeding mother's perceptions of breastfeeding or feelings of stigma for bottle-feeding. Despite an explicit statement in the survey inviting participation only by currently breastfeeding mothers, 249 respondents reported that they were not currently breastfeeding, and thus their data were not included in the analyses reported here. Another 569 respondents were deleted from the dataset for failure to answer critical items including agreement to participate in the survey, whether they were currently breastfeeding in public, stating race/ethnicity, and completing sufficient items on the Prior Breastfeeding Knowledge Scale, Perceived Stigma Scale, and Social Supports Scale to calculate a score on these measures. Following removal of such respondents, the sample included 969 participants.

Selection of a Caucasian Subsample

A total of 119 Minority and 850 Caucasian participants provided complete data on all critical items. The main analyses of this study hinged on moderated hierarchical regression analysis. Aguinis (2004) states that unequal sample sizes across moderator-based subgroups can inflate Type I error rates, particularly when the larger sample also yields larger variance in dependent measure scores. Therefore, in instances of unequal sample size, Aguinis suggests creation of a modified sample to conform to the homogeneity of variance assumption underlying the statistical hypothesis test.

For the current study, a subsample of Caucasian participants equal to the number of Minority participants was created using the random selection tool in SPSS. A subsample of Caucasian participants was chosen instead of oversampling Minority participants to decrease the

potential for reduction of power. The resulting Caucasian and Minority samples were evaluated for homogeneity of variance, using the Brown-Forsythe (1974) test, which is typically utilized instead of Levene's test when sample distribution is non-normal, as is the case for the current study. The Brown-Forsythe test is based on using the median for calculation instead of the mean, and performing an ANOVA on a transformation of the dependent variable (Brown-Forsythe, 1974). The resulting value of 1.06, with an associated *p* value of 0.31, indicates a failure to reject the hypothesis of homogeneity of variance. Although selection of a subsample has the potential to reduce power, Cohen (1992) indicates regression analyses such as those used in this study should attain .80 power to detect a medium sized effect with a sample size of approximately 80, whereas even our reduced sample size is 238.

Internal Consistency

Internal consistency was calculated utilizing Cronbach's coefficient alpha for the Perceived Stigma Scale, Prior Breastfeeding Knowledge Scale, Social Support Scale, and Acculturation Measure. No past psychometric data exists for these measures because they were developed for the current study. The Perceived Stigma Scale Cronbach's coefficient alpha value was .84, indicating good internal consistency. The Prior Breastfeeding Knowledge Scale demonstrated acceptable internal consistency with a Cronbach (1951) coefficient alpha value of .61. The Social Support Scale demonstrated poor internal consistency with a Cronbach coefficient alpha value of .55. The Social Support Scale asked mothers to rate support they felt from friends, family, and partners. Therefore, internal consistency was not expected to be high because this measure rates the support offered by different individuals and support was not expected to be equal across these individuals. Finally, the Acculturation Measure Cronbach coefficient alpha value was .79. This indicates the Acculturation Measure demonstrated good

internal consistency.

Descriptive Statistics

Descriptive statistics were calculated for education level, partner's education level, age, and age of breastfeeding children for Minority and Caucasian participants (see Tables 1 and 2). The average age of survey respondents was 27.8 years, ranging from 20 to 41. Specifically, the average age of Minority respondents was 29.34 years, ranging from 20 to 41, and the average age for Caucasian respondents was 30 years, ranging from 22 to 39. The racial/ethnic status of the 119 Minority participants was as follows: 15.1% Hispanic/Latino participants, 15.5% participants of mixed race/ethnicity, 6.7% Asian American participants, 6.7% African American participants, 4.2% Native American participants, and 1.7% participants of African descent (Table 3). Fifty-two of the 238 participants indicated that they were immigrants or children of immigrants.

The age of breastfeeding children ranged from 12 days to 3 years old. Some participants endorsed that they were breastfeeding more than one child ("tandem nursing"). Therefore, 248 total children were being breastfed. Of the 248 children being breastfed, 62 were under 6 months, 108 were between 6 and 11 months, 64 were between 12 and 24 months, and 14 were over 2 years old.

Not all participants answered question about their relationship status, but of those who did, 95.4% were married or partnered. Specifically, 79.0% of Minority participants and 84.9% of Caucasian participants were married. Additionally, 16.8% of Minority and 10.1% of Caucasian participants were partnered but unmarried. Of those participants who were partnered but unmarried, only 6 did not live with their current partner and 37 were not married.

Table 1

Education Level and Relationship Status by Racial/Ethnic Group

	Frequency (%)							
	Minorities (n= 113)		Caucasian (n=112)		Partners of Minorities (n=115)		Partners of Caucasians (n=112)	
Education Level								
Junior High	1	(0.8%)	0	(0%)	0	(0%)	0	(0%)
Part of High School	0	(0%)	2	(1.7%)	6	(5.0%)	3	(2.5%)
High School Grad	9	(7.6%)	7	(5.9%)	8	(15.1%)	13	(10.9%)
Partial College (at least 1 yr)	30	(25.2%)	20	(16.8%)	31	(26.1%)	29	(24.4%)
College Graduate	46	(38.7%)	53	(44.5%)	37	(31.1%)	39	(32.8%)
Graduate Degree	27	(22.7%)	30	(25.2%)	23	(19.3%)	29	(24.4%)
Relationship Status								
Partnered	20	(16.8%)	12	(10.1%)				
Married	94	(79.0%)	101	(84.9%)				

Table 2

Age of Subjects

	Mean (*SD*)	
Age	Minorities	Caucasian
Respondent (years)	29.0 (4.8)	30.0 (3.8)
Respondent's Child (months)	9.8 (6.2)	11.0 (8.5)

Table 3

Frequency and Percentage of Racial Identity/Ethnicity and Immigrant Status

	Frequency	Percentage
Participant Racial Identity/ Ethnicity		
Caucasian	119	50%
African American	16	6.7%
African Descent	4	1.7%
Asian/Pacific Islander	16	6.7%
Hispanic/Latino	36	15.1%
Mixed Race/Mixed Ethnicity	37	15.5%
Native American	10	4.2%
Immigrant Status		
Immigrant/Daughter of Immigrant	52	21.8%

Testing Statistical Assumptions

Following the selection of the subsample, the distribution and pattern of missing data were evaluated based on procedures outlined in Tabachnick and Fidell (2006). Assumptions corresponding to each analysis were assessed using graphic exploration of the data as well as statistical analysis. Mahalanobis' distances (1936), a measure used to estimate the distance of each variable from the center of the distribution, was calculated for all variables and no significant outliers were found ($p < .001$).

