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EFFECTS OF A VISUAL ARTWORK INTERVENTION AND PERSONAL PROGRESS FACTORS ON MATERNAL ATTITUDES TOWARDS BREASTFEEDING AMONG BLACK WOMEN

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EFFECTS OF A VISUAL ARTWORK INTERVENTION AND PERSONAL PROGRESS FACTORS ON MATERNAL ATTITUDES TOWARDS BREASTFEEDING AMONG BLACK WOMEN

by

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Dedication

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EFFECTS OF A VISUAL ARTWORK INTERVENTION AND PERSONAL PROGRESS FACTORS ON MATERNAL ATTITUDES TOWARDS BREASTFEEDING AMONG BLACK WOMEN

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Exclusive breastfeeding during the first six months of life is the recommended guideline, and the promotion of exclusive breastfeeding is a top priority for both national and international health organizations. The benefits of breastfeeding to both mother and baby reduces the burden of health disparity and promotes long-term healthful outcomes. Continued rates of low breastfeeding among Black women has brought forth the need for a methodological paradigm shift that enables nurses and researchers to explore creative, evidence-based, culturally relevant and population-specific interventions to enhance breastfeeding among Black women. This dissertation is an exploration of the use of art images of Black women breastfeeding to better understand this population's maternal attitudes towards breastfeeding and the personal factors that influence those maternal attitudes. The first chapter, *Overview of the Dissertation Research Focus*, introduces my program of research and topic of each manuscript. The second chapter, *Vulnerability*: *A Concept Analysis*, provides a conceptual analysis of vulnerability. The third chapter, *Strategically Positioned: Breastfeeding, Advocacy, and the Hands-On Nurse*, discusses the early societal barriers and their impact on breastfeeding. The primary research in the fourth chapter, *Effects of a Visual Artwork Intervention and Personal Progress Factors on Maternal Attitudes Towards Breastfeeding Among Black Women*, tests the visual artwork intervention.

Chapter 1

Overview of the Dissertation Research Focus

High rates of infant mortality within Black communities is correlated with the social determinants of health including poverty, low education, environmental insecurity, violence, and unhealthy behaviors (Noonan, Velasco-Mondragon, & Wagner, 2016). The impact of these social determinants of health creates overwhelming health disparity that results in negative disease burden, particularly among Black women and children. Efforts to eliminate the negative disease burden among this group have focused on research and intervention to mitigate the identified health disparities. In particular, the known infant health benefits of breastfeeding. Breastfeeding is a determinant of infant health and could prevent an estimated 823,000 annual deaths in children younger than 5 years old (United Nations International Emergency Fund, 2016).

However, the national average for exclusive breastfeeding during the first six months of life is only 14.6% among Black women (Centers for Disease Control and Prevention [CDC] National Immunization Survey, 2013), which is lower than the *Healthy People 2020* target goal of 25.5% exclusive breastfeeding during the first six months (CDC Breastfeeding Report Card, 2016). As a Black population-health registered nurse and certified lactation consultant, it became evident that though much is known about the benefits of breastfeeding, concerted efforts are still warranted to better understand why rates of breastfeeding among Black women remain low. The extant literature provides some understanding about why rates remain low, but the literature is by no means exhaustive. My intent through this dissertation was to contribute to the extant literature by exploring Black women's attitudes towards breastfeeding and the personal

progress factors that influence those attitudes. Presented in this dissertation is a novel intervention that utilizes art images to explore this group's maternal attitudes.

Introduction of Manuscripts

The second chapter, *Vulnerability*: *A Concept Analysis*, provides a conceptual understanding of what constitutes vulnerability, how vulnerability is experienced, and the role of nurse advocacy. Nurses and researchers who are equipped with a conceptual understanding of vulnerability are better positioned to mitigate the health disparity of vulnerable groups. The third chapter, *Strategically Positioned: Breastfeeding, Advocacy, and the Hands-On Nurse*, discusses the impact of the Progressive Era, particularly modernity and science, on widely-held views of motherhood and breastfeeding. Nurses who care for women and infants are critical stakeholders in the emergence of breastfeeding advocacy also known as lactivism. The primary research in the fourth chapter, *Effects of a Visual Artwork Intervention and Personal Progress Factors on Maternal Attitudes Towards Breastfeeding Among Black Women*, uses the Community Involvement in Empowerment Health model to tests the effects of visual art images of Black women breastfeeding and personal progress factors on the maternal attitudes towards breastfeeding among Black women. Through this randomized controlled trial, the researcher was able to implement a web-based intervention specifically targeted to Black women that garnered fresh insight on what this population has to say about breastfeeding, the emotions they felt in response to the intervention, and their suggestions for how research can be tailored to be inclusive of this group.

Chapter 2

Vulnerability: A Concept Analysis

Abstract

The aim of this paper is to introduce the concept of vulnerability and to explore the extant literature to determine the tenets of vulnerability. The debate over what constitutes ethical research is in part centered on the concept of vulnerability. The Belmont Report (1979) was the first human research ethics guideline to identify vulnerable groups, and specify that those identified as vulnerable need extra protections during research participation. Identified limitations of the Belmont Report especially with regard to racial minorities, resulted the 1985 report known as the Heckler Report, which laid the foundation for actionable steps to eliminate health disparities among racial and ethnic minority groups. The American Nurses Association Code of Ethics (2001) requires nurses to promote, advocate, and strive to protect the health, safety, and rights of all individuals and groups. A conceptual understanding of vulnerability allows nurses and researchers to advocate for and better serve individuals and groups deemed vulnerable. Nurse advocacy is paramount in the assurance that vulnerable groups experience reduced health disparity and increased positive health outcomes.

KEYWORDS: nurse advocacy, exposure to risk, health disparity, powerlessness, social determinants of health, vulnerability

Vulnerability: A Concept Analysis

Poor reproductive health and birth outcomes among Black women are linked to poverty, low education, unemployment, violence, and environmental insecurity (Noonan, Velasco-Mondragon, & Wagner, 2016). Black infant mortality provides the most transparent view of these birth outcomes, with the rate consistently held at least 2.5 times greater than White infant mortality since data collecting was initiated. Notable is the fact that at least 75% of all infants receive well baby care, which suggest that the differences in mortality are impacted by what are commonly referred to as social determinants of health. Identified social determinants of health specific to infant mortality include lack of access to healthy foods, inadequate or no access to essential pre/post-natal healthcare, intimate partner violence, unhealthy behaviors such as smoking, alcohol and substance abuse, and stress (Noonan, Velasco-Mondragon, & Wagner, 2016).

These factors affect and contribute to the health disparity of disproportionate infant mortality rates experienced at the individual and group level among Black women. Noonan et al. (2016) point out that health disparity is distinct from health inequality. Health disparity is any form of disproportion in health that afflicts a vulnerable group of the broader population. Health inequality is any form of bias, partiality, or prejudice that impacts a racial/ethnic, gender, and socioeconomically vulnerable group. Health disparity requires a careful examination of the inherent complexities of that disparity in order to develop intervention that best suits the needs of vulnerable groups. An actionable step in this examination is to explore what it means to be vulnerable and how vulnerability is experienced. A closer examination of the concept of vulnerability is warranted before nurses and researchers can mitigate the health disparities of vulnerable groups.

Significance to Nursing: The Concept of Vulnerability

The identification of vulnerable groups, the tenets that defined what it meant to be vulnerable and the safeguards needed to protect such subjects was first addressed in the National Research Act of 1974. The National Research Act created the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Commission (1974) was assigned the task to identify the basic ethical principles that should guide the conduct of biomedical and behavioral research involving human subjects, and develop guidelines that verify research is conducted in accordance with those principles. Fulfilling their assignment, the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research developed the Belmont Report in 1978. The Belmont Report (1978) was the first human research ethics guideline to specifically identify vulnerable groups such as the economically disadvantaged, the very sick, the institutionalized, and racial minorities.

In addition, the Belmont Report (1978) offered protections against the use in research of individuals or groups without their understanding, consent, or any likelihood of benefit, with emphasis on protecting the vulnerable from unjust research participation. However, despite the strong stand on research with vulnerable groups, Rogers (2013) asserts that the Belmont Report does not distinguish different forms or kinds of vulnerability or take on the initiative to develop specific protections to particular vulnerabilities. Rogers applies a notion first used by Nickel (2006) who identified two limitations with respect to vulnerability at work in the Belmont Report, and potentially subsequent human research ethics guidelines.

The Belmont Report (1979) connects informed consent to the principle of autonomy, but Nickel (2006) argues that researchers should be mindful not to view the process of informed consent as a sole remedy to mitigate vulnerability. The scope of how vulnerability plays out

within a groups day to day life should be wholly considered throughout each step in the research process. Additionally, the benefits of participation in research need to be positioned in a manner that allows vulnerable groups tangible access to the healthful outcomes of that research. Researchers have an obligation to design research whereby vulnerable groups are the true winners, and not merely the object of a broader research agenda. These limitations are important to consider because the American Nurses Association (2001) Code of Ethics exhorts nurses to promote, advocate, and strive to protect the health, safety, and rights of the patient. The Code of Ethics further addresses patient autonomy related to participation in research, and the concept that nurses should be cognizant of the vulnerabilities of patients.

Familiar with the limitations of the Belmont Report especially with regard to racial minorities, Margaret Heckler, then Secretary for the Department of Health and Human Services ([DHHS], 1984) drafted a report that addressed the health disparities endured by Black and other minority groups, compared with Whites. The 1985 Report of the Secretary's Task Force on Black and Minority Health was known as the Heckler Report. The Heckler Report laid the foundation for actionable steps to eliminate health disparities through health education, promotion, and access to health care. The Heckler Report paved the way for the creation of the Office of Minority Health in 1986, whose mission was to improve the health of racial and ethnic minority groups through the development of health policies and programs that eliminated health disparities (Noonan, Velasco-Mondragon, & Wagner, 2016).

The Office of Minority Health sought to identify what constituted health disparities in Black and minority groups in part by focusing on identified social determinants of health. The health outcomes associated with group health disparities are linked to how social determinants negatively affect vulnerable groups and their respective communities (Parks, 2015). Research

with vulnerable groups must support efforts to address the identified health disparities (Murray, 2013). A conceptual understanding of what constitutes vulnerability better equips nurses and researchers with the knowledge base needed to develop interventions that adequately address these health disparities.

Concept Identification

Etymology of Vulnerability

The first known use of the concept vulnerability occurred between 1595 to1605, and is derived from the root word vulnerable (Etymology Dictionary, 2018). Vulnerable is from the Late Latin *vulnerabilis*, which means "wounding," from the Latin *vulnerare* defined as "to wound, hurt, injure, or maim," from *vulnus* which means "to wound." Vulnerable is the adjective derivative of the noun vulnerability, and has three definitions: being capable of physical, mental, and/or emotional woundedness, a subject that is unprotected from to attack or damage, and accountable to increased penalty (Merriam- Webster, 2018).

Review of Literature

Researchers have identified several forms of vulnerability, and the lists of those persons considered vulnerable regarding research participants is now extensive. The concept of vulnerability is complex and layered because it can describe an individual or group's environmental, financial, emotional, psychosocial, cultural, physical, spiritual, socio- historical, and geographical welfare. Variation in definition and usage of vulnerability among respective disciplines is listed (see Table 1).

Table 1

Concept of Vulnerability

Author/ Year	Variation in Definition and Usage
Cocco et al., 2010	as cited in Silva, D. (2014). "a set of aggressive factors […] the capacity of responsiveness of the individual and the perception that he has about the threatening environment and, therefore about material and symbolic resources that mobilize to disable or circumvent a negative event" (pg. 851).
Mechanic et al., 2007(a)	"vulnerability, the susceptibility to harm, results from an interaction between the resources available to individuals and communities and the life challenges they face" (pg. 1220)
Mechanic et al., 2007(b)	"vulnerability results from developmental problems, personal incapacities, disadvantaged social status, inadequacy of interpersonal networks and supports, degraded neighborhoods and environments, and the complex interactions of these factors over the life course" (pg. 1220)
Mihai, 2014	"vulnerability can be defined as the damage degree of structural element exposed to seismic risk, or of a combination of such elements under the action of an earthquake with given characteristics" (pg. 148)
Pettengill, 2006	as cited in Silva, D. (2014). "the vulnerability of the human being [to] feel threatened in their autonomy, under pressure of the disease, the family and the team" (pg. 851)
Rogers et al., 2013(a)	"inherent vulnerabilities are shared by all humans… these stem from our embodiment and our affective and social nature… they include vulnerability to injury and death, and psychological ills like loneliness or lack of self-respect" (pg. 2143)
Rogers et al., 2013(b)	"situational vulnerabilities come into being in specific economic, social, or political contexts that vary from person to person, and may exacerbate or ameliorate inherent vulnerabilities… for example earning an income alleviates vulnerability to hunger" (pg. 2143)
Rogers et al., 2013(c)	"pathogenic vulnerabilities are situational vulnerabilities that occur because of adverse social phenomena… they include vulnerabilities caused by injustice, domination, repression, and also those that occur when actions intended to alleviate vulnerability actually make it worse… so the vulnerability to discrimination that affects minority populations is pathogenic" (pg. 2143)
Santos, 2010	as cited in Silva, D. (2014). "as a multidimensional construct understood as a process of being at risk that brings instability in health condition, resulting from economic, social, psychological, family resource or inadequate cognitive or physical condition" (pg. 851)
Schroder-Butterfill et al., 2006	as cited in Brocklehurst, H. (2008). "vulnerability is the outcome of complex interactions of discrete risks, namely of being exposed to a threat, of a threat materializing, and of lacking the defenses or resources to deal with a threat" (pg. 1354)

Tenets of Vulnerability

Walker and Avant (2005) explain that tenets are the properties of a concept that appear repetitively. An analysis of the literature reveals that the critical tenets of vulnerability are *powerlessness*, and *exposure to risk* (foreseen or unforeseen). Vulnerability occurs at the intersection of *powerlessness* and *exposure to risk* either foreseen or unforeseen. *Powerlessness*

is essential to the concept of vulnerability because when an individual or group is *exposed to risk* the subjection to that risk can potentially render the individual or group *powerless*. This dynamic is evident in the definitions with descriptive phrases like; "complex interactions of discrete risks, namely of being exposed to a threat" (Schroder-Butterfill, 2006, pg. 1354), "a process of being at risk that brings instability" (Santos, 2010, pg. 851), "adverse social phenomena" (Rogers, 2013, pg. 2143), "damage degree of structural element exposed to seismic risk" (Mihai, 2014, pg. 148), "disadvantaged social status" (Mechanic, 2007, pg. 1220), and "the human being [to] feel threatened in their autonomy" (Pettengill, 2006, pg. 851).

Model Case

A model case demonstrates the tenets of the concept (Walker & Avant, 2005). The following example demonstrates the concept of vulnerability.

A botanist places a delicate, pink orchid outside on the backyard deck. Directly overhead is bright, blue sky, but dark, rain clouds are rolling in from the east.

The model case accurately represents the concept of vulnerability. Close examination reveals the two tenets of vulnerability; *powerlessness*, and *exposure to risk*. The placement of the orchid outside on the backyard deck exposes it to the risk of the dark, rain clouds, and renders the orchid powerless.

Contrary Case

A contrary case does not demonstrate the tenets of a concept (Walker &Avant, 2005). The following example is antithetical to the model case, and does not include any tenets of the concept vulnerability.

A botanist places a delicate, pink orchid outside on the backyard deck. Directly overhead is bright, blue sky.

The placement of the orchid outside on the backyard deck does not expose it to any risks or render the orchid powerless.

Antecedents

Antecedents are the actions that must take place before the concept occurs (Avant & Walker, 2005). Researchers and theorists may find the antecedents helpful in the analysis, because they allow the researcher to recognize the assumptions inherent to the concept. Vulnerability is dependent on the antecedent *inequality*. Inequality antecedes vulnerability because it refers to an individual or group's circumstances with regards to their social, physical, economic, education, gender, and race/ethnic status (Noonan, Velasco-Mondragon, & Wagner, 2016). In order for someone or something to experience *powerlessness* when *exposed to risk* there must first be an underlining *inequality* present. *Powerlessness* at the intersection of *exposure to risk* leads to *vulnerability* via *inequality*. However, if *inequality* is not present, *powerlessness* is not experienced and vulnerability does not occur. Thus, the individual or group may not be rendered *vulnerable*.