The assumptions of normality appeared to be slightly violated on two of the measures (Perceived Stigma Scale and Social Support Scale). The total score for the Perceived Stigma Scale was positively skewed; therefore logarithmic transformations were performed to make the

data more normally distributed using the formula Lg10_PSS= Lg10(X) where X is the score on the scale. A logarithmic transformation was selected here in lieu of a square root transformation due to the presence of negative numbers. Further, logarithmic transformation was utilized because the data contained variables between 0 and 1. Application of a square root to a continuous variable that contains values between 0 and 1 can cause errors in the calculation of the transformation. The Social Support Scale total score was negatively skewed; therefore square root transformation was performed to make the data more normally distributed using the formula SQRT_SSS= SQRT (K-X) where K is the highest score+1 and X is the score on the scale.

Next, multicollinearity was assessed to further assure assumptions had been met. To help determine this, Cronbach's alphas and correlations among key variables were examined (Table 4). None of the variables utilized in hypothesis testing were found to have intercorrelations approaching .7, which is considered the threshold for a threatening level of multicollinearity among the variables (Tabachnick & Fidell, 2006). Additionally, tolerance coefficients and Variance Inflation Factor (VIF) were reviewed. The tolerance coefficient was found to be greater than .20 and VIF was below 4, indicating that the assumption of multicollinearity was not violated (Howell, 2010; see Tables 5 and 6).

Finally, before hypothesis testing began, family-wise error was controlled for using Bonferroni correction for regression analyses. The *p* value for significance was thus set at equal to or less than .017 (05 was divided by 3 for each of the regression analysis used for the current study to account for family-wise error).

Table 4

Correlations Among Measures and Chronbach's Alphas for Each

Measure	1	2	3	4	5	6	*M*	*SD*
1. Racial/Ethnic Status[a]	–	.20**	-.15	-.13	.11	-.07	–	–
2. PBFK		(.61)	-.19	-.09	-.20**	.30**	5.26	1.79
3. AM			(.82)	.30**	-.11	.13	3.97	1.40
4. PSS				(.84)	-.23**	-.09	1.61	.71
5. SSS					(.55)	.05	5.97	.80
6. SES (Education) [a]						–	–	–

Note. PBFK – Prior Breastfeeding Knowledge, AM – Acculturation Measure, PSS – Perceived Stigma Score, SSS – Social Support Score, *M* Mean, and *SD* Standard Deviation. Cronbach's alphas are presented on the diagonals where appropriate.

[a]*M, SD,* and Cronbach's alpha are not meaningful for categorical variables, and are thus not reported for Racial/Ethic Status or SES (Education).

** $p < .01$ (two-tailed).

Table 5

Tolerance Coefficients Among Measures

Measure	1	2	3	4	5	6
1. Racial/Ethnic Status	–	.80	.86	.83	.82	.85
2. PBFK		–	.90	.83	.84	.96
3. AM			–	.85	.82	.89
4. PSS				–	.92	.85
5. SSS					–	.05
6. SES (Education)						–

Note. PBFK - Prior Breastfeeding Knowledge, AM - Acculturation Measure, PSS – Perceived Stigma Score, SSS – Social Support Score.

Table 6

VIF Coefficients Among Measures

Measure	1	2	3	4	5	6
1. Racial/Ethnic Status	–	1.16	.17	1.21	1.09	1.11
2. PBFK		–	1.11	1.20	1.20	1.05
3. AM		¤	–	1.17	1.12	1.12
4. PSS				–	1.09	1.18
5. SSS					–	1.19
6. SES (Education)						–

Note. PBFK - Prior Breastfeeding Knowledge, AM - Acculturation Measure, PSS – Perceived Stigma Score, SSS – Social Support Score.

Hypothesis Tests

Hypothesis 1: stigma scores. Hypotheses 2-6 of this study hinged on participants reporting that they had experienced stigma for breastfeeding in public. Therefore, before running more complex data analysis, Hypothesis 1 was assessed by calculating the mean for the total group of participants (N=969) who completed all critical items on the survey. The highest average score a woman could have on the Perceived Stigma Scale is 7 and the lowest average score a woman could have is a 0. The mean score for all 969 participants on the Perceived Stigma Scale was 1.57 and the mean for the smaller sample (N= 238) was 1.61. The range for both populations was 4.79 with a minimum score of 1 and a maximum score of 5.79 (Table 7). Thus, further and more complex analyses were warranted.

Hypothesis 2: Stigma by racial/ethnic group. This hypothesis predicted that scores on the stigma measure would differ depending on a participant's membership in a certain racial/ethnic group (Table 7). Prior research suggested that Caucasians might report less stigma

Table 7

Perceived Stigma by Racial/Ethnic Status

Racial/Ethnic Status	*N* (238)	*M*	*SD*	Range	Comparison *t*(*df*)	Cohen's *d*
Caucasian	119	1.70	.82	1.00-4.50	1.96(236)	0.26
Minority	119	1.52	.56	1.00-5.79		

for breastfeeding in public than women from Minority groups; therefore, data analysis for this hypothesis first utilized a *t*-test to determine if there were differences between Caucasians and Minority participants. As indicated in Table 7, the *t*-test was significant, t (236) = 1.96 p = .05, indicating that Caucasian participants (M = 1.70, SD = .82) reported experiencing slightly, but reliably more stigma than Minority participants (M = 1.52, SD = .56).

Next, a one-way ANOVA was utilized to compare stigma scores among all racial and ethnic groups. This test did not yield a significant result (F (6, 231) = .95, p = .46), indicating that the division of Minorities into smaller subgroups diluted the group differences observed between Caucasians and Minorities as a whole (see Tables 8 and 9). Hypothesis 2 was supported for the larger groups (Caucasians and Minorities), but was not supported when racial/ethnic status was divided into smaller subgroups.