Consequences

The consequence of vulnerability is *impact*. In the model case, the exposure to dark, rain clouds rolling in from the east, would have a negative impact on the delicate, pink orchid. The negative impact of the dark, rain clouds would require mitigation in order to preserve the delicate, pink orchid. Within vulnerable groups, impact is evidenced by the lack of social and communal connectedness or integration, thus placing them at higher risk for disease burden, knowledge deficits, and subsequent risky behaviors (Carr, 2011).

Empirical Referents

Empirical referents are classifications of real phenomena that by their presence demonstrate the occurrence of the concept (Walker & Avant, 2005). Birkman (2006) contend that the ability to accurately measure vulnerability is challenged by the lack of a universal and applicable procedure. The lack of consistency in how vulnerability is measured is in part due to the comprehensive nature of the concept as well as the large volume of indicators used to determine risk to vulnerability. Birkman (2006) further contends that vulnerability assessment should focus on the properties that determine the possible negative impact of injury, loss and other harm as well as the ability to resist and recover from those negative impacts. The empirical referents presented in Table 2 were chosen to emphasize the variation among measurement tools in relation to the numerous types of vulnerability.

Table 2

Empirical Referents

Author/ Year	Empirical Referent
Ligon et al.,2003	Welfare loss associated with poverty whereby the vulnerability of the household is expressed by the function: V ¡ ¼ U ¡ðzÞ _ EU ¡ðc¡Þ
Calvo et al., 2005	Individual vulnerability as opposed to aggregate vulnerability whereby individual vulnerability is measured by: V*=V(z,**y**,**p**)
Adger, 2006	In relation to global environment change whereby: Vulnerability= sensitivity to stress state / relative to threshold x probability to exposure to stress
Veracode, 2015	In relation to security frauds vulnerability via software and identify theft.

Conclusion and Recommendations

The focus of this paper was to analyze the concept of vulnerability through identification of the term's origins as well as stated applications in the review of literature. The origins of vulnerability and its' application in literature provide insight on how the concept is

operationalized, and the common themes that serve to build the tenets of vulnerability. Individuals and groups experience vulnerability at the intersection of powerlessness and exposure to risk and are thus rendered vulnerable. The social determinants of health of an individual or group are impacted by the pervasive long-term effects of vulnerability, especially health disparities. Thirty-five years after the Heckler Report was published, minority communities continue to be exposed to risk and lack the power over policy and actions that could mitigate such health disparities (Noonan, Velasco-Mondragon, & Wagner, 2016). Nurses who have a conceptual understanding of how vulnerability occurs at the intersection of powerlessness and exposure to risk are well positioned to mitigate vulnerability.

Nurses are better able to serve those individuals deemed vulnerable through implementation of policies that reduce vulnerable groups exposure to risk. Policy making is not new to the nursing profession. Organizations such as the American Nurses Association were created in part to push forward the ideas and positions of nurses who sought to reduce risks with safer, healthier, and better health care for the communities they served. Risks such as poor or lack of health literacy skills were often identified by community-based nurses who saw first-hand the health disparities that impacted an individual and/or community. Individuals and communities with poor health literacy had a harder time communicating with their health care provider, reading instructions on medications, and understanding how to manage their health (Noonan, Velasco-Mondragon, & Wagner, 2016). Policies brought forward by nurses, such as the need to address issues of poor health literacy, have played critical roles in reduced health disparities at the community level.

Nurses can work to improve patient outcomes through healthcare advocacy and the delivery of equitable care. Noonan, Velasco-Mondragon, and Wagner (2016) argue that

concerted efforts must be pursued throughout health systems to remove the biases in the quality of care currently provided in all aspects of medical practice. Efforts must be directed at healthcare practice and delivery to ensure access to preventative care to all persons including vulnerable groups. Nurse advocacy, such as the push for expansion of healthcare coverage to vulnerable groups under the Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 (2010), has allowed roughly eight million individuals within Black and minority communities to obtain preventative and comprehensive healthcare (Noonan, Velasco-Mondragon, & Wagner, 2016). Comprehensive care for the pregnant women, infant and child is essential to their health outcomes and ultimately their lifelong health. Nurses have an obligation to translate their knowledge of health into easily digested and understood language of the individuals and groups served. Nurses' ability to translate their knowledge and advocate for preventative and essential care is paramount in the assurance that vulnerable groups experience reduced health disparities and increased positive health outcomes.

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Chapter 3

Strategically Positioned: Breastfeeding, Advocacy, and the Hands-On Nurse

Abstract

Breastfeeding, a health behavior that provides well-known benefits for mothers, infants, and children, is an essential strategy to improve public health. Breastfeeding can reduce the incidence of infant illness and death and provides both short- and long-term physiological benefits to mothers. National and international government agencies and grass-roots organizations supporting breastfeeding include the World Health Organization, the United Nation's International Children's Emergency Fund, the World Alliance for Breastfeeding Action, the Centers for Disease Control and Prevention, and the La Leche League. In the United States, breastfeeding of infants was the norm until the late 1890s when The Progressive Era's emphasis on science and modernity led to the transition of childbirth from residential in-home births to community-based hospital births, and the aggressive rise of the baby formula industry. By 1966 only 18% of mothers were exclusively breastfeeding their infants at hospital discharge. This drastic decrease in breastfeeding reduced the percentage of mothers and grandmothers who could share their breastfeeding knowledge and experience. Nurses who provide care for women and infants are essential stakeholders in bridging the breastfeeding knowledge gap by offering education on the short- and long-term health benefits of breastfeeding to both mother and baby, and timely encouragement to mothers during the most significant time for establishing lactation.

KEYWORDS: advocacy, breastfeeding, infant health, lactivism, maternal health, nurses

Strategically Positioned: Breastfeeding, Advocacy, and the Hands-On Nurse

Breastfeeding, a health behavior that provides well-known benefits for mothers, infants, and children, is an essential strategy to improve public health (Centers for Disease Control and Prevention [CDC], 2016). Historically, breastfeeding has been defined as an infant's receipt of human milk directly from the breast (Wambach & Riordan, 2016). More recent definitions of breastfeeding have expanded to include an infant's receipt of human milk expressed from but not directly received from the breast (Eastin & Sharma, 2015). The composition of human milk contains two components known as foremilk and hindmilk (Ballard & Morrow, 2013).

Foremilk refers to the initial milk received at the onset of a feeding, is approximately 90% water, and is responsible for the hydration needed to quench the infant's thirst. Hindmilk refers to the milk received toward the end of the feeding, contains approximately 10% solids with an estimated two to three times more milk fat than foremilk (Ballard & Morrow, 2013), and is responsible for the delivery of nutrients including proteins, non-protein nitrogen compounds, lipids, oligosaccharides, vitamins, and certain minerals that are needed to furnish nourishment and satisfy the infant's hunger (Wambach & Riordan, 2016). In addition, human milk possesses anti-infective properties (Wambach & Riordan, 2016), which destroy pathogens and promote infant immunity (Eidelman & Schanler, 2012). Decades of research have shown that human milk is the optimal form of nourishment for infants and is formulated by the mother to meet the evolving nutritional needs of the infant.

Infant Health Benefits of Breastfeeding

The physiological benefits derived from breastfeeding are abundant for all newborns. Breastfeeding offers the newborn protection against disease (Wambach & Riordan, 2016), and can reduce the risk of illness and death (Chen & Rogan, 2004). Breastfeeding has been shown to

reduce the incidence of otitis media by 23% (Ip et al., 2007), the risk for respiratory tract infections in the first year by 72% (Ip et al., 2007; Ip et al., 2009), the incidence of serious colds and ear and throat infections by 63% (Duijts et al., 2010), the factors for necrotizing enterocolitis by 58% (Ip et al., 2007), and nonspecific gastrointestinal tract infections by 64% (Ip et al., 2007; Ip et al., 2009; Duijts et al., 2010; Quigley et al., 2007).

Additional physiological benefits include a reduction in the incidence of clinical asthma, atopic dermatitis, and eczema (Greer et al., 2008; Ip et al., 2007), the risk for development of celiac disease by 52% and childhood inflammatory bowel disease by 31% (Akobeng et al., 2006; Barclay et al., 2009), adolescent and adult obesity by 15%- 30% (Ip et al., 2007; Owen et al., 2005), type 1 diabetes by 30% and type 11 diabetes by 40% (Ip et al., 2007; Rosenbauer et al., 2008), risk for development of acute lymphocytic leukemia by 20% and acute myeloid leukemia by 15% (Kwan et al., 2004; Rudant et al., 2010), and long-term positive neurodevelopmental outcomes including higher intelligence scores and higher teacher ratings (Isaacs et al., 2010; Lucas et al.,1998; Vohr et al., 2006; Vohr et al., 2007).

Maternal Health Benefits of Breastfeeding

Breastfeeding has been shown to provide both short- and long-term physiological benefits to mothers (American Academy of Pediatrics, 2016). The receipt of maternal benefits is dependent on the successful establishment of breastfeeding in the first days and weeks after birth (Wambach & Riordan, 2016). Women who breastfeed for any length of time experience benefits including decreased postpartum bleeding and faster involution of the uterus (American Academy of Pediatrics, 2016), decreased rates of child abuse/neglect and postpartum depression (Henderson et al., 2003; Strathearn et al., 2009), increased maternal weight loss (Krause et al.,

2010), and decreased risk for the development of type 2 diabetes with each year of breastfeeding, accounting for a 4% to 12% reduction (Schwarz et al., 2010; Stuebe et al., 2005).

Additional maternal physiological benefits include reduced risks for obesity, osteoporosis, and ovarian and premenopausal breast cancers (Blincoe, 2005; Philipp & Jean-Marie, 2007), reduced risk of rheumatoid arthritis (Karlson et al, 2004), significant reduction in hypertension, hyperlipidemia, and cardiovascular disease (American Academy of Pediatrics, 2012). Breastfeeding for a period of twelve months or longer is linked to a decrease in breast and ovarian cancer by 28% (Collaborative Group on Hormonal Factors in Breast Cancer, 2002). The research provides clear evidence of numerous infant and maternal physiological health benefits. However, fully understanding the importance of infant and maternal health breastfeeding research requires some perspective on the history of breastfeeding in the United States.

Breastfeeding in the United States

In 1979, U.S. Surgeon General Julius Richmond sounded a clarion call in his landmark report, *Healthy People 1979: The Surgeon General's Report on Health Promotion and Disease Prevention* (U.S Department of Health and Human Services, 1979). This report drew attention to the issues affecting the health and well-being of families and communities across the United States. *Healthy People*, a US-based health promotion and disease prevention initiative, was designed to address and offer measurable solutions to public health issues including maternal and child health and welfare (CDC, 2016). Of notable interest is the National Survey of Family Growth Cycle One (1973), which was the first national survey conducted by the CDC that generated data used by the National Center for Health Statistics as the basis for a series of reports on the determinants of family formation and fertility, including measured rates of breastfeeding

in the US. This survey revealed that of 9797 respondents surveyed, only 2903, or roughly 30%, had breastfed their infants.

Taking aim at measures to improve maternal and child health outcomes in the US, *Healthy People 2000* incorporated actionable goals intended to address rates of breastfeeding (Spatz, 2014). The *Healthy People 2000* goals included: (1) 75% breastfeeding initiation; (2) 50% breastfeeding at six months; and (3) 25% breastfeeding at 12 months (CDC, 2009). Updated every ten years, the current *Healthy People 2020* goals include: (1) 81.9% breastfeeding initiation; (2) 60.6% breastfeeding at six months; and (3) 34.1% breastfeeding at 12 months (CDC, 2016). Currently, the CDC utilizes the National Immunization Survey to track trends in breastfeeding throughout the US (Wambach & Riordan, 2016). According to the most recent data, which is based on infants born in 2013, current rates of breastfeeding include: (1) 81.1% breastfeeding initiation; (2) 51.8% breastfeeding at six months; and (3) 30.7% breastfeeding at 12 months (CDC, 2016). Improved rates of breastfeeding were fostered by U.S. health and grassroots organizations, whose focused advocacy spearheaded an expansion of the promotion of breastfeeding in the US.

The Promotion of Breastfeeding

Lactivism, defined as breastfeeding advocacy (Spatz, 2014), is a top priority for both U.S. and international health organizations (Wambach & Riordan, 2016). Efforts to promote and advocate for breastfeeding have been the long-standing mission and work of grassroots organizations such as La Leche League. Established in the late 1950s, La Leche League was one of the first community-based organizations that championed the case for breastfeeding by offering a mother-to-mother support group environment (Spatz, 2014). In addition, numerous U.S. health organizations have developed position statements in support of breastfeeding as the

best infant feeding method (see Table 3). These national organizations support and promote the recommendation of exclusive breastfeeding for the first six months, and continued breastfeeding throughout the first year of life or longer, to provide complete nutrition for growth and development.

Table 3

United States Health Organizations with Breastfeeding Position Statements

Academy of Breastfeeding Medicine
Academy of Nutrition and Dietetics
American Academy of Family Physicians
American Academy of Pediatrics
American College of Nurse-Midwives
American College of Obstetricians and Gynecologists
American Public Health Association
Association of Women's Health, Obstetric, and Neonatal Nurses
National Association of Pediatric Nurse Practitioners
United States Breastfeeding Committee

The primary international organizations which promote and support breastfeeding include the World Health Organization (WHO) and the United Nations Children's Emergency Fund (UNICEF) (Wambach & Riordan, 2016). WHO and UNICEF (1990) worked together in the development of the Innocenti Declaration, which reaffirms the importance of breastfeeding for optimal maternal and child health outcomes. Officially implemented in 1991, The Innocenti Declaration proposed four goals:

1. establishment of national breastfeeding coordinators and committees,
2. application of *Ten Steps to Successful Breastfeeding* by maternity services,

One goal of the Innocenti Declaration (UNICEF, 1990) was the establishment of the *10 Steps to Successful Breastfeeding*, an international policy statement intended for maternity care stakeholders that aimed to reduce infant formula use in hospitals and maternity care centers. The *10 Steps to Successful Breastfeeding* established the foundation for the Baby-Friendly Hospital Initiative (Wambach and Riordan, 2016).

3. implementation of the WHO International Code of Marketing of Breast-Milk Substitutes, which endorses ending free or low-cost distribution of manufactured baby-milk products to new mothers in hospitals, and
4. endorsement of legislation that protects the breastfeeding rights of employed women (UNICEF, 1990).

In addition to the collaborative efforts with WHO, the United Nations endeavored to achieve the Millennium Development Goals (2015), which sought to alleviate and reverse global poverty, hunger, and disease through implementation of eight strategic goals, of which one is improved maternal and child health. In a recent report, the 2030 Agenda for Sustainable Development Goals, which builds on the original Millennium Development Goals, the United Nations reaffirmed their global commitment to improve maternal and child health (United Nations Sustainable Development Goals, 2015).

Breastfeeding advocacy continues to be of paramount interest and concern for U.S. health and grassroots organizations. Of significance is the ongoing challenge of what grassroots organizations regard as breastfeeding's greatest barrier: the emergence and subsequent influence of the baby formula industry during the Progressive Era (Martucci, 2012).

The Progressive Era

The Progressive Era, which began in the late 1890s and carried into the early 1920s, was marked by modernity and science (Perera, 2014). According to Perera (2014) the expansion of the sciences into nuanced areas of epidemiology began to have broad impact on societal views regarding child health. Not immune to the shift in societal views, motherhood and infant feeding practices were heavily influenced by the modernity and science that characterized the Progressive Era. Working in tandem were two cultural shifts, both rooted in modernity that undermined early ideologies of motherhood (Martucci, 2012): the physical space where women gave birth, and the aggressive rise of the baby formula industry.

Prior to the 1900s, the culture of breastfeeding in the U.S was well established, with early accounts dating back to the colonial period noting that "mothers normally breastfed at least through infants' second summer" (Wolf, 2003, p. 2001). Similarly, according to Spatz (2014) nearly all infants in the US were breastfed until the cultural norm shifted from breastfeeding to bottle feeding. Driving this cultural shift was the transition of childbirth from residential in-home births to community-based hospital births (Martucci, 2012). The transition of childbirth to hospitals paved the way for the baby formula industry by providing easy access to market their infant feeding products, specifically infant formula, to newly delivered mothers (Spatz, 2014).

Coupled with the notion that "Doctor knows best," the US witnessed a dramatic increase in the number of hospital births (nearly 90% by the mid-20th century), in which women sought the scientific expertise of obstetricians and pediatricians, whose own work had transitioned to being hospital-based (Martucci, 2012; Spatz, 2014; Wolf, 2003). With this transition to hospital births, new mothers were faced with the beginnings of the breast versus bottle debate, with formula feeding viewed as the more scientific manner of infant feeding.

The baby formula industry is regarded as playing a key role in the erosion of the culture of breastfeeding in the US (Spatz, 2014). Albeit with their sights on economic gain and combined with the Progressive Era's influences, the baby formula industry successfully marketed their products to mothers through magazines and public advertisements such as billboards and newspapers, as well as to the physicians and other health professionals who cared for these women (Wambach & Riordan, 2016). In addition to the bombardment of messages about baby formula products, new mothers also often received the lactation-suppressing drug Stilbestrol during their hospitalization (Klein, 1942). In the view of modernity and science, lactation, referred to as the "post-partum problem" (p. 30), was viewed as a hindrance. The administration of this pharmaceutical reinforced the erosion of the culture of breastfeeding in the US. According to Meyer (1968), by 1966 only 18% of mothers were exclusively breastfeeding their infants at hospital discharge.

The World Health Organization's International Code of Marketing

To counterbalance the baby formula industry's marketing barrage of infant feeding products, WHO took steps to enforce their aforementioned 1981 International Code of Marketing of Breastmilk Substitutes. The enforcement of the code is conducted by the World Alliance for Breastfeeding Action (2013), a global alliance active in protecting and promoting breastfeeding. The WHO code globally regulates the direct-to-consumer advertising of breastmilk substitutes, places limits on marketing to hospitals and health professionals, and recognizes the need to protect mothers and infants from inappropriate marketing tactics of infant formula (Smith, Galtry, & Salmon, 2017). Equipped with the knowledge that U.S and international organizations wholly support efforts to promote exclusive breastfeeding, nurses are uniquely positioned to

contribute their skills and talents in the promotion of breastfeeding. The contributions nurses are able to provide through focused breastfeeding education are timely and valuable.

Nurse's Contribution to Breastfeeding

The drastic decrease in breastfeeding during the first half of the 1900s reduced the percentage of mothers and grandmothers who could share their breastfeeding knowledge and experience (Wambarch & Riordan, 2016). The emergence of this breastfeeding knowledge gap in society spawned some of the interest that has in more recent years centered breastfeeding education within the nursing profession. According to Wambach and Riordan (2016) education is the "cornerstone" supporting the matrix of breastfeeding and lactation (p.859). The endeavors to reestablish a normalized culture of breastfeeding (Shortt et al., 2013) are rooted in a reliable knowledge base that protects, promotes, and supports breastfeeding and lactation (Wambach & Riordan, 2016).

Launched in 1991 by WHO and UNICEF, the Baby-Friendly Hospital Initiative (2013), encourages ten specific birth-center practices in all countries to promote exclusive breastfeeding. The Baby-Friendly designation endorses clinical facilities and hospitals that provide the most beneficial level of support services for breastfeeding. This strategic initiative aptly locates nurses at the forefront of breastfeeding education that will directly impact mothers and infants as well as the profession. Nurses are essential stakeholders in bridging the breastfeeding knowledge gap in society. Nurses who provide care for women and infants are able to offer education, resources on the short- and long-term health benefits of breastfeeding to both mother and baby, and timely encouragement to mothers who are new to breastfeeding. During the most significant time for establishing lactation, nurses are able to be present and hands-on for the work of breastfeeding initiation within the hospital setting. The recognition of this significant time continues to be

upheld evidenced by the CDC's corroboration that the most significant time for promoting and establishing breastfeeding is during the immediate postpartum period (CDC, 2016). The contributions nurses make to all women regarding breastfeeding are vital. Nurses, researchers, and health clinicians are encouraged to continue their efforts to support and advocate for women to breastfeed.

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Chapter 4

Effects of a Visual Artwork Intervention and Personal Progress Factors on Maternal Attitudes Towards Breastfeeding among Black Women

Abstract

Background/Problem: The national average for exclusive breastfeeding during the first six months of life is only 14.6% among Black women (CDC, National Immunization Survey, 2013) which is lower than the *Healthy People 2020* target goal of 25.5% (CDC Breastfeeding Report Card, 2016). Breastfeeding is a determinant of infant health and could prevent an estimated 823,000 annual deaths in children younger than 5 years old (United Nations International Emergency Fund, 2016).

Purpose: To purpose of the study was to test the effect of a visual artwork intervention and personal progress factors on maternal attitudes towards breastfeeding among Black women. The guiding model for this study was the Community Involvement in Health Empowerment Model (CIHE).

Methods: A randomized controlled trial (RCT) with a 2-group, intervention group and attention control group, pretest-posttest design was conducted. A sample of 17 Black women who were 18 years and older was recruited. The study instruments included the Iowa Infant Feeding Attitude Scale, and Personal Progress Scale Revised.

Analysis: Quantitative data were analyzed using descriptive statistics, ANOVA, Pearson product-moment correlation coefficient, regression, and estimates of internal consistency reliability using Cronbach alpha.

Results: The findings of this study indicate a clinically meaningful use of art as a novel approach to evaluate Black women's maternal attitudes towards breastfeeding. Two unique findings of this

study revealed the individual value that Black women place on breastfeeding as well as their willingness to participate in research deemed relevant and beneficial to themselves and their communities. Healthcare professionals play a critical role in advocating for interventions that will address the social determinants of breastfeeding in an effort to mitigate low rates of breastfeeding among Black women. An important implication of this study is the need for nurses to continue research that builds upon Black women's maternal attitudes towards breastfeeding to develop population-specific breastfeeding behavior interventions intended for Black women.

KEYWORDS*:* art, attitudes, Black women, breastfeeding, infant feeding, and personal factors

Effects of a Visual Artwork Intervention and Personal Progress Factors on Maternal Attitudes towards Breastfeeding among Black Women

The national average for exclusive breastfeeding during the first six months of life is only 14.6% among Black women (CDC National Immunization Survey, 2013), which is lower than the *Healthy People 2020* target goal of 25.5% exclusive breastfeeding during the first six months (CDC Breastfeeding Report Card, 2016). Breastfeeding is a determinant of infant health and could prevent an estimated 823,000 annual deaths in children younger than 5 years old (United Nations International Emergency Fund, 2016). Thus, exclusive breastfeeding during the first six months of life is the recommended guideline (American Academy of Pediatrics, 2016) and the promotion of exclusive breastfeeding is a top priority for both national and international health organizations (Wambach & Riordan, 2016). Historically, breastfeeding has been defined as an infant's receipt of human milk directly from the breast (Wambach & Riordan, 2016). More recent definitions of breastfeeding have expanded to include an infant's receipt of human milk expressed from the breast but not directly received by the breast (Eastin & Sharma, 2015).

Researchers' interest has focused on the socio-cultural determinants of breastfeeding among Black women to address the low rates of breastfeeding among this population. Despite efforts that identified the socio-cultural determinants of breastfeeding among Black women, low rates of breastfeeding remain prevalent. Solutions that improve breastfeeding rates are needed. Identifying factors that influence maternal attitudes towards breastfeeding among Black women is an area that is under researched. The socio-cultural determinants of breastfeeding can be found in (see Table 4).

Table 4

Socio-Cultural Determinants of Breastfeeding among Black women

Study	Determinant of Breastfeeding
Asiodu, Waters, Dailey, Lee, & Lyndon, 2015	Cultural norms indicative of the importance of family, religion, education, and community.
Reeves & Woods-Giscombe, 2015	Lack of partner support, unsupportive work environments, and concerns about breastfeeding technique and difficulties.
Furman, Banks, & North, 2013	Barriers such as personal/interpersonal relationship issues.
Street & Lewlallen, 2013	Maternal breastfeeding knowledge about the benefits and associated beliefs about breastfeeding.
Mattox, 2012	Community based organizations that promote and provide breastfeeding support services to Black women.
Wolynn, 2012	Technology such as social media to access health education that promotes breastfeeding.
Asiodu & Flaskerud, 2011	Acknowledgement of how during the era of slavery the forced role of wet nurse contributed to a negative generational legacy regarding breastfeeding among Black women.
Nommsen-Rivers, Chantry, Cohen, & Dewey, 2010	Perceptions that breastfeeding is inferior to formula feeding.

Maternal attitude is regarded as a significant predictor for selecting infant feeding methods, specifically breastfeeding and influences the initiation and duration of breastfeeding (de la Mora, Russell, Dungy, Losch, & Dusdieker, 1999). According to Radzyminski and Callister (2016) factors that influence maternal attitudes towards infant feeding methods are multifactorial and inclusive of the mother's beliefs and perceptions. Johnson (2015) suggested the use of an integrative approach to address the multifactorial nature of the influences on maternal attitudes towards infant feeding methods among black women. Additionally, De Vane-Johnson, Woods-Giscombe, Thorye, Fogel and Williams (2017) contended that there is a growing need for a methodological paradigm shift to create new evidence-based, culturally relevant and effective interventions to enhance breastfeeding among Black women. Therefore,

the purpose of this study was to test the effect of a visual artwork intervention and personal progress factors on maternal attitudes towards breastfeeding among Black women.

Review of Literature

The review of literature was conducted using CINAHL and PubMed databases for publications using the following key words: *art, attitudes, Black women, breastfeeding, communities, infant feeding, interventions,* and *social factors*. Publications that met the following inclusion criteria were selected for review: *published between 2009 to 2017, printed in English, conducted in the U.S,* and *included sample of women who identified as Black/African American and/or African-descent.* After excluding books, dissertations, and duplicates a total of 31 publications were reviewed. Factors that influence maternal attitudes towards breastfeeding is well reported throughout the literature. The review presented in this paper will address maternal attitudes towards breastfeeding and focus specifically on personal progress factors among Black women.

Existing literature on breastfeeding among Black women is comprised of studies that explore the relationship of individual (maternal) and collective (community) experiences (Kaufman et al., 2010). These relationships assess how personal support networks, organizations, and broader politico-economic factors characterize women's ideas of motherhood and infant feeding (Kaufman et al., 2010). Though breastfeeding is recommended as the preferred infant feeding method for all women (American Academy of Pediatrics, 2016), the ideas regarding motherhood and infant feeding methods may be counter to a woman's own sociocultural ideas and experiences (Kaufman et al., 2010).

In addition, according to McFarland and Smith (2011) the social, economic, and organizational properties of communities influence the life opportunities of the individuals in

those communities and have a direct impact on community health. Parrill and Kennedy (2012) cited that health disparities such as lower rates of breastfeeding are accredited to the layered interactions of social and physical environments, which influence minority health. To counterbalance these health disparities, Pender, Murdaugh, and Parsons (2010) supported the significance of preserving and improving health in communities by concentrating on the resources, assets, and strengths of individuals and their communities.

Furthermore, according to Spencer, Wambach, and Domain (2015) initiatives to support breastfeeding in the Black community should include increasing the number of Black breastfeeding advocates as a measure to render trustworthy guidance for women and their families in the communities they serve. According to Sharpe et al. (2012), healthcare providers serving Black women must possess a "cultural understanding of contextual details and constraints that shape day-to-day choices to improve services and health outcomes" (p.251).

Numerous qualitative and quantitative studies aimed at understanding breastfeeding among Black women were reviewed, but few intervention studies were available. Two focus areas to influence breastfeeding among Black women were identified from the reviewed studies and include: maternal attitudes towards breastfeeding and personal progress factors.

Maternal attitudes towards breastfeeding

Maternal attitudes towards breastfeeding among Black women have been assessed and evaluated by researchers using multiple research designs. Researchers have determined what influences maternal attitudes towards breastfeeding among this population include the subjective norms of breastfeeding as well as support from family and friends (Bai, 2011), Black women's comfort level with the idea of breastfeeding (Eastin & Sharma, 2015), breastfeeding self-efficacy

(McCarter-Spaulding & Dennis, 2010; Robinson & VandeVusse, 2011), and WIC counselors who support a mother's intentions to breastfeed (Robinson & VandeVusse, 2011).

Furthermore, researchers determined there were other factors that influenced maternal attitudes towards breastfeeding among Black women. These factors include the mother's geographical origin, maternal knowledge about breastfeeding, and breastfeeding education and support (Lee, 2009; McCarter-Spaulding & Gore, 2009; Stuebe, 2011; Wambach, 2011). Infants born to U.S born Black women are less likely to be breastfed than foreign born Black women (McCarter-Spaulding & Gore, 2009). In addition, other factors include resource attainment, access to health education, preventative screenings, and support services (Asidou et al., 2015). Social media can be a venue used to access information about infant development, feeding, and maternal bonding through breastfeeding (Asidou et al., 2015; Robinson & VandeVusse 2009).

Personal Progress Factors

Facilitators to Breastfeeding. Personal progress factors among Black women regarding breastfeeding have been studied by researchers using multiple research designs. Researchers have determined facilitators to breastfeeding among Black women include breastfeeding peer support groups, education, and social support services (Mattox, 2012; Howell, 2014), positive familial history of breastfeeding (Street & Lewallen, 2013; Grassley, 2012), judgement free healthcare environments, listening to other black women share their breastfeeding experiences, and the witness of Black women breastfeeding in public (Spencer, Wambach & Domain, 2015). Additional facilitators to breastfeeding include Black women's cultural ideas and beliefs about breastfeeding practices (Asiodu, Waters, Dailey, Lee, & Lyndon, 2015; Hurley, Black, Papas, & Quigg, 2008), receipt of breastfeeding support services from Black peer counselors and healthcare professionals (Lewallen & Street, 2010; Abbyad & Robertson, 2011), and positive

patient-provider communication as well as provider awareness of patient's communities (Phillips & Cohen, 2011).

Restraints to Breastfeeding. Researchers have determined restraints to breastfeeding among Black women include lack of support (home, work, peers, providers), information, milk supply, pain control, and communal connections that boost service and information access (Carr, 2011; Tucker, 2011; Ringel & Kulka, 2011; Ware, 2014). Additional restraints to breastfeeding include class and gender oppression (Spencer, Wambach, & Domain, 2015) and race was reported as an influential factor in whether a woman received breastfeeding support services prenatally and postpartum (Gee, 2012).

Visual Art Images

According to Cole (2015), the arts can be used to advance a program of research by fusing "elements, processes, and forms of the arts into scholarly work" (p.21). At the core, the use of art in research is an endeavor to create a difference in the lives of every day citizens. Incorporating art in research is expected to connect the work with the person through scholarship that is provocative, evocative, accessible, empathic, and embodied (Cole, 2015). Moxley (2015) supported the use of art as a viable method for enriching the empirical and experiential knowledge base. The arts have fostered creativity and innovation in social arrangements strengthening group cohesion, meeting individual needs, and addressing social issues. Specifically, individuals are given the opportunity to deepen their understanding about a given phenomenon and make sense of those experiences through exposure to the arts.

Huss (2013) noted that art can be a subtle way for highlighting dominant narratives and empowering change and argued that imagery can provide insight about an individual's social and cultural environments. Images can be a voice for groups and populations in vulnerable or

marginalized locales by: (1) providing personal and group insight about the experienced challenges or hardships of their locale; (2) offering an avenue for personal and group expression among others who share a similar experience and background; and (3) expressing personal and group experiences and ambitions to those who are different from the group (Huss, 2013). In addition, the arts can serve as a tool for advancing intervention across the helping professions (Moxley & Calligan, 2015) and are being used increasingly among the health professions (Wilson, Bungay, Munn-Giddings, & Boyce, 2016).