Hypothesis 3: Acculturation and stigma. An acculturation measure was included in this study to explore the possible impact of culture of origin on stigma. In the current study, the Acculturation Measure was only completed by first or second-generation immigrants. This reduced the sample size for hypothesis 3 to 52.

In order to test hypothesis 3, a simple linear regression analysis was conducted to examine whether scores on the Acculturation Measure (z-transformed) predicted Perceived Stigma Scale scores (log transformed; see Figure 1). Results indicated that higher acculturation levels did not reliably predict higher stigma scores, with F (1,73) = 2.83, p = .10. Acculturation levels accounted for only 4% percent of the variance in stigma scores (R^2 = .04); Hypothesis 3 was not supported (Table 10).

Hypothesis 4: Prior breastfeeding knowledge as a moderator. Hypothesis 4 postulated that scores on the Prior Breastfeeding Knowledge Scale would moderate the relationship

Table 8

Mean Stigma Scores by Racial/Ethnic Status

Racial/Ethnic Status	*M*	*SD*
Caucasian	1.70	.82
African American	1.67	.85
African Descent	1.34	.21
Asian/Pacific Islander	1.49	.60
Hispanic/Latino	1.42	.38
Mixed Race/Ethnicity	1.57	.59
Native American	1.56	.58

Table 9

ANOVA Summary of Racial/Ethnic Status and Stigma Scores

	Df	*SS*	*MS*	*F*	*p*
Between Groups	6	2.85	.48	.95	.46
Within Groups	231	115.33	.50		
Total	237	118.18			

Figure 1

Bivariate Linear Regression Scatterplot of Acculturation Levels and Stigma Scores

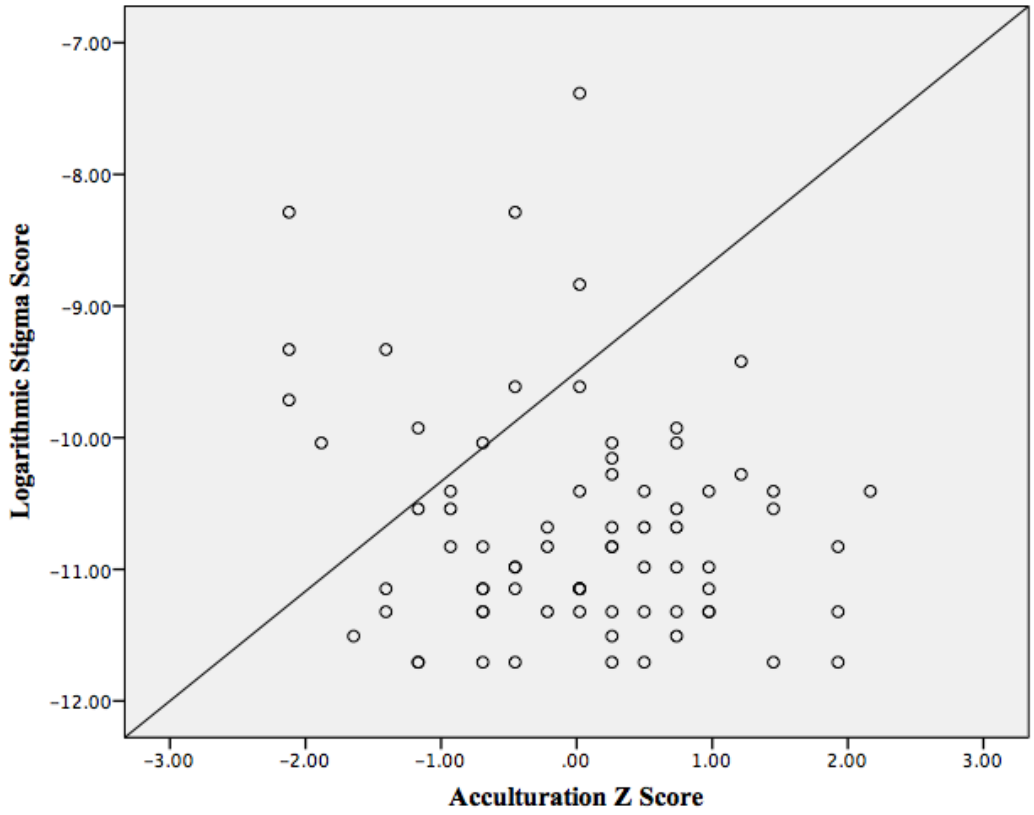

Table 10

Relationship Between Acculturation and Stigma Linear Regression Summary

Variable	B	SE B	β	*p*
Acculturation	-.17	.10	-.19	.10

between racial/ethnic status and the total scores on the Perceived Stigma Scale. Hypothesis 2 found that Caucasian participants reported higher stigma levels than Minority participants. Therefore, hierarchical regression analysis was used to determine whether scores on the Prior Breastfeeding Knowledge Scale moderated this relationship. The moderation analysis was conducted as outlined in Frazier et al., (2004).

To avoid potentially problematic multicollinearity between main effects and the interaction (product) term, predictor variables (racial/ethnic status and Prior Breastfeeding Knowledge scores) were standardized by centering (subtracting the sample mean for the variable from each score) and divided by the standard deviation to produce a standardized score with a mean of zero. After standardizing each variable, a product term was created by multiplying racial/ethnic status with the standardized Prior Breastfeeding Knowledge score. The product term was used to represent the interaction between the independent variable (racial/ethnic status) and the moderator variable (prior breastfeeding knowledge).