The review of literature did not produce any studies that used a visual artwork intervention to examine maternal attitudes towards breastfeeding and personal progress factors among Black women. However, a study was identified that used art as a tool to improve breast health outcomes. The use of art therapy for women undergoing breast cancer treatment significantly ($p < 0.5$) improved quality of life (Svensk et al., 2009), and helped overcome personal barriers (Collie & Kante, 2011). Therefore, research that utilizes art and its potential effects on maternal attitudes towards breastfeeding and personal progress factors among Black women may be beneficial for this population.

Theoretical Model:

Community Involvement in Health Empowerment Model

The guiding framework for this study was the Community Involvement in Health Empowerment Model (CIHE; Hildebrandt, 1996). Hildebrandt (1996) developed CIHE as a guide for community health nursing and posits that communities are multidimensional and function as a unit, from which the width and breadth of a health problem, as well as the capacity to respond to that problem emerges. Health care occurs within the context of a social system that

contains facilitating and restraining forces and community members are active agents (individuals) within this system (Hildebrandt, 1996).

The five basic premises of CIHE include: (1) individuals have beliefs and experiences on which they base their actions; (2) individuals operate within the context of their sociocultural environment; (3) the sociocultural environment consist of facilitating and restraining forces that influence how individuals live; (4) the options open to individuals for meeting self-care needs are linked to the individuals' beliefs and experiences and are congruent with their sociocultural environment; and (5) nursing science is an approach for empowering individuals (Hildebrandt 1996). Mattox (2012) indicated that community has been shown as an important factor that influences infant feeding practices especially breastfeeding among Black women and within Black communities. Additionally, Kennedy (2013) supported the use of CIHE as a useful framework in assisting community health nurses in guiding Black communities toward strategies to address health disparities and improve health outcomes.

CIHE has three major components: individual, community, and health care provider with the individual and community containing facilitating forces, and restraining forces. For this study, the researcher used the CIHE model to emphasize the individual and the facilitating and restraining forces among individual Black women. The components and the variables that fit into each component of individual, individual facilitating and restraining forces, and health care provider are defined below.

Individual. The sphere of the individual contains the facilitating and restraining forces of personal beliefs, experiences, and capacities which influence how an individual takes in information, reacts to experiences, and makes decisions. Furthermore, conditions of their community impact the way individuals live their lives and make decisions (Hildebrandt, 1996).

In this study, Black women's maternal attitudes towards breastfeeding as well as the participant demographics of age, marital status, education, employment status, number of pregnancies, number of live births, previous experiences with breastfeeding, intentions to either breastfeed or not breastfeed, familial breastfeeding history, and partner support reflected the individual sphere of beliefs, experiences, and capacities.

Individual Facilitating and Restraining Forces. Individual facilitating forces seek to promote, maintain, and restore health, while the restraining forces prevent the promotion, maintenance, and restoration of health (Hildebrandt, 1996). In this study, the personal progress factors of perceptions of power and competence, self-nurturance and resource access, interpersonal assertiveness, awareness of cultural discrimination, expressions of anger and confrontation, autonomy, and personal strength and social activism reflected the individual facilitating and restraining forces.

Health Care Provider. The researcher, who is a Black registered nurse and certified lactation consultant, served as the health care provider in the study. The health care provider can empower a community by supporting individual facilitating forces through the practice of effective nursing approaches that are expected to mitigate restraining forces (Hildebrandt, 1996). Through provision of information and experiences that individuals can use to make health care decisions, nursing approaches are effective for learning, understanding, and supporting the individual's beliefs, experiences, and capacities (Hildebrandt, 1996). Additionally, Meleis (1996) contended that making sure that the researcher is an insider to the culture of the population under study is a strategy for development of an approach to culturally competent care. Likewise, individuals and groups are more likely to seek healthcare services from health professionals of their respective communities (Noonan, Velasco-Mondragon, & Wagner, 2016). The researcher

used the visual artwork intervention as the nursing approach to test if visual art images improved Black women's maternal attitudes towards breastfeeding and the personal progress factors influenced those attitudes.

Conceptual and Operational Definitions

The conceptual and operational definitions of the study variables are presented (see Table 5).

Table 5

Study Conceptual and Operational Definitions

Variable	Conceptual Definition	Operational Definition
Maternal Attitude towards Breastfeeding -Dependent Variable	Defined as the maternal attitudes, perceptions, beliefs, thoughts, feeling, opinions, and norms toward infant feeding methods including breastfeeding and formula feeding (de la Mora, Russell, Dungy, Losch and Dusdieker, 1999).	Iowa Infant Feeding Attitude Scale (IIFAS): The IIFAS is a 17-item questionnaire used to measure maternal attitudes toward infant feeding methods including breastfeeding and formula feeding. Responses are rated on a 5-point scale from strong disagreement to strong agreement. The IIFAS has been shown to be reliable with a Cronbach's alpha of .86 (de la Mora, Russell, Dungy, Losch, & Dusdieker, 1999).
Personal Progress Factors -Independent Variable	Defined as a women's personal identity factors including perceptions of power and competence, self-nurturance and resource access, interpersonal assertiveness, awareness of cultural discrimination, expressions of anger and confrontation, autonomy, and personal strength and social activism.	Personal Progress Scale-Revised (PPS-R): The PPS-R is a 28-item questionnaire used to measure aspects of a woman's personal identity including perceptions of power and competence, self-nurturance and resource access, interpersonal assertiveness, awareness of cultural discrimination, expressions of anger and confrontation, autonomy, and personal strength and social activism. Responses are rated on a 5-point scale from almost never true to almost always true. The PPS-R is reliable with a Cronbach's alpha of .88 (Johnson, Worell, & Chandler 2005).
Visual Artwork Intervention -Independent Variable	Defined as art images of Black women breastfeeding. Each image is accompanied by one sentence communicating breastfeeding benefits for mother and infant health information. The emotional reaction evoked while viewing each image is classified according to	Visual Artwork Intervention (VAI): 30 art images of Black women breastfeeding. Parrot's Classification of Emotions (2001) is used to assess the six primary emotions. Three positive emotions (surprise, joy, love) and three negative emotions (fear, anger, sadness, fear). Emotional reaction responses are rated on a 7-point horizontal Likert scale.

	neutral, fear, anger, sadness, surprise, joy, and love.	Neutral is 0, fear is 1…love is 6. The score range is 0 to 180.

Hypotheses

Based on the CIHE Model and a review of literature the study hypotheses included:

H_1 = Black women who receive a visual artwork intervention will have higher maternal attitudes towards breastfeeding compared to Black women receiving the comparison attention control.

H_2 = Black women who have higher personal identity scores will have higher maternal attitudes towards breastfeeding.

H_3 = A visual artwork intervention will have a moderating effect on personal identity among Black women.

The dependent variables are maternal attitudes towards breastfeeding. The independent variables are the visual artwork intervention and personal progress factors.

Protection of Human Participants

The study proposal was submitted to the University of Texas at Tyler Institutional Review Board (IRB) for approval. A statement of the study's purpose allowed the potential study participants to determine if they wanted to participate (Portney & Watkins, 2015). To further protect study participants, the following information was explained to participants prior to receiving consent: the purpose of the study, data collection procedures, expectations of commitment, potential risks and benefits of participation, right to withdraw from the study at any time without prejudice, protection of participant's breastfeeding practices and medical information as indicated by HIPPA guidelines, and the researcher's contact information. All participants were assured of the voluntary and confidential nature of the study. Participants were also given the option to receive the study results once all phases of the study were completed.

Research Design

The study was an experimental randomized controlled trial with a 2-group pretest-posttest design. Group 1 was the intervention group who received the visual artwork intervention. Group 2 was the comparison attention control group who received the Power Point presentation about physical activity health information for women.

Method

Sample/Sample Setting

The population for this study was Black women. Black women were defined as: women who self-identify as Black/African-American and/or of African descent. The study sample was recruited through the social media platforms: Facebook, Instagram, and Twitter. The researcher set up a professional social media page on each platform. Each professional social media page had the same research participant recruitment statement. Additionally, the researcher employed a Facebook ad for one month to increase study participation. The researcher also attempted to increase study participation through engagement with associates and various organizations that promote the health and welfare of Black women.

Research Participant Recruitment Statement.

Research Participants Needed!

> This survey aims to examine Black women's attitudes about breastfeeding. To take part in this survey, you must be a woman who identifies as Black/African American, or of African Descent, 18 years or older, not visually blind, able to read English without need for a translator, and have access to the internet. Participation in this survey will require approximately 30-45 minutes of your time. You can return to the survey as many times as needed until the survey is completed. Each participant who completes the survey will

have an opportunity to win a $250 Amazon e-gift card by selecting to have your name entered in the prize drawing. All interested participants, please select the link to continue to the survey.

The social media page included a link to a Qualtrics survey (see Data Collection section). Inclusion criteria included: (1) self-identify as Black/African-American and/or of African descent, (2) a female, (3) age 18 years or older, (4) able to read and speak English, (5) able to visually see, and (6) have access to the internet. A sample size of (n = 74) was needed for the study. However, only 17 participants (10 participants in the intervention group; 7 participants in the attention control group) completed the study. A power analysis using G*Power (Faul, Erdfelder, Lang & Buchner, 2007) was used to calculate the sample size with a power of .80, alpha of .05, a medium effect size of (.5), and two independent variables included: the visual artwork intervention and personal progress factors. Effect size and confidence interval were based on the review of extant breastfeeding literature (Wambach, 2016).

Instruments

Maternal attitudes towards breastfeeding and personal progress factors were assessed at baseline and post-intervention using the Iowa Infant Feeding Attitude Scale (IIFAS, De La Mora & Russell, 1999, and the Personal Progress Scale-Revised (PPS-R, Johnson, Worell, & Chandler, 2005). Conceptual and operational definitions of all study variables can be found in Table 2.

Iowa Infant Feeding Attitude Scale. The Iowa Infant Feeding Attitude Scale (IIFAS) instrument is particularly useful in the context of programs where health-care professionals are attempting to impact maternal attitudes toward breastfeeding, which may in turn impact the breastfeeding behavior among women (De la Mora, Russell, Dungy, Losch, & Dusdieker,1999). The IIFAS is derived from the data collected and analyzed in three independent studies. Study 1

was designed to assess attitudes toward various aspects of infant feeding. The validity of the attitude scale in study 1 was highly correlated (r = .80). Study 2 was designed to replicate the reliability information developed from the assessment of maternal attitudes in study 1. The reliability of the attitude scale in study 2 was highly reliable with a Cronbach's alpha of 0.85. Study 3 was designed to evaluate the ability of scores on the measure to predict actual breastfeeding behavior. The reliability of the attitude scale in study 3 was modest with a Cronbach's alpha of 0.68.

The IIFAS is a 17-item instrument that measures maternal attitudes toward infant feeding methods and consists of factors assessing: (a) cost, (b) mother's physical shape, (c) sexual pleasure, (d) mental-physical comfort, (e) nutritional product, (f) parental role, (g) physical closeness, (h) infant food intake, (i) ease of feeding, and (j) nighttime feeding (de la Mora, Russell, Dungy, Losch and Dusdieker, 1999). The instrument is specific to maternal attitudes, was designed in response to research that indicated maternal attitudes are important predictors of infant feeding method (Dungy, Losch, & Russell, 1994), and instructs mothers to answer questions based on their personal opinions. De la Mora et al., (1999) used descriptive statistics, regression analysis, and Pearson's correlation, during the development of the IIFAS, to evaluate the relationships between demographic characteristics and maternal attitudes towards infant feeding methods. The IIFAS is a reliable and valid assessment of maternal attitudes towards infant feeding with a Cronbach's alpha of .86.

The IIFAS has been used in a variety of U.S. and foreign based studies with women and men, and has been translated into numerous languages including Spanish, Mandarin, and European-based languages. When controlling for gender and race, the IIFAS has rarely been used in studies solely among women who identify as Black/African American and/or of African

descent, which is an implication for this study. Few studies were available to determine if the IIFAS was a reliable instrument solely among this group, but of the reviewed studies the following findings were noted.

Kim, Fiese, and Donovan (2017) in a study of Black mothers (N = 15) participating in Women, Infant and Children (WIC). Descriptive coding and inductive thematic analysis were used to identify breastfeeding facilitators and barriers among this study group. Identified breastfeeding facilitators and barriers included: normative infant feeding behaviors within the sociocultural context, cultural beliefs about maternal nutrition and breastfeeding, time and costs associated with breastfeeding, managing and integrating breastfeeding while maintaining a social life, necessity of social support from significant others and female role models, and suboptimal support from institutions (hospitals, schools, workplace, and community). A key finding was the mean IIFAS score for this study was (M = 70, SD = ±7), indicating a positive attitude toward breastfeeding in spite of the identified breastfeeding facilitators and barriers. Jefferson (2014) in a study of 348 Black college students (N = 174 women) and (N = 174 men), the mean IIFAS score was higher among women (M = 58, SD = ±6.81) compared with the men (M = 55, SD = ±6.80), indicating a mostly positive attitude toward breastfeeding. Key findings in this study also indicated significant differences in attitude scores among gender (t = -4.52, p <.001), knowing someone who breastfeed their infant (t =-4.65, p < .001), age (F = 5.287, p <.001), and education level (F = 7.289, p <.001). Kamoun and Spatz (2018) noted similar findings in a study of 54 Black participants (N = 44 community members [37 women and 7 men], N = 10 community leaders [5 women and 5 men]). The mean IIFAS score for community members was 65 and a range of 49 to 79, and the mean IIFAS score for community leaders was 68 and range of 61 to 74, indicating both community members and leaders had positive attitudes toward breastfeeding.

Personal Progress Scale-Revised. The Personal Progress Scale-Revised (PPS-R) instrument was designed to be a beneficial tool for evaluating outcomes of interventions with women (Johnson, Worell, & Chandler, 2005). The PPS-R is derived from the four principles of the Empowerment Model with Women (Worrell & Remer, 2003) which asserts (1) personal and social identities are interdependent, (2) the personal is political, (3) relationships are egalitarian, and (4) women's perspectives are valued. The PPS-R is a 7-point scale plus range and is a validated instrument with concurrent validity r's .57-.77 with Cronbach's alpha .73. The PPS-R is a 28-item instrument that consists of factors assessing: (a) perceptions of power and competence, (b) self-nurturance and resource access, (c) interpersonal assertiveness, (d) awareness of cultural discrimination, (e) expressions of anger and confrontation, (f) autonomy, and (g) personal strength and social activism (Johnson, Worrell, & Chandler, 2005).

Dr. Dawn Johnson, the PPS-R scale developer, gave the researcher permission to adapt the PPS-R directions and re-configure the numerical scale. Adapting the directions to indicate, *please answer each question in terms of any aspects of your personal identity that are important to you as a woman*., removed the potential of leading participants in how to think about their personal identity before they have taken the survey. The numerical scale was re-configured from a 7-point Likert scale to a 5-point Likert scale. Reconfiguring the PPS-R Likert scale placed the given numerical anchors with their corresponding labels and removed the two numerical anchors that did not have corresponding labels.

The instrument is specific to women, was designed to be inclusive of diversity issues, and instructs women to answer questions based on their interdependent personal and social identities including aspects of race, culture, family background, personal identity, and financial independence. Johnson, Worrell, and Chandler (2005) used exploratory factor analysis, which

resulted in the 28-item scale. Comparison of factors to model appears to support validity of one latent variable which is empowerment. To evaluate the convergent validity of the PPS-R Total was correlated with Ryff's Autonomy, Self-Acceptance, and Total Well-Being Scales, which indicated the PPS-R correlated significantly with the Autonomy (r = .65), Self-Acceptance Scales (r = .74), and Total Well-Being (r = .81). To evaluate the discriminant validity the PPS-R Total was correlated with the OQ domain scores and Total Score, which indicated that the PPS-R negatively and significantly correlated with the OQ Total Score (r = -.65), Symptomatic Distress (r = .64), Interpersonal Relationships (r = 55), and Social Role Adjustment (r = 50). The PPS-R is a validated instrument that demonstrates strong internal consistency and reliability with Cronbach's alpha of .88.