Following the centering procedure, the predictor variables were entered into the regression equation through a series of specified blocks (see Table 11). The first block of the regression contained racial/ethnic status. The second block contained the standardized Prior Breastfeeding Knowledge Scale score. The third block contained the product term, and the significance of change in R^2 when this variable was entered into the model would serve as the test of the moderation hypothesis. The Perceived Stigma Scale scores served as the dependent variable. Racial/Ethnic status explained 1% of the variance in the stigma score (R^2= 0.01, Adj R^2 = 0.01, β= -0.11, p = .08). After the entry of prior breastfeeding knowledge, the total variance explained by the model was 2% (Adj. R^2 = 0.02, Δ R^2 = 0.01, β= -0.10, ΔF = 2.40, p = .12). Prior breastfeeding knowledge accounted for an additional 1% of the variance in stigma scores

Table 11

Prior Breastfeeding Knowledge as a Regression Moderator for Minority Status and Stigma

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	β	*B*	*SE B*	β	*B*	*SE B*	β
Racial/Ethnic Status	-0.23	0.13	-0.11	-0.27	0.13	-0.13	-0.27	0.13	-0.13
Breastfeeding Knowledge				-0.1	0.07	-0.1	-0.28	0.21	-0.28
Racial/Ethnic Status X Breastfeeding Knowledge							0.12	0.13	0.19
R^2		0.01			0.02			0.03	
Adj. R^2		0.01			0.02			0.03	
R^2 *Change*		0.01			0.01			0	
F for Change in R^2		3.07			2.4				
p for F for Change in R^2		0.08			0.12				

beyond that of racial/ethnic status. Finally, the product term was entered in the last block of the analysis. After the entry of the product term, total variance explained by the whole model was 3% (Adj. $R^2 = 0.03$, $\Delta R^2 = 0.003$, β= .19, $\Delta F = .79$ $p = .38$). The model as a whole did not approach the statistical significance threshold; the product term did not add a significant increment to prediction and hypothesis 4 was not supported.

Hypothesis 5: Education as a moderator. Hypothesis 5 utilized moderated hierarchical regression to determine if participant education level moderated the relationship between scores on the Perceived Stigma Scale and racial/ethnic status. The moderation analysis was conducted in the same manner as Hypothesis 4.

For Hypothesis 5, the first block of the regression contained racial/ethnic status. The second block contained education level. The third block contained the product term (racial/ethnic status and education level). The Perceived Stigma Scale served as the dependent variable. Race/ethnicity explained 1% of the variance in the stigma score (R^2 = 0.01, Adj R^2 = 0.01, β= -0.22, p = .09). After the entry of education level, total variance explained by the model was 1% (Adj. R^2 = 0.01, Δ R = 0.01, β= -0.07, ΔF = 1.20, p = .27). Education level accounted for 0% of the variance in stigma scores, beyond that of racial/ethnic status. The product term was entered in the last block of the analysis. After the entry of the product term, total variance explained by the model as a whole was 2% (Adj. R^2 = 0.02, Δ R = 0.014, β= .79, ΔF = 3.08, p = .08). The model as a whole did not approach the statistical significance threshold; the product term did not add a significant increment to prediction. Therefore, education level did not moderate the relationship between race/ethnicity and stigma scores; Hypothesis 5 was unsupported (Table 12).

Hypothesis 6: Social supports as a moderator. Hypothesis 6 was also assessed using moderated hierarchical regression. Hypothesis 6 postulated that scores on the Social Support Scale moderate the relationship between racial/ethnic status and women's scores on the Perceived Stigma Scale.

For Hypothesis 6, the first block of the regression contained the racial/ethnic status variable. The second block contained the social support variable. The third block contained the product term (racial/ethnic status and social support). The Perceived Stigma Scale served as the

Table 12

Education as a Regression Moderator for the Minority Status and Stigma

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	β	*B*	*SE B*	β	*B*	*SE B*	β
Racial/Ethnic Status	-.22	.13	-.11	-.23	.13	-.12	-1.65	.82	-.84
Education				-.08	.07	-.08	-.45	.22	-.43
Racial/Ethnic Status X Education							.24	.14	.79
R^2		.01			.02			.03	
Adj. R^2		.01			.01			.02	
R^2 *Change*		.01			.005			.01	
F for Change in R^2		2.85			1.20			3.08	
p for F for Change in R^2		.09			.27			.08	

dependent variable. Racial/Ethnic status explained 1% of the variance in the stigma score (R2 = 0.01, Adj R2 = 0.01, β= -0.11, p = .08). After the entry of social support, the total variance explained by the model was 7% (Adj. R2 = 0.07, Δ R = 0.06, β= -0.08, ΔF = 15.60, p < .001). Social support accounted for an additional 6% of the variance in stigma scores, above and beyond that of racial/ethnic status. The product term was entered in the final block of the analysis. After the entry of the product term, the total variance explained by the model as a whole was 6% (Adj. R^2 = 0.06, Δ R = 0.000, β= -.02, ΔF = .01, p = .91). The model as a whole

did not approach the statistical significance threshold, and the product term did not add a significant increment to prediction. Therefore social support scores did not moderate the relationship between racial/ethnic status and stigma scores; Hypothesis 6 was not supported (Table 13).

Table 13

Social Support as a Regression Moderator for Stigma

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	β	*B*	*SE B*	β	*B*	*SE B*	β
Racial/Ethnic Status	-.23	.13	-.11	-.17	.13	-.08	-.17	.13	-.84
Social Support				.25	.07	.25	.27	.20	.27
Racial/Ethnic Status X Social Support							-.02	.13	-.02
R^2	.01			.07			.07		
Adj. R^2	.01			.07			.06		
R^2 *Change*	.01			.06			.000		
F for Change in R^2	3.07			15.60			0.1		
p for F for Change in R^2	.08			< .001			.91		

Chapter 4: Discussion and Conclusion

Breastfeeding rates in the United States remain lower than advised by the World Health Organization (2012) and American Academy of Pediatrics (2012). Past research has indicated that Minorities report lower breastfeeding rates than Caucasians (CDC, 2006; McDowell et al., 2008). In addition, other studies have suggested that Minority groups view breastfeeding more negatively than Caucasians (Gill et al., 2004; Kaufman et al., 2010). Results from the current study are intended to help identify how perceived stigma impacts breastfeeding across racial/ethnic statuses.