The PPS-R is not a widely used instrument and has never been translated into any other languages. Similar to the IIFAS, when controlling for gender and race, the PPS-R has never been used in studies solely among women who identify as Black/African American and/or of African descent, which is an implication for this study. No studies were available to determine if the PPS-R was a reliable instrument solely among this group. Of the reviewed studies, one study was located with the following findings.

Barringer, Hunter, Salina, and Jason (2016) in a U.S. longitudinal study, investigated resource knowledge, social support, and empowerment among minority women (N = 200, [n = 149 Black women]), with substance abuse and criminal justice histories. Key significant findings indicated that resource knowledge was positively correlated with tangible support (r = 0.22, p < 0.01), and empowerment (r = 0.25, p < 0.01). Appraisal support (r = 0.38, p < 0.01), tangible support (r = 0.35, p < 0.01), and belonging support (r = 0.42, p < 0.01) were positively

associated with empowerment. Higher education levels were associated with higher empowerment scores ($r = 0.18$, $p < 0.05$).

Intervention Description

Visual Artwork Group. Group 1 consisted of Black women who received the visual artwork intervention. The visual artwork intervention was 30 art images of Black women breastfeeding. The visual artwork intervention was developed from using an internet GOOGLE search using the keywords: *art, Black women, breastfeeding/infant-feeding practices,* and *visual artwork.* Following review by a content expert, the art images were used in accordance with the United States Fair Use Guidelines outlined by the Visual Resources Association (2017). The Visual Resources Association outlines six uses of copyrighted still images that fall within the United States Fair Use Guidelines including: (1) storing images for repeated use in teaching context, (2) use of images for teaching purposes, (3) use of images on course websites and in other online study materials, (4) adaptions of images for teaching and classroom work by students, (5) sharing images among educational and cultural institutions to facilitate teaching and study, and (6) reproduction of images in theses and dissertations.

Each art image was accompanied by one sentence that communicated breastfeeding health information. The breastfeeding health information was organized according to; properties of breastfeeding, properties of breastmilk, benefits to mother, benefits to infants, and social properties of breastfeeding. The breastfeeding health information was adapted from the American Academy of Pediatrics (2016) breastfeeding position statement and United States Department of Health and Human Services Office of Women's Health ([USDHHOWH], 2017) breastfeeding guidelines. The intervention breastfeeding health information is listed (see Table 6).

Table 6

Intervention Breastfeeding Health Information

	Properties of Breastmilk
1.	Colostrum is the first milk.
2.	The hormones, antibodies, and cells in breastmilk help protect infants from disease and illness.
3.	Breastmilk contains antibodies but formula does not contain antibodies.
4.	The mother's breastmilk is always available without needing other supplies.
5.	Breastmilk has more vitamins, minerals, and nutrients than formula.
6.	Oxytocin is a hormone that supports breastmilk flow.
7.	Breastmilk is made in response to the infant's suckling at the mother's breast.
	Breastfeeding Benefits to Mother
8.	Breastfeeding lowers a mother's risk of developing diabetes, breast cancer, and ovarian cancer.
9.	Skin to skin contact boosts the mother's oxytocin levels.
10.	The hormone oxytocin can calm the mother.
11.	Mothers who breastfeed have decreased postpartum blood loss.
12.	Lactating mothers have an increased daily energy need of 450 to 500 kcal/day.
	Properties of Breastfeeding
13.	The size and shape of breasts do not affect the ability to breastfeed.
14.	Breastfeeding is a natural process that is supported by the hormone oxytocin.
15.	Breastfeeding is a skill that takes practice and support.
16.	The size and shape of the breasts does not affect how much milk that breasts produce.
17.	The more an infant breastfeeds the more milk the breasts will produce.
	Breastfeeding Benefits to Infant
18.	Colostrum is rich in nutrients and antibodies that protect the infant from infections.
19.	Breastfed infants have lower risks of developing cancers, lung and stomach illnesses, ear infections, obesity, and type 2 diabetes.
20.	Breastfeeding protects that infant form the risks of an unclean water supply.
21.	Breastfed infants self-regulate which means they stop eating when their tummy is full.
22.	Higher intelligence scores are noted in infants who exclusively breastfeed for at least 3 months.
23.	Higher teacher ratings were observed in school aged children who exclusively breastfed for at least 3 months.
24.	Breastfed infants are calmer.
	Social Properties of Breastfeeding
25.	The American Academy of Pediatrics recommends exclusive breastfeeding for the first 6 months.
26.	The law allows a mother to breastfeed in public.
27.	Nearly 1,000 infant deaths could be prevented each year if 90% of families breastfed exclusively for 6 months.
28.	If 90% of US mothers complied with the recommendations to breastfeed exclusively for 6 months, there would be a savings of $13 billion per year.
29.	Maternal smoking is a risk factor for low milk supply.
30.	Breastfeeding results in improved maternal and infant health outcomes in both the industrialized and developing world.

Pilot Study. The researcher conducted a pilot study. The purpose of the study was to obtain participant feedback on the process with specific concerns related to time to complete and on the experience of the visual artwork intervention. The pilot study was a convenience sample of five women who self-identified as Black/African-American and/or African descent was conducted. Three of the women were married and two were single. Three of the women were mothers. Participants requested an avenue to express the emotions evoked at viewing each art image. Thus, a plan to provide an avenue for expression of emotions was devised.

Parrot's Classification of Emotions. In addition to the breastfeeding health information, participants' emotional reaction to each image was addressed. Parrot's Classification of Emotions (2001) organizes the six primary emotions into two classifications: positive emotions and negative emotions. The positive emotions were surprise, joy, and love. The negative emotions were fear, anger, and sadness. For each image, participants were asked the following question: *What is the primary emotional reaction you feel while viewing this image?* Participants responded by selecting the primary emotion that corresponded to their emotional reaction while viewing each image. The data collected about participant's emotional reaction to each image was used to analysis the sample characteristics between maternal attitudes towards breastfeeding and emotional reactions to images of breastfeeding among Black women (See Figure 1).

Breastmilk contains antibodies but formula does not contain antibodies.

What is the primary emotional reaction you feel while viewing this image? Please select your response.

Neutral	Fear	Anger	Sadness	Surprise	Joy	Love

Figure 1. Example of Intervention Art Image

Comparison Attention Description

Control Group. According to Lindquist, Wyman, Talley, Findorff, and Gross (2007), interventions must include a control condition that contains nonspecific or non-substantive properties of the intervention. The control condition must provide for participation concurrently and equivalently with the experimental condition. Achievement of these conditions increases the internal validity of the intervention trial. Therefore, just like the intervention group, Group 2 participants in the comparison attention control group received a 30-slide Power Point presentation with each slide containing one sentence that communicated physical activity health information for women. Physical activity was chosen as the comparison attention control because of its impact on maternal health outcomes. Physical activity is an important factor in improved maternal health outcomes and benefits the overall health of women (USDHHOWH, 2017) The physical activity health information was organized according to the benefits of physical activity for all women. The physical activity health information was adapted from the

USDHHOWH (2017) physical activity guidelines for women. The comparison attention control physical activity health information for women is listed (see Table 7).

Table 7

Comparison Attention Control Physical Activity Health Information for Women

	Benefits of Physical Activity for all Women
1.	Women of all ages, shapes, and abilities benefit from physical activity.
2.	Regular physical activity can help lower a woman's risk for the diseases that affect women.
3.	Physical activity can help lower a woman's blood pressure and cholesterol.
4.	Physical activity can help improve depression.
5.	Physical activity can help improve sleep.
6.	Physical activity can help lower a woman's risk for breast cancer.
7.	Physical activity can help lower a woman's risk for colon cancer.
8.	Physical activity can help lower a woman's risk for type 2 diabetes.
9.	Heart disease is the number one killer of women in the United States.
10.	Physical inactivity increases a woman's risk for heart disease.
11.	Physical activity can help lower a woman's risk for heart disease.
12.	Physical activity helps your heart pump blood to all of your organs.
13.	Physical activity can help lower a woman's risk for stroke.
14.	Physical activity can help lower a woman's risk of dying at an early age.
15.	Physical activity can help improve a women's muscle strength, balance, and flexibility.
16.	Physical activity that includes balance exercises helps decrease a woman's risk for falls.
17.	Tai Chi is an example of physical activity that includes balance exercises.
18.	30-minutes of moderate-intensity physical activity 5 times per week is recommended for women.
19.	Moderate-intensity physical activity is when your heart is beating fast, but you are still able to hold a conversation.
20.	A brisk 30-minute walk is an example of a moderate-intensity physical activity.
21.	Women who are underweight, overweight, or have an eating disorder should consult their physician before engaging in any physical activity.
22.	Physical activity helps improve a woman's mobility and coordination.
23.	Physical activity helps improve a woman's bone strength.
24.	Physical activity helps prevent hip and joint fractures.
25.	Physical activity helps lower a woman's risk for arthritis.
26.	Physical activity helps decrease pain from arthritis.
27.	Physical activity helps prevent dementia and maintain independence.
28.	Use safety equipment to prevent an injury during physical activity.
29.	Drink plenty of fluids when you are physically active, even if you are not thirsty.
30.	Stop being physically active if you feel very out of breath, dizzy, nauseated or have sudden chest pain. Consult your physician.

Data Collection

The study was conducted for sixteen-weeks and took place during the 2018 summer. The informed consent, study measures, visual artwork intervention, comparison attention control, and follow-up questionnaire were accessed through Qualtrics. Web-based survey systems are

beneficial tools that can be utilized to reach high-risk populations and recruit study participants from diverse geographical locations. Web-based interventions offer the ability to adapt intervention materials in a timely manner (Paxton, 2014). The researcher set up three professional pages on the social media platforms including: Facebook, Twitter, and Instagram. The use of social media platforms provided potential access to a broader demographic of Black women. A link to the survey was uploaded onto each social media page. When a participant selected the link, they were directed to complete the required informed consent.

All participants who consented to the study were directed to complete the personal demographic form. After completing the personal demographic form, all participants were directed to complete the pre-test measures including in order: the Iowa Infant Feeding Attitude Scale followed by the Personal Progress Scale- Revised. After completing the pre-test measures, participants received either the visual artwork intervention or the comparison attention control. Randomization was achieved through designing the survey was designed to utilize the Qualtrics function that will automatically randomize study participants into either Group 1 (visual artwork intervention) or Group 2 (comparison attention control). Maternal attitudes towards breastfeeding and personal progress factors were measured pre and post intervention in both groups.

Group 1 participants were able to access the intervention as many times as needed until the survey was completed and/or the sixteen-week study timeframe had elapsed. Likewise, Group 2 participants were able to access the Power Point presentation as many times as needed until the survey was completed and/or the sixteen-week study timeframe had elapsed. Group 1 and Group 2 participants were directed to a follow-up questionnaire at the end of the Qualtrics survey. The follow-up questionnaire was used to ask study participants in Group 1 and Group 2

about their experience in the study. The feedback from the follow-up questionnaire was used to inform this study as well as support the follow-up study about maternal attitudes towards breastfeeding and emotional reactions to images of breastfeeding.

Instruments being used in the study were psychometrically sound as indicated by established acceptable Cronbach alpha scores. The same instruments were used for both the pre-intervention and post-intervention assessments, which minimized threats to internal validity that may arise from instrumentation. Study consistency and accuracy were maintained by one researcher who was responsible for all data collection and analysis from study participants. Data were stored on a firewall, password protected database located in the researcher's locked office after it was collected. Access to data were limited to the researcher, dissertation committee, content experts, and IRB approval committee as needed.

Once participants completed all surveys, they had the opportunity to self-select into a random drawing to win one of two Amazon e-gift cards worth $250. Participants selected a link that routed them out of the study to a new form that collected names and email addresses. The participant survey responses and participant name and email address were not associated. Each prize drawing entry had a number. The prize drawing was held after the sixteen-week study timeframe was completed. The researcher had an associate select two numbers. The entries that corresponded to the two selected numbers were the winners of the gift cards. The researcher emailed each e-gift card to the email address provided by the participant.

In order to increase study participation and enrollment, a Facebook Ad that indicated the study recruitment information, was run from August 1, 2018 to September 1, 2018 for a total of 30-days. During this 30-day period, the Facebook Ad reached 739 people, which indicated the number of people who viewed the Facebook Ad at least one time. The Facebook Ad impressions

totaled 844, which indicated the number of times an instance of an ad was on screen for the first time. An additional avenue to increase study participation and enrollment included, the researcher contacted 12 organizations, with initiatives that support Black women through education, healthcare, social justice, and advocacy, to request distribution of the study survey. Of the 12 organizations contacted, one organization, the Dayton, Ohio Alpha Kappa Alpha, local chapter, agreed to distribute study survey. The Alpha Kappa Alpha local chapter consist of 225 members, and the study survey was distributed on August 21, 2018. The remaining 11 organizations either did not agree to distribute the study survey or the researcher did not receive a reply from the organization despite multiple follow-up attempts. As a final avenue to increase study participation and enrollment, the researcher sent an email on July 18, 2018 that explained the study details and contained a link to the study survey to 10 associates. All 10 associates replied to the email and indicated interest in the study.

Data Analysis

Statistical analysis was conducted using SPSS version 21 (IBM SPSS, Armonk, NY). Data analysis was conducted in two phases. First, all study variables were presented using descriptive statistics, such as, means, standard deviation, and minimum/maximum values for continuous variables (Interval/Ratio level) and frequencies and percentages for categorical variables (Nominal/Ratio level). Preliminary data screening was conducted to assess for violations of normality. Descriptive statistics (including measures of central tendency), were calculated from the Personal Demographic Form and participant's emotional reaction to images of Black women breastfeeding to provide information about the sample characteristics. Analyses of the IIFAS consisted of reverse scoring items (#1,2,4,6,8,10,11,14, and 17). Then all 17 items were summated for a total score. Means and standard deviations were calculated for the sample

of women. For the PPS-R, items reversed scored were (#3,6,9,10,11,14,15,16,17,18,20,21,23,24, and 26). A total score was summated from the 28 items. Reliability analysis for Cronbach alpha were conducted for the IIFAS and PPS-R. The psychometric properties of the study instruments (for $N = 17$) revealed adequate levels of internal consistency: Personal Identity Scale – Pretest (Cronbach's alpha = .84), Personal Identity Scale – Posttest (Cronbach's alpha = .87), Iowa Infant Feeding Attitude – Pretest (Cronbach's alpha = .79), and Iowa Infant Feeding Attitude – Posttest (Cronbach's alpha = .82).

The personal demographic form assessed at baseline age, social media platform, marital status, education, employment status, number of pregnancies, number of live births, previous experience with breastfeeding, intentions to breastfeed or not breastfeed, familial breastfeeding history, partner support, breastfeeding successfulness, and breastfeeding unsuccessfulness. The personal demographic information was useful when analyzing and interpreting results and understanding the generalizability of the study findings. Responses to the follow-up questionnaire were read by the researcher. The responses were used to inform this study about participant experience and potential process changes for future studies with this population.

A series of bivariate tests were used to produce inferential findings for the three hypotheses and the examination of Emotional Reaction Scores by study demographic variables. Specifically, for hypotheses 1 and 3, a repeated measures general linear model was used to examine pretest to posttest changes in outcome variables by study group. Regarding hypothesis 2, a Pearson's r zero correlation was used to examine the relationship between personal identity and maternal attitudes toward breastfeeding scores. A one-way ANOVA and independent-samples *t*-test analysis was used to examine the relationship between Emotional Reaction Scores and study demographic variables.

Within the final inferential analysis presented, the parametric test assumptions of normality, no undue influence of outlier scores, and linearity were examined and revealed no significant violations. Regarding missing data, there were complete data for all analysis, so there was no need to address missing values. The *p* value for this study was 0.05 with a 95% confidence interval which reflected existing breastfeeding research (Wambach & Riordan, 2016). In terms of statistical power, for hypotheses 1 and 3 the G*power software indicated that for a repeated measures general linear model a large size effect (*f* = .40) examining a between factors effect for the two study groups over two timepoints would require a sample size of 40 study participants with power set at .80 and alpha set at .05. For hypotheses 2, a Pearson's r zero order correlation would detect a large size effect (*r* = .35) between 2 variables (2-tailed) using a sample size of 25 study participants with power set at .80 and alpha set at .05. Thus, the current sample of 17 study participants is underpowered in terms of having sufficient statistical power for the current analysis.

Research Findings

Descriptive Analysis of Categorical Variables

Descriptive analysis of the demographic characteristics of study participants were calculated (see Table 8). Data indicated that the typical study participant was between the ages of 35-55 (*n* = 10, 58.8%), was married (*n* = 9, 52.9%), had a graduate school level education (*n* = 12, 70.6%), and was employed (*n* = 11, 64.7%). One-third of the sample had never been pregnant (*n* = 5, 29.4%) and one-third reported having 1 child (*n* = 5, 29.4%).

Over half of study participants reported they had breastfed their children (*n* = 10, 58.8%) and had a family history of breastfeeding (*n* = 11, 64.7%). Nearly 20% (*n* = 3, 19.6%) responded "Yes" to the item "If you are pregnant, is your partner supportive of breastfeeding?" A single

study participant (*n* = 1, 5.9%) responded "Yes" to the item "If you are pregnant, do you plan to breastfeed?" Nearly two-thirds of study participants (*n* = 11, 64.7%) reported if they become pregnant they intended to breastfeed. Nearly, one-quarter of study participants (*n* = 4, 23.5%) reported they wanted to breastfeed but could not.

Table 8

Descriptive Analysis of Demographic Characteristics (n=17)

Variable	Intervention Group (*n* = 10) *n* (%)	Attention Group (*n* = 7) *n* (%)	Total *n* (%)
Age			
18-34	3 (30.0)	1 (14.3)	4 (23.5)
35-55	5 (50.0)	5 (71.4)	10 (58.8)
55 yrs.+	2 (20.0)	1 (14.3)	3 (17.6)
Married (Yes/No)			
Yes	4 (40.0)	5 (71.4)	9 (52.9)
No	6 (60.0)	2 (28.6)	8 (47.1)
Highest Education Level			
2- Year College	2 (20.0)	0 (0.0)	2 (11.8)
4- Year College	1 (10.0)	2 (28.6)	3 (17.6)
Graduate School	7 (70.0)	5 (71.4)	12 (70.6)
Employment Status			
Employed	7 (70.0)	4 (57.1)	11 (64.7)
Unemployed	0 (0.0)	1 (14.3)	1 (5.9)
Homemaker	1 (10.0)	1 (14.3)	2 (11.8)
Retired	2 (20.0)	1 (14.3)	3 (17.6)
Number of Times Pregnant			
1 time	3 (30.0)	1 (14.3)	4 (23.5)
2 times	0 (0.0)	2 (28.6)	2 (11.8)
3 times	1 (10.0)	1 (14.3)	2 (11.8)
More than 3 times	2 (20.0)	2 (28.6)	4 (23.5)
I have never been pregnant	4 (40.0)	1 (14.3)	5 (29.4)
Number of Children			
1 child	3 (30.0)	2 (28.6)	5 (29.4)
2 children	0 (0.0)	3 (42.9)	3 (17.6)
3 children	3 (30.0)	0 (0.0)	3 (17.6)
More than 3 children	0 (0.0)	1 (14.3)	1 (5.9)
I do not have children	4 (40.0)	1 (14.3)	5 (29.4)
Breastfed Children (Yes/No)			
Yes	6	4 (57.1)	10 (58.8)

No	0 (0.0)	2 (28.6)	2 (11.8)
NA	4 (40.0)	1 (14.3)	5 (29.4)
Family History of Breastfeeding (Yes/No)			
Yes	7 (70.0)	4 (57.1)	11 (64.7)
No	3 (30.0)	3 (42.9)	6 (35.3)
If pregnant, partner supportive of Breastfeeding (Yes/No)			
Yes	1(10.0)	2 (28.6)	3 (19.6)
N/A	9 (90.0)	5 (71.4)	14 (82.4)
If pregnant, Plan to Breastfeed (Yes/No)			
Yes	0 (0.0)	1 (14.3)	1 (5.9)
No	0(0.0)	0 (0.0)	0 (0.0)
N/A	10 (100.0)	6 (85.7)	16 (94.1)
If Become Pregnant, Intend to Breastfeed (Yes/No)			
Yes	7 (70.0)	4 (57.1)	11 (64.7)
No	0 (0.0)	1 (14.3)	1 (5.9)
N/A	3 (30.0)	2 (28.6)	5 (29.4)
Did you Want to Breastfeed, But Could Not (Yes/No)			
Yes	0 (0.0)	4 (57.1)	4 (23.5)
No	2 (20.0)	1 (14.3)	3 (17.6)
N/A	8 (80.)	2 (28.6)	10 (58.8)

Descriptive Analysis of Continuous Variables

Descriptive analysis of the continuous study variables was calculated (see Table 9). Data indicated the mean score of the Personal Identity Scale – Pretest was 3.91 (*SD* = ±.40) and Personal Identity Scale – Posttest was 3.91 (*SD* = ±.43) with a pretest/posttest Personal Identity Difference Score of 0.00 (*SD* = ±.12). Additionally, the mean score on the Maternal Attitude Scale – Pretest was 3.74 (*SD* = ±.48) and Maternal Attitude Scale – Posttest was 3.84 (*SD* = ±.54) with a pretest/posttest Maternal Attitude Difference Score of 0.10 (*SD* = ±.26). For the intervention group only, the mean score on the Emotional Reaction Score scale was 112.30 (*SD* = ±56.07) 12.00-174.00. The distribution of all the scores were approximately normal. The

skewness was not approximately two times the standard error of skewness, and the kurtosis was not approximately two times the standard error of kurtosis.

Table 9

Descriptive Analysis of Continuous Study Variable Scores (N =17)

Variable	M(SD)	Min/Max	Skew (SE)/Kurtosis (SE)
Personal Identity Scale-Pretest	3.91 (.40)	3.11-4.39	-.87 (.55)/-.54 (1.06)
Personal Identity Scale – Posttest	3.91 (.43)	3.07-4.43	-.92 (.55)/-.36 (1.06)
Personal Identity Difference Score	0.00 (.12)	-.25-.18	-.67 (.55)-.05 (1.06)
Maternal Attitude Scale – Pretest	3.74 (.48)	2.65-4.65	-.35 (.55)/.65 (1.06)
Maternal Attitude Scale – Posttest	3.84 (.54)	2.94-4.82	.31 (.55)/-.65 (1.06)
Maternal Attitude Difference Score	0.10 (.26)	-.24-.59	-.03 (.55)/-1.16 (1.06)
Emotional Reaction Score (n=10)	112.30 (56.07)	12.00-174.00	-.93 (.69)/-.12 (1.33)

Inferential Analysis

A repeated measures general linear model examining pretest to posttest changes in maternal attitude about breastfeeding scores by study group were calculated (see Table 10). Analysis indicated that changes in pretest scores (M = 3.85; SD = ±.45) to post test scores (M = 3.99; SD = ±.57) among the intervention group, and changes in the pretest scores (M = 3.58; SD = ±.50) to post test scores (M = 3.63; SD = ±.46) among the attention group were not statistically significant, $F(1, 15) = .47$, $p = .50$. Thus, H_1 which stated Black women who receive a visual artwork intervention will have higher maternal attitudes towards breastfeeding compared to Black women receiving the comparison attention control, was not supported.

Table 10

Repeated Measures General Linear Model Examining Pretest to Posttest Changes in Maternal Attitude towards Breastfeeding Scores by Study Group (n=17)

Timepoint	Intervention Group (n = 10) M (SD)	Attention Group (n = 7) M (SD)	F(df)	p
			.47(1, 15)	.50
Pretest	3.85 (.45)	3.58 (.50)		
Posttest	3.99 (.57)	3.63 (.46)		

A Pearson's *r* correlation examining the relationship between Personal Identity and Maternal Attitudes Toward Breastfeeding Scores was calculated (see Table 11). The 2-tailed correlation indicated that Personal Identity and Maternal Attitudes Toward Breastfeeding Scores were not correlated at a statistically significant level, r (15) = .07, p = .78. Thus, H_2 which stated Black women who have higher personal identity scores will have higher maternal attitudes towards breastfeeding, was not supported.

Table 11

Pearson's r Correlation Between Personal Identity and Maternal Attitudes Toward Breastfeeding Scores (n = 17) [1]

Variable	1	2
1. Personal Identity Scale	--	.07[2]
2. Maternal Attitudes About Breastfeeding		--

Note. [1]Spearman Rho Non-Parametric Correlation: Rho=-.007, p=.98.
[2]p=.78.

A repeated measures general linear model examining pretest to posttest changes in personal identity scores by study group was calculated (see Table 12). Analysis indicated that changes in pretest scores (M = 3.90; SD = ±.42) to post scores (M = 3.86; SD = ±.48) among the intervention, and changes in the pretest scores (M = 3.92; SD = ±.41) to posttest scores (M = 3.98; SD = ±.37) among the attention group, were not statistically significant, F (1, 15) = 3.23, p

= .09. Thus, H_3 which stated the visual artwork intervention will have a moderating effect on personal identity among Black women, was not supported.

Table 12

Repeated Measures General Linear Model Examining Pretest to Posttest Changes in Personal Identity Scores by Study Group (n = 17)

Timepoint	Intervention Group (n = 10) M (SD)	Attention Group (n = 7) M (SD)	F(df)	p
			.3.23(1, 15)	.09
Pretest	3.90 (.42)	3.92 (.41)		
Posttest	3.86 (.48)	3.98 (.37)		

Emotional Reaction Score Analysis

A Pearson's *r* correlation examining the relationship between emotional reaction, personality identity, and maternal attitudes toward breastfeeding scores was calculated (see Table 13). The 2-tailed correlation indicated that emotional reaction scores were not significantly correlated with personality identity, r (8) = -.12, p = .74, or maternal attitudes toward breastfeeding scores, r (8) = .26, p = .46.

Table 13

Pearson's r Correlation Between the Emotional Reaction, Personality Identity, and Maternal Attitudes towards Breastfeeding Scores (n = 10) [1]

Variable	1	2	3
1. Emotional Reaction	--	-.12	.26
2. Personal Identity Scale		--	.07
3. Maternal Attitudes Towards Breastfeeding			--

A one-way ANOVA and independent samples t-test analysis of Emotional Reaction Scores by demographic characteristics was calculated (see Table 14). Data indicated that Emotional reaction scores did not vary significantly by age, F(2, 7) = .52, p = .62, marital status,

$t(8) = .14$, $p = .89$, highest education level, $F(2, 7) = .53$, $p = .61$, employment status, $F(2, 7) = .38$, $p = .70$, number of times pregnant, $F(3, 6) = .93$, $p = .48$, number of children, $F(2, 7) = 1.47$, $p = .29$, if respondents breastfeed their children, $t(8) = -.73$, $p = .49$, family history of breastfeeding, $t(8) = -2.01$, $p = .08$, partner is supportive of breastfeeding, $t(8) = .03$, $p = .98$, or if pregnant, do you intend to breastfeed, $t(8)=.24$, $p=.81$. There was a significant difference with study participants who wanted to breastfeed, but could not, $t(8) = -5.41$, $p = .001$, where lower mean scores were reported among study participants who responded "No" ($M = 18.00$; $SD = 8.49$) relative to study participants who responded "Yes" ($M = 135.88$; $SD = 29.26$).

Table 14

One-Way ANOVA and Independent Samples T-Test Analysis of Emotional Reaction Scores by Demographic Characteristics (n=10)

Variable	*n*	M (SD)	*t*/*F*(df)	*p*
Age			*.52*(2, 7)	.62
18-34	3	140.33 (42.92)		
35-55	5	104.20 (46.51)		
55 yrs.+	2	90.50 (111.01)		
Married (Yes/No)			*.14*(8)	.89
Yes	4	115.50 (65.31)		
No	6	110.17 (55.56)		
			.53(2, 7)	.61
Highest Education Level				
2- Year College	2	133.00 (57.99)		
4- Year College	1	155.00 (.00)		
Graduate School	7	100.29 (59.51)		
			.38(2, 7)	.70
Employment Status				
Employed	7	112.43 (46.90)		
Homemaker	1	155.00 (.00)		
Retired	2	90.50 (111.02)		
			.93(3, 6)	.48
Number of Times Pregnant				
1 time	3	68.33 (87.39)		
3 times	1	155.00 (.00)		
More than 3 times	2	124.50 (14.85)		
I have never been pregnant	4	128.50 (35.75)		
			1.47(2, 7)	.29
Number of Children				
1 child	3	63.33 (87.39)		
3 children	3	134.67 (20.50)		

I do not have children	4	128.50 (35.75)		
			-*.73*(8)	.49
Breastfed Children (Yes/No)				
Yes	6	101.50 (67.40)		
No	4	128.50 (35.75)		
			-2.01(8)	.08
Family History of Breastfeeding (Yes/No)				
Yes	7	92.14 (54.65)		
No	3	159.33 (21.22)		
			.03(8)	.98
If pregnant, partner supportive of Breastfeeding (Yes/No)				
Yes	1	114.00 (0.00)		
N/A	9	112.11 (59.47)		
			.24(8)	.81
If Become Pregnant, Intend to Breastfeed (Yes/No)				
Yes	7	115.29 (49.07)		
No	3	105.33 (82.60)		
			-5.41(8)	<-.001
Did you Want to Breastfeed, But Could Not (Yes/No)				
No	2	18.00 (8.49)		
N/A	8	135.88 (29.26)		

To address the low study participation, the researcher sent a follow-up email to each of the 14 study participants who provided their email address. The follow-up email was intended to better understand study participants' primary motivation for participation in the study survey, and to garner strategies for how to increase study participation with Black women in future studies. The researcher read through each study participant's response to both questions to develop a general understanding of the data, and what insight the data may provide about the study. Study participants' responses to the first question primarily centered on the individual value placed on breastfeeding, and the desire to be a part of research that was specific to the health of Black women and their community. Study participant's responses to the second question primarily centered on the relevance of a research study to women of color, particularly

Black women, and the importance of a researcher explaining why study participation is critical and how a research study may benefit Black women. Seven study participants responded to the follow-up email (see Table 15).

Table 15

Study Participant's Response to Follow-Up Email

Participant	Response	
	Q1. What was your primary motivation for participation in our study?	Q2. What strategy would you suggest for encouraging women of color to participate in research studies?
Participant 1	"I really didn't mind participating in this study because I value breastfeeding. I have nursed all three of my children and am currently nursing my 1-year-old son."	"Engage women of color in studies that are relevant to them. Bring to our attention that a study is being conducted and mention that our input is important. I'm not often contacted about being a part of a "relevant" research study."
Participant 2	"Because I was asked."	"We need to stress to African American women that there is a lack of genuine information/data concerning women and women of color. For years data received from studies of men were used for women. It took a long time for doctors to understand that information gleaned from studies of men do not automatically apply to women. The same applies to white women and women of color. In order to obtain intelligent data to use in the treatment of or the management of the health of women of color, we must be included, i.e. volunteer or be asked to join, or ask to join studies."
Participant 3	"To be of assistance and share information, to be a resource."	"Let them know that they will be helping others in the end. The addition of a gift card can also help with encouraging anyone to participate."
Participant 4	"I just wanted to participate in a study for African American women because the medical research and medical support for African Americans are very low and sometimes unavailable."	"Encouragement to find out what we can to help save us."

Participant 5	"My motivation is to help be a data point in important research that will help our overall community."	"To encourage more women of color to participate in research studies, more education as to the overall objective would first be needed. Many women of color, especially in under privileged areas, are not knowledgeable when it concerns our health. So, without the knowledge, there is no desire to participate in research studies with an end result that would benefit us in the end unless there is compensation involved. So perhaps with education, women may gain an understanding and feel that they can be a part of the solution to benefit our community."
Participant 6	"A friend sent the survey to me and asked if I could participate."	"Word of mouth, ask friends to share/invite their friends and so on."
Participant 7	"My primary motivation for participating in this study is I am a supporter of breast feeding and like being knowledgeable about any relevant research on the topic."	"I would suggest explaining the importance of their participation and how their responses will inform others and help to guide future research in the area."