For this study, overall scores on the Perceived Stigma Scale were low, with women experiencing on average somewhere between 1 to 2 stigmatizing events in the past six weeks (M = 1.61, wherein the highest score could be 7 or more times that an event occurred and the lowest score could be 0 times that an event occurred). However, Caucasian women reported slightly *higher* scores on the Perceived Stigma Scale than Minority women, which was an unanticipated result. Stigma scores were not meaningfully different across more specific racial and ethnic subgroups. Further analyses found that acculturation level was not associated with higher stigma scores. Finally, social supports, education level, and prior knowledge about breastfeeding were not found to moderate the relationship between stigma and racial/ethnic status.

Interpretation of Results

Findings from the current study contradicted the prediction that Minority women would experience more stigma than Caucasian women for breastfeeding in public. There are several potential factors that may explain the study's unexpected findings.

Breastfeeding rates are rising. Breastfeeding rates have increased in recent years, suggesting that breastfeeding is becoming more socially normative. Social Reaction Theory (Scheyett, 2005) purports that people engage in or choose not to engage in behaviors based on the extent to which they believe those behaviors to be socially normative. According to the CDC, breastfeeding initiation rates have risen 2.3% and exclusive breastfeeding to six months of age has risen 2.5% from 2012 to 2014 (CDC, 2012, 2014). It seems that breastfeeding rates are rising among racial/ethnic Minorities as well. The CDC (2013) completed a large study comparing breastfeeding initiation and duration for African American, Caucasian, and Latina mothers using National Immunization Data (N=12,017) as a resource and found that breastfeeding initiation and duration rates rose for all three groups across 8 years, with rates for African Americans rising 11.5%, rates for Caucasians rising 3.4%, and rates for Latinos rising 2.4%. In addition, in their review of National Immunization Data from 2007, Chapman and Perez-Escamilla (2012) found that Latina and Asian American mothers had higher breastfeeding rates than Caucasian mothers and African American mothers for that year. Therefore, one potential reason why women in the study did not report high scores on the Perceived Stigma Scale is that breastfeeding is becoming more commonplace across racial/ethnic groups. This may have caused participants to view breastfeeding as socially normative. If participants believed that breastfeeding is socially normative, they may have been less sensitive to stigmatizing events and/or been more likely to attribute negative behavior from others to different attributes. Such attributes may have been the participant's own attributes such as external appearance (skin color, weight, height, clothing) or participant's personality (i.e., the person didn't talk to me because I'm fat or because I'm black). Further, if the participant believed that breastfeeding was socially normative she may have committed fundamental attribution error about the person committing

the negative behavior. Fundamental attribution error occurs when a person attributes negative behavior to internal characteristics rather than external/contextual aspects of the situation (Ross, 1977). In this case a participant would believe that negative behavior was due to personality characteristics about the other person such as being generally rude or lacking social skills and not due to the participant's choice to breastfeed in public.

Systemic influences on participant responses. The APA (2015) states that Minorities tend to be less educated and from lower socioeconomic statuses than Caucasians. However, the Minority participants for this study were highly educated and of higher socioeconomic status than Minorities as a whole. This higher socioeconomic status Minority population may share more systemic and cultural influences with Caucasians than would a more representative (lower socioeconomic status) Minority sample. Minority participants in the current study, therefore, may not have rated their experiences of stigma for breastfeeding in public in the same way as Minorities from lower socioeconomic statuses. Minority women from the current study may also have lived in communities that were more reflective of the majority culture. These communities may have been supportive and accepting of public breastfeeding. It is also possible that members of such communities may have been less likely to engage in behaviors that would have been perceived as overtly stigmatizing, especially to Minority women.

Anxiety and breastfeeding. Caucasians reported higher scores on the Perceived Stigma Scale than Minorities. Past studies suggest that Caucasians have a higher prevalence of anxiety disorders than other racial/ethnic groups (Asnaani, Ricey, Dimaite, Hintson, & Hofmann, 2010; Breslau et al., 2006). Furthermore, results from several studies indicate that women are more likely to be diagnosed with anxiety disorders than men (Kinrys & Wygant, 2005; McLean et al., 2011; WHO, 2015). Anxious women would likely be in higher states of arousal than non-anxious

women. Being in a higher state of arousal tends to increase sensitivity to potential threats, such as stigmatizing events. Therefore, it is possible that Caucasian women in the study were generally more anxious, and specifically more sensitive to stigma, than their Minority counterparts thereby increasing their scores on the Perceived Stigma Scale.

Fear of stigma versus experiencing stigma. Past literature suggests that breastfeeding mothers feared stigma for breastfeeding in public (Scott & Mostyn, 2003; Acker, 2009; Lewallen & Street, 2010). Studies also implied that public attitudes toward breastfeeding are largely negative (Avery & Magnus, 2011; Kaufman et al., 2010; Ruowei et al., 2007; Spurles & Babineau, 2010;). Although participants in the current study reported relatively low scores on the Perceived Stigma Scale, past literature has suggested that fear of stigma plays a role in infant feeding choice. It is interesting to note that the literature reviewed for this study did not appear to examine if women *experienced* stigma, but rather seemed to examined if women reported *fearing* stigma or felt they would be stigmatized for breastfeeding in public. Social Reaction Theory (Scheyett, 2005) purports that people engage in or choose not to engage in behaviors based on if they believe the behavior to be socially normative. Results from the current study suggest that stigma does not occur at high rates.

Microaggressions and the Perceived Stigma Scale. The Perceived Stigma Scale used in this study included many of the questions from the Perceived Ethnic Discrimination Questionnaire (Brondolo et al., 2005). These questions asked about overt experiences of negative behavior by others, such as being ignored or discriminated against for choosing to breastfeed in public, but did not examine instances of microaggressions. Sue et al. (2007) explained microaggressions as "brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or

negative racial slights and insults toward people of color" (p. 271). It is possible that microaggressions toward breastfeeding mothers may have been slight enough that they were not accounted for in the Perceived Stigma Scale and/or were not interpreted as overtly hostile by some of the breastfeeding mothers as they may not have perceived events as stigmatizing. Furthermore, Minority mothers may not have interpreted microaggressions as related to breastfeeding behavior. Instead, they may have interpreted these experiences as normative. For example, the stigma measure includes a question that asks the participant to list the number of times someone has said something "mean or nasty" to her in the past six weeks due to breastfeeding in public. A Minority mother may experience the interaction as due to racism or may be desensitized to the hostile experience due to routine exposure to stigma. Such a woman might notice and report fewer stigmatizing events *that she attributes to breastfeeding* than a Caucasian mother. Caucasian mothers, on the other hand, may have been more sensitive than Minority mothers and therefore reported higher scores on the Perceived Stigma Scale. In addition, Caucasian mothers, as members of the societal majority, may have been more confident that their voices would be heard and that their negative experiences mattered. This could have impacted their willingness to endorse having experienced stigma (K.Nadal, personal communication, July 30, 2015).