Discussion

This study was conducted to test the effects of a visual artwork intervention and personal progress factors on maternal attitudes towards breastfeeding among Black women, as a novel approach to addressing low rates of breastfeeding among this group. The study also addressed the moderating effects of the visual artwork intervention among the factors of personal identity including: perceptions of power and competence, self-nurturance and resource access, interpersonal assertiveness, awareness of cultural discrimination, expressions of anger and confrontation, autonomy, and personal strength and social activism. The visual artwork intervention and personal progress factors had no significant effects on Black women's maternal attitudes towards breastfeeding. The visual artwork intervention also had no moderating effect on Black women's personal identity. Although study findings for the three hypotheses were not significant, one significant difference was noted between the mean scores of study participants who wanted to breastfeed but could not. Careful consideration should be given to this significant

difference, as it indicates that among the intervention group there were zero study participants who wanted to breastfeed but could not, two study participants did not want to breastfeed, and the remaining eight study participants did not find the question applicable to their individual history with breastfeeding.

The use of art in research to provide a visual for the phenomenon understudy as well as contributing to the empirical knowledge base of that phenomenon is becoming more widely used throughout breastfeeding literature. Art images of Black women breastfeeding were used to illustrate the impact of wet nursing on Black women's motherhood, experienced unequal power relationships, and the subsequent influence on breastfeeding patterns (West & Knight, 2017). In a similar study, Magnusson, et.al., (2017) used art images of women breastfeeding in both public and private spaces to better understand men's attitudes towards public breastfeeding, and the subsequent role that attitude may have on their partner's decision to breastfeeding. While breastfeeding in private was viewed as more favorable among this study's sample (Magnusson, et.al., 2017), the broader takeaway supported another study's findings that men/fathers/partners who are more knowledgeable about breastfeeding and possess a more positive attitude towards breastfeeding are better equipped to support and advocate for the breastfeeding mother (Sherriff et al., 2014).

In addition, of the study participants who responded to the follow-up email, their responses provided valuable insight about their individual maternal attitudes towards breastfeeding, what factors have influenced their attitudes, what motivated their study participation, and their thoughts on research geared towards Black women as a group. The individual value placed on breastfeeding, the desire to participate in research deemed relevant to Black women and their communities, and the impact of the approach used by the researcher to be

inclusive of and beneficial to this group's study participation, all speak to the underline principles of health empowerment, community involvement, and role healthcare professional (Hildebrandt, 1996).

Participants responses in this study are consistent with the responses of Black mothers who participate in health empowerment groups like Mocha Moms, Inc., which advocates for the health and welfare of Black infants, children and their communities through breastfeeding and breastfeeding support services. As one Mocha Mom participant cited "I never considered it a decision at all. I just saw it as a natural, normal activity that mothers were supposed to do when they had children. My mother breastfed me. Her mother breastfed her" (Mattox, 2012, p. 344). Another Black mother commented "Breastfeeding was a part of my family culture long before I even took notice. As a child, I remember my mother sharing her breastfeeding stories" (p. 344). As a group, the Black mothers of Mocha Moms, Inc., engage through activism and volunteerism, the education of their children, a strong commitment to support marriages, and a dedication to the health and wellbeing of their personhood, families, and communities. This engagement is evidenced by one mother's comment "mothers are supporting each other as they raise their children and make a difference in their communities…they are educating through the power of the tongue and finding powerful ways to communicate important messages about the education, health, and well-being of their mothers, children, and families" (344-345). Taking the discussion beyond the individual and community levels, this study's participant responses highlight the critical role that healthcare professionals play in advocating for and educating Black women on the benefits of research participation. This finding is well supported throughout the literature (Noonan, Velasco-Mondragon, & Wagner, 2016) that research into Black and minority health issues has been insufficient, and in part the result of the Black community not being present

when interventions and programs addressing their health disparities are designed, but contends that an educated and informed Black population would use health care services more effectively. With regard to breastfeeding, (Reeves & Woods-Giscombe, 2015) found the necessity of healthcare providers to understand the social determinants of breastfeeding and breastfeeding disparities in order to provide culturally relevant care and support for breastfeeding.

The analysis of the visual artwork intervention and personal progress factors, though becoming increasingly more common in use among researchers, found limited statistical significance throughout this study. The nonsignificant findings in this study lends itself to further studies with sufficient statistical power and corresponding sample sizes. Additional studies are needed that meet sufficient statistical power and sample sizes to determine group effects, and the continued development of interventional designs that positively impact Black women at the individual and community levels.

Strengths and Limitations

Strengths

The strengths of this study included the introduction and use of a novel visual artwork intervention, a psychometrically sound experimental design with use of valid and reliable maternal attitudes towards breastfeeding and a modified personal progress factors measures, and intervention-only emotional reaction scale used to determine how study participants responded to each art image. As we found in the literature review, creative methodological paradigm shifts are needed in how researchers address the challenge of low rates of breastfeeding among Black women and within the Black community. The results of this study although statistically not significant contribute to the growing body of breastfeeding literature that use visual art images of women breastfeeding to evaluate group attitudes towards breastfeeding, the primary influences

on those attitudes and their impact on a woman's decision to breastfeed. The depth of this study is pertinent to the development of a more comprehensive body of breastfeeding literature that brings forward innovative intervention designs. This study addressed the gap in the breastfeeding literature and research, and offered a new intervention to assess the maternal attitudes towards breastfeeding among Black women.

In addition, throughout the study, participants may have experienced events such as a sick infant, challenges with breastfeeding, and changes in social and family support that influenced their maternal attitudes towards breastfeeding. In addition, the researcher may interact with Black women who experienced family stress (Wambach & Riordan, 2016). To control for this threat, it was important for the researcher to recognize that varying tasks characterize this phase of the family and ask participants if anything happened during the study that affected their maternal attitudes towards breastfeeding. Of the 17 participant responses, no one reported experiencing an event that affected their maternal attitudes towards breastfeeding. The option to be entered into a prize drawing was offered to participants who completed the study. Of the 17 participants, 14 participants self-selected to enter the prize drawing. The researcher applied careful attention not to over emphasize the prize drawing in order to minimize the risk of study coercion.

Limitations

Limitations to this study were revealed in study participant recruitment using the social media platforms including: Facebook, Instagram, and Twitter. Though the Facebook Ad reached 739 Facebook users, no study surveys were attempted or completed by these Facebook users. Efforts to increase study enrollment and participation through outreach to associations and/or organizations that support health and wellness initiatives for Black women also yielded limited

results. Study enrollment and participation may have been more robust, and generated more statistically significant study findings if the researcher had been able to gain access to any of the outreached associations and/or organizations. Also, the researcher employed a snowball technique by contacting through email a convenience sample of associates to garner additional study enrollment and participation. Though study participants were ultimately randomized within the Qualtrics study survey, researcher selection bias with the convenience sample of associates may have been an external threat.

Generalization was an external threat to this study. Though the study design used psychometrically reliable and valid instruments, the low percentage of study participants (n = 17) demonstrates the caution needed in generalizing the findings to the group understudy as well as more diverse study groups that may be inclusive of Black women. A final threat to external validity was the potential for Hawthorne effect, which occurs in an experimental study when study participants who know they are participating in an experiment change their behavior in ways that affect the study results (Bluman, 2010). To control for this threat, a statement was included on each instrument that reminded participants that there are no correct or incorrect answers and they could respond truthfully.

Recommendations

The use of a visual artwork intervention and personal progress factors to evaluate their effects on maternal attitudes towards breastfeeding among Black women has not been previously tested. With the creative design of this study intervention, a foundation is laid to support further research using this intervention or similarly designed interventions to evaluate more specific factors that may influence and moderate Black women's attitudes towards breastfeeding. Future studies will be designed to further establish the extant literature about group effects with the

current visual artwork intervention. Studies are needed to evaluate the reliability and validity of the IIFAS and PPS-R instruments solely among Black women to determine if modifications to the instruments' constructs are warranted. The modification of this study's survey instruments to more specific group relevance might be needed rather than continued use of the current instrument that is applicable across multiple domains of research.

Furthermore, the limitations revealed with this study's sample collection procedures draw attention to the need for studies that employ more widely utilized sampling procedures with Black women including: focus groups, panel discussions, community outreach forums, grassroots organizations, and social advocacy groups. Though randomized controlled trials are considered the most rigorous of all designs, future studies with this group and phenomenon understudy may be better facilitated with use of a mixed methods design. Mixed methods design may better position future studies to yield statistically significant findings, and better address the known and unknown gaps in the use of art images to evaluate Black women's maternal attitudes towards breastfeeding. This study shapes the discussion of the need for exploration of influences and characteristics of research feasibility through social media platforms with this group. The researcher's assumption that sufficient sample collection through social media platforms was feasible for this study was not evidenced. Future studies can include the use of social media platforms as a sampling procedure used in conjunction with other various sampling procedures.

Summary and Conclusion

As we found in the literature review, low rates of breastfeeding among Black women are largely impacted by the social determinants of health experienced at the individual and community levels. These social determinants of health influence Black women's decision to either breastfeed or bottle feed. However, not found in the literature review is the study of how

visual art images of Black women breastfeeding and the influence of their personal progress factors including: perceptions of power and competence, self-nurturance and resource access, interpersonal assertiveness, awareness of cultural discrimination, expressions of anger and confrontation, autonomy, and personal strength and social activism, effect Black women's maternal attitudes towards breastfeeding. The verdict remains out on the specific interventions that will garner the needed effect of breastfeeding rates among Black women achieving *Healthy People 2020* target goals. However, evidenced in the literature is the need for breastfeeding researchers to continually shift how they think about research and intervention design, and whether the components of that design are inclusive of and relevant to Black women. The randomized controlled trial presented in this study is a good first step in the use of art images to evaluate those attitudes. The end goal of future studies is to build upon what is understood about Black woman's maternal attitudes towards breastfeeding to develop population-specific breastfeeding behavior interventions.

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Chapter 5

Summary and Conclusion

The researcher's impetus for the body of research presented in this full dissertation was a desire to learn and better understand the complex links among: vulnerability, vulnerable groups and health disparity within Black and minority communities; the impact of science and modernity on breastfeeding behavior, and the role of nurse advocacy; and the use of art images to drive intervention design and examine their effects on Black women's attitudes about breastfeeding. As noted in chapter 2, Black infant mortality hoovers at approximately 2.5 times that of White infants, and is highest among all race/ethnic groups (Noonan, Velasco-Mondragon, & Wagner, 2016). Infant mortality is perhaps one of the best indicators of a community's health, and highlights the subsequent need for policies and protections that work to mitigate group vulnerability. Though not conclusively presented in this body of research, inferences are made between the importance of understanding the maternal attitudes towards breastfeeding among Black women and the impact of reduced breastfeeding disparity on Black infant mortality.

Furthermore, as noted in chapter 3, the negative impact of science and modernity on women's ideas about motherhood and breastfeeding during the Progressive Era paved the way for a tidal wave of advocacy initiatives at the grassroots, federal, and international levels. Nurse advocacy for breastfeeding and breastfeeding support services has been critical in the re-emergence of breastfeeding as a cultural norm. The role that nurses play in ushering forward health education and knowledge to the greater public is at the center of and paramount to our profession. As noted in chapter 4, a myriad of social determinants of health influence Black women's decision to breastfeed. While rates of breastfeeding among this group have not met federally mandated targets, efforts to have a positive impact on those rates of breastfeeding are

not lost on this researcher. It is the hope of this researcher to move forward to further explore new methods to refine current interventions as well as to develop new interventions.

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Appendix A. Institutional Review Board Approval

THE UNIVERSITY OF TEXAS AT TYLER
3900 University Blvd. • Tyler, TX 75799 • 903.565.5774 • FAX: 903.565.5858

Office of Research and Technology Transfer

Institutional Review Board

May 11, 2018

Dear Ms. Gathron,

Your request to conduct the study: *Effects of a Visual Artwork Intervention and Personal Progress Factors on Maternal Attitudes towards Breastfeeding among Black Women*, IRB #SP2018-141 has been approved by The University of Texas at Tyler Institutional Review Board under expedited review. This approval includes the use of signed informed consent, and your assurance of participant knowledge of the following prior to study participation: this is a research study; participation is completely voluntary with no obligations to continue participating, and with no adverse consequences for non-participation; and assurance of confidentiality of their data.

In addition, please ensure that any research assistants are knowledgeable about research ethics and confidentiality, and any co-investigators have completed human protection training within the past three years, and have forwarded their certificates to the IRB office (G. Duke).

Please review the UT Tyler IRB Principal Investigator Responsibilities, and acknowledge your understanding of these responsibilities and the following through return of this email to the IRB Chair within one week after receipt of this approval letter:

- This approval is for one year, as of the date of the approval letter
- **The Progress Report form must be completed for projects extending past one year.** Your protocol will automatically expire on the one year anniversary of this letter if a Progress Report is not submitted, per HHS Regulations **prior** to that date (45 CFR 46.108(b) and 109(e): http://www.hhs.gov/ohrp/policy/contrev0107.html
- Prompt reporting to the UT Tyler IRB of any proposed changes to this research activity
- **Prompt reporting to the UT Tyler IRB and academic department administration will be done of any unanticipated problems involving risks to subjects or others**

- Suspension or termination of approval may be done if there is evidence of any serious or continuing noncompliance with Federal Regulations or any aberrations in original proposal.
- Any change in proposal procedures must be promptly reported to the IRB prior to implementing any changes except when necessary to eliminate apparent immediate hazards to the subject.
- Expedited approval with signed consent

Best of luck in your research, and do not hesitate to contact me if you need any further assistance.

Sincerely,

Gloria Duke, PhD, RN
Chair, UT Tyler IRB

Appendix B. Study Consent

THE UNIVERSITY OF TEXAS AT TYLER

Informed Consent (Online, Anonymous) to Participate in Research
Institutional Review Board: #SP2018-141

Approval Date: May 11, 2018

Hello! My name is Erika Gathron and I am a PhD student. Thank you for your interest in this research study! I want to tell you what this study is about so you can decide if you want to be a part of it.
We want to do this study so we can learn more about Black women's attitudes about breast feeding.
If you want to be in this study, you will:

- Answer questions in a survey about your opinions about breast feeding
- View a presentation
- After viewing the presentation, answer questions in a survey again about your opinions
- There are no right or wrong answers

We do not know of any risks associated with this study, other than it will take you time. This study should not take more than an hour and you can work on it along the way.
A good outcome from being in this study is that you may enjoy the presentation and learn helpful information that may improve your health as well.
To be a part of this study you must identify as Black / African American or of African descent and must be:

- Female
- 18 years or older
- Able to see
- Able to read English

You do not have to be in this study and can quit at any time. Your answers will not be linked to you. I will not know your name unless you sign up to be a part of a drawing to win a $250 Amazon gift card at the end of the study. If you want to be in the drawing, I still will not know how you answered questions.
The information collected will only be available to me. I may publish the findings in an academic journal.
This study has been approved by the Institutional Review Board (IRB) of the University of Texas, Tyler. If you have any questions or concerns, please email Erika Gathron (egathron@patriots.uttyler.edu) or Dr. Gloria Duke (gduke@uttyler.edu) phone number (903)- 566-7023 at the Office of Sponsored Research.

I have read and understood what has been explained to me. If I choose to participate in this study, I will click "Yes" in the box below and proceed to the survey. If I choose to not participate, I will click "No" in the box.

Please click your choice.

Yes, I choose to participate in this study.
No, I choose to not participate in this study.

Appendix C. Personal Demographic Form

Please provide a response for each of the following questions. Please mark not applicable (N/A) for any question that does not apply to you.

	Questions					
		18-34 yrs.	35-55 yrs.	55 yrs +		
1.	What is your age in years?					
2.	How did you find our survey?	Facebook	Twitter	Instagram	Other	
		Yes	No			
3.	Are you married?					
		High School/GED	2-year College	4-year College	Graduate School (Masters &/or Doctorate)	
4.	What is the highest education level you have completed?					
		Yes	No	Homemaker	Retired	
5.	Are you employed?					
		1 time	2 times	3 times	More than 3 times	I have never been pregnant
6.	How many times have you been pregnant?					
		1 child	2 children	3 children	More than 3 children	I do not have children
7.	How many children do you have?					
		Yes	No	Not Applicable		
8.	Did you breastfeed your children?					
		Yes	No	Not Applicable		
9.	If pregnant, do you plan to breastfeed?					
		Yes	No			

10.	Do you have a family history of breastfeeding?					
		Yes	No	Not Applicable		
11.	If pregnant, is your partner supportive of breastfeeding.					
		Yes	No	Not Applicable		
12.	If you become pregnant, do you intend to breastfeed?					
		Yes	No	Explain		
13.	Did you want to breastfeed, but could not breastfeed? Please explain.					
		Yes	No	Explain		
14.	Did you not want to breastfeed, but breastfed anyways? Please explain.					

Appendix D. Request for use of the Iowa Infant Feeding Attitude Scale and Scale Developer Response

Dear Ms. De La Mora,

My name is Erika Gathron. I am a doctoral student at the University of Texas at Tyler. I reached out to you about a year ago regarding use of The Iowa Infant Feeding Attitude Scale for my dissertation. Thank you again forwarding the requested measure information.

I have a quick question regarding the scale. I understand the how the scale is scored but I wanted to know if there is an answer key to the questions that are scientific based?

Thank you for your time and look forward to hearing from you.
Regards,
Erika Gathron

Scale Developer Response

All of the questions developed for the measure were based on literature and what was known about mothers' attitudes towards infant feeding at the time.
Arlene

Arlene de la Mora, Ph.D.
Research Scientist
Research Institute for Studies in Education
School of Education
Iowa State University
E005 Lagomarcino Hall
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Appendix E. Iowa Infant Feeding Attitude Scale Author Note

Use of the Iowa Infant Feeding Attitude Scale (IIFAS)

1. **Publications**
   The Iowa Infant Feeding Attitude Scale (IIFAS) is a copyrighted instrument; therefore, we request that the scale not be included in its entirety in any publication or on the internet.

   - *Publications*: Publications include, but not limited to, journal articles, posters, thesis/dissertations, magazines, newspapers, etc. You may publish a few of the items (but not all) to describe the scale in publications.

   - *Internet*: The survey can be used online if access is limited to participants (e.g., surveymonkey, Qualtrics, etc.).

   - I am often asked why I request that the instrument not be published in its entirety. There are several reasons for this request:
     - It is copyrighted
     - I have seen the IIFAS attributed to the wrong authors
     - Items have been omitted for reasons that I don't agree with

2. **Sharing your results**
   We ask that you share a summary of your results (e.g., means and standard deviations) with us.

3. **Translating the IIFAS**
   If you are interested in translating the IIFAS we ask that you use a back-translation approach. The translator should focus on capturing the conceptual meaning of the items rather a word-for-word translation. Once the instrument has been translated, a different translator should translate it back into English. Discrepancies should be reviewed and discussed.

Arlene de la Mora, Ph.D
Research Institute for Studies in Education (RISE)
Iowa State University
E005 Lagomarcino Hall
Ames, IA 50010
Phone: 515-231-5360
E-Mail: adelamor@iastate.edu

Appendix F. Request for use of the Personal Progress Scale- Revised

To whom it may concern:

I am writing in regards to the article entitled:
Assessing psychological health and empowerment in women: The Personal Progress Scale Revised. By: Johnson, D.M.; Worell, J.; Chandler, R.K. Vol. 41 (1) 2005; p 109-129, 21p.

I am a doctoral candidate at the University of Texas at Tyler and my program is Nursing Science Research. The purpose of my study is to test the effects of a visual artwork intervention on maternal attitudes towards breastfeeding and the influence of personal progress factors among Black women.

I would like to request the Personal Progress Scale Revised.
Accession #: HaPI-289136

Please let me know if any additional information is needed.

Thank you for your time.

Regards,
Erika Gathron Ph (c), MA, BSN
The University of Texas at Tyler
3900 University Blvd.
Tyler, Texas 75799

Mailing Address:
505 Benton Drive
Apt. #4301
Allen, Texas 75013
(903)-327-4011

Appendix G. Request to Revise Personal Progress Scale-Revised and Scale Developer Response

Hi Dr. Johnson,

Thank you for your prompt reply to my query letter. I have read your reply and understand your feedback.

If I may provide a little more clarification for my request to adapt the directions. Two of my study hypotheses will evaluate the effects of personal identity among my population, and thus, the results are integral to my study. Adapting the directions to indicate, *Please answer each question in terms of any aspects of your personal identity that are important to you as a woman.*, would be simply to remove the potential of leading respondents in how to think about their personal identity before they have taken the survey. Thus, would you allow this adaptation to the directions?

I have read your dissertation study article entitled Assessing psychological health and empowerment in women: THE PERSONAL PROGRESS SCALE REVISED and understand how the validation study was conducted. The PPS-R is a good fit for my study. The scale aligns well with my theoretical model, is intended for women, and measures one of my study's independent variables.

Thank you again for your perspective.
Regards,
Erika Gathron

Scale Developer Response to Request

I'm fine with you adapting the instructions
Good luck
Dawn

Dawn M Johnson, Ph.D.
Associate Professor and Licensed Psychologist
University of Akron
Department of Psychology
290 E. Buchtel Ave. Room 356
Akron, Ohio 44325-4301
330-972-2505 (ph)
330-972-5174 (fax)

Appendix H. Personal Progress Scale-Revised

The following statements identify feelings or experiences that some people use to describe themselves. Please answer each question in terms of any aspects of your personal identity that are important to you as a woman. Select your answer to each question using the scale below. For example, for the statement I have equal relationships…, you would select 1 if this is almost never true, 2 if this is usually not true, 3 if this is sometimes true, 4 if this is frequently true, and 5 if this is almost always true. There are no right or wrong answers.

Almost Never True Usually Not True Sometimes True Frequently True Almost Always True

1 2 3 4 5

		Answer
1.	I have equal relationships with important others in my life.	
2.	It is important to me to be financially independent.	
3.	**It is difficult for me to be assertive with others when I need to be.**	
4.	I can speak up for my needs instead of always taking care of other people's needs.	
5.	I feel prepared to deal with the discrimination I experience in today's society.	
6.	**It is difficult for me to recognize when I am angry.**	
7.	I feel comfortable in confronting my instructor/counselor/supervisor when we see things differently.	
8.	I now understand how my cultural heritage has shaped who I am today.	
9.	**I give into others so as not to displease or anger them.**	
10.	**I don't feel good about myself as a woman.**	
11.	**When others criticize me, I do not trust myself to decide if they are right or if I should ignore their comments.**	
12.	I realize that given my current situation, I am coping the best I can.	
13.	I am feeling in control of my life.	
14.	**In defining for myself what if means for me to be attractive, I depend on the opinion of others.**	
15.	**I can't seem to make good decisions about my life.**	
16.	**I do not feel competent to handle the situations that arise in my everyday life.**	
17.	**I am determined to become a fully functioning person.**	
18.	**I do not believe there is anything I can do to make things better for women like me in today's society.**	
19.	I believe that a woman like me can succeed in any job or career that I choose.	
20.	**When making decisions about my life, I do not trust my own experience.**	
21.	**It is difficult for me to tell others when I feel angry.**	
22.	I am able to satisfy my own sexual needs in a relationship.	
23.	**It is difficult for me to be good to myself.**	
24.	**It is hard for me to ask for help or support from others when I need it.**	
25.	I want to help other women like me improve the quality of their lives.	
26.	**I feel uncomfortable in confronting important others in my life when we see things differently.**	

27.	I want to feel more appreciated for my cultural background.	
28.	I am aware of my own strengths as a woman.	

Note. Items in bold are reversed scored

Appendix I. Follow-up Questionnaire

Group 1 (Visual Artwork Intervention) and Group 2 (Comparison Attention Control)

1. Is there anything you want to share about your maternal attitude towards breastfeeding?
2. Did anything happen during the study that influenced your maternal attitudes towards breastfeeding?

Appendix J. Association/Group and Social Media Outreach

1. Black Women's Health Imperative
    a. Researcher Effort: Initial outreach via email on September 27, 2017
    b. Researcher Effort: F/U email sent October 3, 2017 and Association contacted via phone
    c. Association Response: F/U phone call received October 6, 2017 requesting research inquiry be directed via email to association research coordinator on the following week
    d. Researcher Effort: F/U email sent to association research coordinator on October 12, 2017
    e. Researcher Effort: F/U email sent on October 17, 2017
    f. Association Response: Email received from association research coordinator on December 13, 2017. Association only distributes in-house research.
    g. Researcher Effort: Thank you email sent on December 14, 2017 to association for their reply.

2. National Coalition of 100 Black Women
    a. Researcher Effort: Initial outreach via email on October 8, 2017
    b. Researcher Effort: F/U call to association on or around October 11, 2017
    c. Association Response to Call: Researcher asked to provide name and return contact information and someone would call researcher back.
    d. Association Response: No return call received

3. Girl Trek
    a. Researcher Effort: Initial outreach via email on October 16, 2017
    b. Researcher Effort: Association contacted via phone on or around October 25, 2017
    c. Association Response to Call: Contact research coordinator via email
    d. Researcher Effort: Email sent to research coordinator on November 1, 2017
    e. Association Response to Email: Received automated email that research coordinator would not be available until Thanksgiving
    f. Association Response: Received email on December 8, 2017 from association research coordinator. Association does not distribute research surveys.
    g. Researcher Effort: Thank you email sent on December 8, 2017 to association for their reply.

4. Black Women's Blueprint
    a. Researcher Effort: Initial outreach via email on December 16, 2017
    b. Researcher Effort: F/U letter written and mailed to association on January 5, 2018
    c. Association Response: No response received

5. Black Youth Project
    a. Researcher Effort: Initial outreach via email on December 16, 2017
    b. Researcher Effort: F/U letter written and mailed to association on January 5, 2018
    c. Association Response: No response received

6. For Harriet
    a. Researcher Effort: Initial outreach via email on December 16, 2017
    b. Researcher Effort: F/U letter written and mailed to association on January 5, 2018
    c. Association Response: No response received

7. Jack and Jill of America
    a. Researcher Effort: Initial outreach via email on December 11, 2017
    b. Researcher Effort: F/U letter written and mailed to association on January 5, 2018
    c. Association Response: No response received

8. National Association for the Advancement of Colored People
    a. Researcher Effort: Initial outreach via email on December 16, 2017
    b. Researcher Effort: F/U letter written and mailed to association on January 5, 2018
    c. Association Response: No response received

9. Sister Love
    a. Researcher Effort: Initial outreach on December 16, 2017
    b. Researcher Effort: F/U letter written and mailed to association on January 5, 2018
    c. Association Response: No response received

10. Alpha Kappa Alpha (Local Dayton, Ohio Chapter- 225 Members)
    a. Researcher Effort: Initial outreach on August 16, 2018
    b. Association Response: Research Survey Distributed via AKA Local Chapter Email List on August 21, 2018

11. Association of Black Faculty Nursing
    a. Researcher Effort: Initial outreach via Email on August 30, 2018
    b. Researcher Effort: Follow-up Email sent on September 10, 2018
    c. Association Response: Received call from Dr. Audwin Fletcher; discussed possible distribution of survey via ABNF email listserv. Dr. Fletcher stated he would speak with the ANBF board and be in touch.
    d. Association Response: No final response received

12. American Association of Colleges of Nursing
    a. Researcher Effort: Initial outreach via Email sent on September 10, 2018
    b. Association Response: Received automated email; researcher coordinator not available until September 11, 2018
    c. Association Response: Received email from CDC project manager on September 12, 2018; AACN distribution list only contains contact information for deans/directors of nursing schools. Will not reach target audience. Suggested contacting other state boards of nursing.
    h. Researcher Effort: Thank you email sent on September 12, 2018 to association for their reply.

- *Spring 2018 joint decision made by researcher and committee to conduct sample collection via social media outreach.*

Social Media

1. Facebook, Twitter, and Instagram
   Researcher Effort: Study Launched June 2, 2018- Concise description of study provided on each social media platform along with Qualtrics research study link
   a. Additional Facebook Pages were Researcher posted study description and Qualtrics link
      I. Black Mamas Matter Alliance
      II. 4th Trimester Project
      III. Black Women's Health Imperative
      IV. The Restoration Project
      V. Black Breastfeeding Week
      VI. Black Mother's Breastfeeding Association
      VII. Black Women's Resource Symposium
      VIII. Black Women's Studies and Critical Thinking
      IX. Black Women's Wellness Conference
      X. The Free Black Women's Library
      XI. Black Women's Business Community
      XII. Black Women's Natural Beauty
      XIII. Black Women's Art Festival
      XIV. Black Women's Vegan Community

2. Facebook Ad
   Researcher Effort: Launched on August 1, 2018 and Completed on September 1, 2018
   Facebook Ad Response: Ad reached 739 Facebook users and total impressed were 844. No survey attempts started or completed.

Researcher's Associates

1. Researcher Effort: Email sent on July 1, 2018 to 10 associates with description of study along with Qualtrics study link
   Associate's Responses: All 10 associates replied to email and stated they would attempt the survey.

Biographical Sketch

NAME: Erika L. Gathron

POSITION TITLE: Doctoral Student

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	COMPLETION DATE MM/YYYY	FIELD OF STUDY
University of Texas at Austin	BSN	05/2004	Nursing
University of New Orleans	MA	05/2013	Sociology
University of Texas at Tyler	Ph.D.	12/2018	Nursing

A. Personal Statement

My area of interest and program of research focuses on vulnerability, the social determinants of health that impact vulnerability, and the use of advocacy and intervention to mitigate vulnerability. My population of interest is Black women. For my doctoral work, I evaluated the effects of a visual artwork intervention and personal progress factors on maternal attitudes towards breastfeeding among Black women. In completing my dissertation, I have discovered that intervention viewed as relevant and beneficial is welcomed and critical in the mitigation of vulnerability. I plan to continue my program of research on the development of population-specific interventions intended for Black women. My hope in this endeavor is that I discover proactive interventions that can be implemented at the individual, group, and community levels.

B. Positions

2016- Present Population Health Registered Nurse and Case Manager
United Health Care, Allen, TX

2012-2015 Senior Team Lead Acute Care Registered Nurse
DaVita Healthcare Partners, New Orleans, LA

2011-2014 Senior Team Lead Acute Care Registered Nurse
Fresenius Kidney Care, New Orleans, LA

2007-2011 Team Lead Acute Care Registered Nurse

Quik Travel Staffing Inc., New Orleans, LA

2005-2007 Team Lead Acute Care Registered Nurse
Royal Infirmary of Edinburgh, Edinburgh, Scotland

2004-2005 Acute Care Registered Nurse
Seton Medical Center, Austin, TX

C. Global Experience

2008-2009 Partner of Rwandan Women Survivors of Genocide and Conflict
Women for Women International, Kigali, Rwanda

Summer 2004 Field Team Registered Nurse
Frontline Partners International, Lusaka, Zambia & Capetown, South Africa

Summer 2004 Field Team Registered Nurse
Frontline Partners International, Nairobi, Kenya & Kampala, Uganda

D. Honors

2017 Nurses Educational Funds, Inc. Mary Elizabeth Carnegie Doctoral Research Scholarship Recipient

E. Professional Memberships

2004- Present American Nurses Association
2016- Present Sigma Theta Tau International Honors Society of Nursing

F. Contributions to Science

Gathron, E. (2018). Vulnerability: a concept analysis. *Creative Nursing* [under review].

Gathron, E. (2017). Strategically positioned: breastfeeding, advocacy, and the hands-on nurse. *Creative Nursing*, *23* (3), doi: 10.1891/1078-4635.23.3.1.