Participants were highly educated. Data for the sample indicated that participants from both Minority and Caucasian groups were highly educated. Education level was evaluated as a moderator in the study because prior research indicated that women from higher education levels breastfeed more successfully (Chin et al., 2008; Dubois & Girard, 2003; Lauwers & Swisher, 2011). Therefore, it is possible that being highly educated contributed to the low Perceived Stigma scores in this sample. Higher education may have afforded these participants access to

better health care and more information about the benefits of breastfeeding. These women may have been less likely to be exposed to subcultures that stigmatize breastfeeding, or better inoculated against stigmatizing behavior.

The impact of online support. Although the survey was offered to women at WIC offices in Nashua and Manchester, NH, only 23 participants completed the survey in these venues. Most participants heard about the survey from online support groups. Being a member of an online support group implies a level of support for and commitment to the practice of breastfeeding. Because being a member of an online support group on Facebook requires women to publicly endorse "liking" a support group's page, women who were members of these groups may have been more comfortable with publicly breastfeeding and may have been less likely to endorse experiencing stigma for breastfeeding in public. Furthermore, such online support groups often post information regarding the benefits of breastfeeding and engage in activism to normalize breastfeeding in public. This portal to the survey would be expected to skew scores on the Prior Breastfeeding Knowledge scale in a positive direction. Membership in such a group had the potential to impact scores on the Social Support Scale as well because women in online support groups might count online support group members as friends. Past research has implied that social supports and prior knowledge about breastfeeding facilitate breastfeeding success.

Limitations

Limitations of the sample. The sample consisted primarily of highly educated women who completed the survey online, which is not representative of the national population of breastfeeding women, and particularly of Minority breastfeeding women. In her dissertation on breastfeeding, social supports, and media, Trust (2011) found that her internet respondents were overwhelmingly (over 90%) members of one or more of the following categories: Caucasian,

highly educated, and/or from higher income brackets. Minority status and low socioeconomic status are both associated with lower residential internet access (Calvert, Rideout, Woolard, Barr, & Strouse., 2005; Krantz & Dalal, 2000; Vazire et al., 2004). Therefore, the predominance of internet data collection in this study skewed the sample toward both higher socioeconomic status, and so much toward Caucasians as to warrant selecting only a subsample of Caucasian respondents. Thus, both the relatively low rates of perceived stigma across the entire sample, and the counterintuitive vulnerability of Caucasians compared with Minorities, could be an artifact of the sampling strategy.

Internet stigma. It is possible that scores on the Perceived Stigma Scale may have increased if it had included questions regarding experience of stigma on the Internet. For example, the study did not ask about having pictures of breastfeeding removed from social media or if participants had been bullied on the Internet due to pictures or posts related to breastfeeding in public.

Clinical Implications

Addressing stigma for breastfeeding in psychotherapy. To help combat stigma for breastfeeding in public, psychologists can make breastfeeding seem more beneficial from a mental health prospective to their clients. They can do so by providing information on the mental health benefits of breastfeeding. These include reduced rates of Postpartum Depression, less severe Postpartum Depressive symptoms, and breastfeeding as a protective factor against abuse and neglect of children (AAP, 2012). Furthermore, the fields of infant mental health and parent training often include information on proper development and attachment between mother and child. Therefore, it would be appropriate to include how breastfeeding is associated with higher sensitivity to one's child in the early months, thereby improving the likelihood of a secure

attachment relationship between mother and child (Britton, Britton, & Gronwaldt, 2006). Such information could easily be integrated into parenting groups such as the Incredible Years or Parenting with Love and Logic. It could also be included in parenting based psychotherapies like Parent-Child Interaction Therapy (PCIT). Stigma may be a contributing factor to why breastfeeding rates remain lower than ideal among women in the United States. Both Link and Phelan (2001) and Corrigan (2000) frame stigma essentially as a social construct that is created by society and which afflicts individuals. This implies that how much someone is psychological impacted by stigma is dependent on how much they internalize it. If a woman is struggling with stigma for breastfeeding in public, then she may be struggling with negative internalized beliefs about herself and her behavior. As such, it makes sense to address negative internalized beliefs through psychotherapy that focuses on cognitions, beliefs, and values. Furthermore, as stigma is societally maintained, psychotherapy with these types of women would need to include aspects of accepting both one's inability to change the current situation and one's ability to affect the environment. Therefore, third wave Cognitive-Behavioral Therapies, such as Acceptance and Commitment Therapy (ACT), Dialectical Behavior Therapy (DBT), mindfulness based Cognitive Behavioral Therapy, and Behavioral Activation Therapy would likely be the most effective treatment strategies for working with women who are affected by stigma (or fear of stigma) for breastfeeding in public. Third-wave Cognitive Behavioral Therapies, although different in many aspects, all contain concepts that would be beneficial to breastfeeding mothers who are struggling with stigma for breastfeeding in public. These concepts include the idea of being present in the here and now, acceptance of current circumstances while also trying to change aspects of current circumstances, the importance of context, and challenging of cognitions/beliefs/values that may be keeping a person from living a fulfilled life (Hayes, 2004).

In addition to traditional psychotherapy, psychologists can partner with community breastfeeding support programs such as La Leche League, local hospitals, and pediatricians' offices to host free psychoeducation classes, workshops on the benefits of breastfeeding, and information on how to manage barriers to breastfeeding success. Partnership with such outside agencies is mutually beneficial— psychologists can refer clients to healthcare professionals when they have questions that are outside their scope of knowledge and healthcare professionals can do likewise with psychologists.

In addition to partnering with community agencies, psychologists can take steps to make their offices more breastfeeding friendly. Environmental changes in clinics and offices can help decrease fear regarding stigma for breastfeeding in public. Psychologists can make their offices visibly supportive of breastfeeding by posting "breastfeeding is welcome" signs in lobbies and offices. Further, they can provide spaces for clients to breastfeed their babies or pump breast milk before and after appointments. These spaces must be easily accessible and advertised through signs directing clients to their locations. These modifications may be especially helpful in offices that primarily service children, adolescents, and families.

Directions for Future Research

Breastfeeding knowledge of health care professionals. Support of breastfeeding by healthcare professionals may contribute to breastfeeding success. The current study did not examine health care professionals' knowledge about breastfeeding. There are currently 280 so called "Baby Friendly" hospitals in the United States (Baby Friendly USA, 2015). These hospitals are believed to improve breastfeeding initiation and duration (Merten, Dratva, & Ackermann-Librich, 2005). In these hospitals, all health care professionals who have contact with pregnant women are required to receive training on the hospital's breastfeeding policy and

basic breastfeeding practices (Baby Friendly USA, 2015). However, following review of the Staff Training Requirements from the Baby Friendly Hospital Initiative (BFHI) website, it is apparent that the BFHI does not mandate that all "Baby Friendly" hospitals utilize the same training materials as long as they follow basic curriculum guidelines. Hospital-developed training material is not reviewed by the BFHI. Furthermore, no test is taken following training to determine how well staff know policies or how much staff knew about breastfeeding. Future researchers could develop a Professional Breastfeeding Knowledge Scale based off the curriculum taught by the BFHI. They could administer this survey via an online weblink to an equal number of randomly selected staff at each of the 280 "Baby Friendly" hospitals in the United States to determine if BFHI curriculum or hospital developed curriculum is more effective in teaching knowledge about breastfeeding. Information from such a study could be used to improve training at "Baby Friendly" hospitals.

Age of breastfeeding child and stigma. The age of children being breastfed was not considered as a moderator for the current study. Breastfeeding a child deemed to be "too old" to breastfeed might increase stigma for breastfeeding in public and is often associated with ambivalence from mothers who are concerned that they will experience stigma for the practice (Stein, 2002). Future research should examine whether the breastfeeding child's age impacts stigma for breastfeeding mothers across race/ethnicity. Research into this area would need to contain a sample of mothers who are breastfeeding children over the age of 12 months. The sample would also need to be racially and ethnically diverse. Because breastfeeding past 12 months is fairly rare in the United States, finding a large enough sample of children breastfeeding past 12 may be problematic, especially when trying to find a racially/ethnically diverse sample. Few research studies exist on "extended breastfeeding" (breastfeeding past 12

months) and those that do have typically utilized La Leche League as a data collection source (Kendall-Tackett & Sugarman, 1995; Stearns, 2011; Stein, 2002). It is important for future researchers to keep in mind that use of La Leche League could potentially limit their samples demographic data in the same ways that demographic data was limited in the current study. Nonetheless, future researchers could contact La Leche League and request to post a web-based survey on the La Leche League United States message boards. This survey could be a modified version of the survey utilized in the current study. It could contain the Perceived Stigma Scale, children's ages as age groups (i.e., 0-3 months, etc.), racial/ethnic status of child and mother, and other demographic information for post-hoc tests if necessary. Researchers would then determine if stigma scores increased based on age of the child and if this varied by racial/ethnic status.

Skin tone and stigma for breastfeeding in public. Multiracial children often do not have the same skin color as their parents. The current study examined racial/ethnic status and stigma for breastfeeding in public, but it did not look into visible differences between mother and child. Future research could examine this aspect of stigma and breastfeeding by creating a survey that included the Perceived Stigma Scale, demographic information (age of child, age of mother, occupation, education level), and adding questions similar to the following: "What is your skin tone?" "Does your child have the same skin tone as you?" and "If your child does not have the same skin tone as you, please select the skin tone that most closely matches your child's." Researchers could then determine if women whose children were darker or lighter skin toned than themselves had higher stigma scores. Such a study would obviously require a larger sample of mothers of mixed-race children than the current study. A sample like this may be more easily acquired in the Southern United States or in the Hawaiian islands. Advertising may not initially target mothers of mixed-race children because it would be necessary to have a comparison group

of mothers of non-mixed race children. However, if issues with sample size arose, it may become appropriate to advertise specifically to mothers of mixed-race children.

The impact of social media on breastfeeding. Participants primarily completed the survey on the Internet via online breastfeeding support groups; therefore, future research should examine the impact of social media on breastfeeding. Social media is a powerful tool that has the potential to raise anxiety and awareness about issues that people may not have otherwise considered. For example, the popularity of "nurse-ins" (wherein large groups of breastfeeding mothers breastfeed together to protest discrimination for public breastfeeding) is largely due to social media. Hearing about nurse-ins may increase women's expectations that they will experience stigma for breastfeeding in public and thus influence breastfeeding behavior. Future research could examine if social media is linked to anxiety and increased feelings of stigma. Such a study could be conducted by using the Beck Anxiety Inventory (BAI) and the Perceived Stigma Scale from the current study. Researchers could compare the scores from these measures of women who use social media and women who do not use social media. It may be potentially problematic for researchers to find a large enough sample of women who do not use social media. Therefore, BAI scores and Perceived Stigma Scores could be compared for women based on amount of time spent on social media (i.e., comparing scores of women who spend less time on social media versus women who spend more time on social media).

In addition, such a study could examine whether online support impacts scores on perceived stigma. An online social support scale could be developed and compared to the stigma scores of women who endorse using the Internet more or less (or not at all, if a sufficient sample could be obtained).

Anxiety and breastfeeding. One possible explanation for higher scores on the stigma measure for Caucasians is that Caucasian participants were more anxious than Minority participants. To address this hypothesis, future researchers could obtain a sample of Caucasian and Minority breastfeeding mothers. These groups could be further divided into mothers that do breastfeed in public and mothers that choose not to breastfeed in public. In this way, future researchers could determine if Caucasian mothers were indeed more sensitive to stigma due to anxiety than Minorities. Participants would be given the BAI and the Perceived Stigma Scale from the current study. Their scores would be compared to determine if breastfeeding in public is associated with lower anxiety by race/ethnicity, if anxiety is related to scores on the Perceived Stigma Scale, and if these scores differed by race/ethnicity.

This study could also address the question of whether Caucasian culture is more or less supportive of breastfeeding than Minority cultures. In order to do this the study would need to make every effort to obtain a sample that is representative of the national population and then compare anxiety and stigma scores by race/ethnicity. It is possible that there are other factors, such as the possible protective factors of social supports, prior breastfeeding knowledge, and socioeconomic status that may influence anxiety level and stigma scores. For example, if Minority participants in future studies interact with systems more representative of Caucasian culture, it would be difficult to determine if Minority or Caucasian culture is more or less supportive of breastfeeding. Therefore, future researchers should be cognizant of these potential confounding factors when collecting data.

Microaggressions by racial/ethnic subgroup. Recent research has begun to examine the impact of microaggressions on broad categories such as gender, sexual orientation, religious belief, race/ethnicity, and disability (Sue, 2010). Research has not explored differences in the

experience of microaggressions by smaller subgroups or the experience of microaggressions for those who identify as members of multiple Minority groups. Future research into stigma, breastfeeding, and race/ethnicity should look into how microaggressions impact breastfeeding behavior and if microaggressisons vary by racial/ethnic status. This would, admittedly, be a complicated endeavor due to the nature of microaggressions. Women are already treated as a marginalized group in the United States. Women who are racial/ethnic Minorities are double Minorities and, therefore, women who breastfeed and are racial/ethnic Minorities are *triple* Minorities. At this point it becomes very difficult to determine if microaggressions are occurring due to breastfeeding, race, gender, or some combination of all three Minority statuses. Therefore, follow up studies on microaggressions and breastfeeding in public could include a modified version of the Perceived Stigma Scale. This modified version would include scenarios more typical of microaggressions than the overt behaviors that were presented in the Perceived Stigma Scale (i.e., "Someone's eyes got bigger while I nursed my baby"). Furthermore, to address the issue of being "triple Minorities," women who took this Perceived Microaggression Scale for Breastfeeding in Public would then be asked to circle if they felt this behavior occurred due to their race, their gender, breastfeeding in public, the first two, or all three. In addition, questions regarding whether or not such microaggressions impacted behavior of the breastfeeding mother could be added to the survey. Women could choose from a list of behaviors that they engaged in due to each microaggression: ignored the microaggression, covered myself, moved to another location, or spoke up for myself.

Conclusion

The fact that women in the study reported relatively low stigma scores for breastfeeding in public is a positive sign. Although breastfeeding rates are rising, they are not as high as would be

ideal, especially for breastfeeding to six months without supplementation. There are many biopsychosocial factors that impact breastfeeding success. This study aimed to examine perceived stigma and factors that could possibly impact perceived stigma such as social supports, prior knowledge about breastfeeding, and education level. As part of a larger system, clinicians have the ability to help assuage their client's fears of stigma for breastfeeding in public. This can be done through discussion of stigma in psychotherapy, partnering with community agencies to further support breastfeeding mothers, and making environmental adjustments to therapy offices and clinics to make them more breastfeeding friendly. Future research should be cognizant of the impact of how systems impact women's infant feeding choices. Furthermore, health care professionals, including psychotherapists, should consider such research and work toward interventions that aim to create a larger culture that is supportive and accepting of breastfeeding in public.

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Appendix A:

Informed Consent

Breastfeeding Research Study

A researcher at Antioch University New England is asking you to fill out a survey about your experiences breastfeeding.

The researcher wants to know if you experience stigma for breastfeeding in public. In this study, stigma means that you feel judged, singled out, or treated differently because you are breastfeeding. The survey includes information about your race and ethnicity, your occupation, your parents' occupation, and your partner's occupation. It also asks questions about how much you knew about breastfeeding before you began breastfeeding. Finally, the survey asks if your partner and family support your decision to breastfeed.

The researcher will be asking all women at WIC in Manchester to complete the study. Only women who are breastfeeding currently can complete the survey. There are no risks for taking part in the study because the researcher is not asking for your name or other information that will link you back to the study. The survey will take around ten to fifteen minutes to finish.

Taking part is voluntary.

If you choose not to fill out the survey, there will be no penalty and it will not affect any services or other benefits you might receive from WIC. If you do fill out the survey, you may leave any question blank, but we ask you to answer as many questions as you can.

Once you complete the survey you can write your name and cell phone number or email address on a list. This list will be kept private. The list is for a drawing for you to win one of four $20 gift cards Target.

If you have any questions about the study, you may contact Nicole Shewey at 603-283-2183 or via email at xxxxxxx@antioch.edu

If you have any questions about your rights as a research participant, you may contact Katherine Clarke Chair of the Antioch University New England IRB at 603-283-2162 or Melinda Treadwell, Chief Academic Officer at 603-283-2444.

Appendix B: IRB Approval

From: <kclarke@antioch.edu>
Date: Wednesday, February 26, 2014
Subject: Online IRB Application Approved: A Comparison of Minority and Majority Mothers' Reports of Stigma for Breastfeeding in Public February 26, 2014, 7:24 pm

Dear Nicole Shewey,

As Chair of the Institutional Review Board (IRB) for Antioch University New England, I am letting you know that the committee has reviewed your Ethics Application. Based on the information presented in your Ethics Application, your study has been approved.

Your study has been approved for Exempt status by the IRB. As an exempt study, there is no requirement for continuing review. Your protocol will remain on file with the IRB as a matter of record. While your project does not require continuing review, it is the responsibility of the P.I. to inform the IRB if the procedures presented in this protocol are to be modified or if problems related to human research participants arise in connection with this project. Any procedural modifications must be evaluated by the IRB before being implemented, as some modifications may change the review status of this project. Please be reminded that even though your study is exempt from the relevant federal regulations of the Common Rule (45 CFR 46, subpart A), you and your research team are not exempt from ethical research practices and should therefore employ all protections for your participants and their data which are appropriate to your project.

Sincerely,

Katherine Clarke