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UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science
DOCTOR OF PHILOSOPHY IN NURSING

INTERGENERATIONAL COMMUNICATION: ITS EFFECT ON EARLY
SCREENING ACTIVITIES IN AFRICAN-AMERICAN ADULT DAUGHTERS OF
MOTHERS WITH BREAST CANCER

by

Rita R. Callahan, MA, BSN, RN

A dissertation presented to the
FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE
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In partial fulfillment of the
requirements for the degree
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Dissertation Committee

Anita Hunter, PhD, RN, CPNP, FAAN

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ABSTRACT

Health communication at numerous levels is vital to sustainability of healthy individuals. The notion of African-American mothers and adult daughters sharing breast health and breast cancer knowledge openly and honestly could be the initial step in addressing the high morbidity and mortality that continues to affect this population. Communication is a variable that has yet to be studied between African-American mothers diagnosed with breast cancer and their adult daughters. This study first examined whether this relationship existed, and secondly if it was strong enough in supporting and encouraging one another towards consistent breast health and breast cancer screening activities. The research also looked at whether knowledge, risk perception, self-efficacy, and communication were moderated by age, income, education, and employment status. In addition, the investigator assessed connectedness, interdependence, and trust in hierarchy subscales as utilized in the Mother and Adult-Daughter Questionnaire. Health care providers have yet been able to affect change in the overwhelming mortality rate in African-American women with breast cancer disease.

The purpose of this descriptive, quantitative, feasibility study was to evaluate the affects of knowledge, risk perception, communication, self-efficacy, connectedness, interdependence, trust in hierarchy, and to identify independent variables most likely to encourage behavior change in adult daughters. The conceptual framework for this study was based on the Theory of Reasoned Action. Descriptive statistics, *t*-tests, contingency tables using chi square, and correlations were used to analyze data from a sample of 16 African-American mothers with breast cancer and their adult daughters without a diagnosis of breast cancer.

This study found a positive correlation between mother- and adult daughter relationships and encouragement by mothers for their adult daughters to participate in breast health activities with this particular sample. As a feasibility study, the sample size prevented results with statistical power. Further studies are needed to fully appreciate the extent of this phenomenon.

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DEDICATION

First and foremost, I would like to thank God for carrying me this entire dissertation journey, for without His gracious love, strength, and gift of passion, this work might not have come to pass. I would like to express my sincere gratitude to the African-American mothers and daughters who participated in this study. Without their kindness, time, and real life experiences with this disease, this research might not have been possible. In addition, I would also dedicate this dissertation to the following people.

I owe a huge thank you to my dear friend Carmen Warner-Robbins, my personal prayer warrior. Thanks so much for all of the *one-ringers*. I know God presented you as a special gift to me. I would be remiss if I did not extend thanks to my special friends who have provided much support and shoulders to cry on during the dissertation phase. To all of you, know that anytime you say, the favor will be returned.

A very special dedication to the memory of my father, Mr. Robert John Callahan, Sr., for always believing in me and always referring to me as “my daughter, the doctor,” even after numerous times of correcting him with, “Dad, I am not a doctor, I am a nurse.” How befitting that his dream would become my dream.

PREFACE

The purpose of this quantitative study is to explore whether breast health, breast cancer knowledge, risk perception, and communication between African-American mothers and adult daughters influence adult daughters, who may be at risk, to participate in breast cancer screening activities. Although much is written on breast cancer, there is one facet yet to be discussed; the fortitude relating to breast cancer communication especially for African-American mothers and adult daughters. Improving the health maintenance of African-American women suffering with this devastating disease as communicated through the American Cancer Society, Centers for Disease Control and Prevention, and Health People 2010 is best attained through prevention and early detection; participating in breast cancer screening activities. The major goal is in decreasing breast cancer mortality for this population of women. Even in instances where facilities offer free mammography, education, and follow-up services, African-American women continue to out-number their counterparts relating to morbidity and mortality results.

In my 20+ years working as an oncology nurse, breast cancer has been a focus of concern and interest of study. The fact that 5,860 African-American women will die of breast cancer in 2008 (Cancer Facts & Figures, 2008) was alarming and bewildering to me, especially as an African-American nurse. I pondered the role that African-American mothers played in educating their daughters about their breast cancer and breast health in general. Thus, I decided to focus on how mothers and adult daughters communicated about breast health and, more importantly, about breast cancer prevention. As communicated by Fingerman (2001, 2004), the mother-daughter relationship was one

of the most powerful and dynamic family relationships. In learning that the mother-daughter relationship was the most sustainable in the family, I became intrigued with thoughts of mothers talking with their daughters about breast health and breast cancer in a manner of educating and creating awareness of help, hope, and history.

After attending the *Cancer Among African-Americans: Cancer Prevention and Early Detection Institute for Nurse Educators* in 2005, funded by the National Cancer Institute (NCI), and with my interest of breast cancer and African-American mothers and daughters, I was amazed how mothers, sisters, aunts, and daughters with breast cancer never communicated or shared this life-death disease process with any of their relatives. Some reasons for not talking about breast cancer were, “I didn’t want to burden you,” “It is my problem and not for you to be bothered with,” or “I can handle it.” Breast cancer in this sense was thought of as a secret that was never to be revealed.

Emphasis on the importance of education about breast health and breast cancer for this population of women occurred most recently. When seeking participants for this study, I learned from an African-American daughter that her mother was diagnosed with the disease and the day her mother started her chemotherapy treatment was the day she, herself, was diagnosed with breast cancer. Following this revelation, one of her 14-year-old twin daughters stated, “Mom, I want to have a mammography.”

It is my hope that this dissertation will inspire all women and their health care providers to open up the communication lines in ways that will encourage women to participate in breast cancer screening activities.

ACKNOWLEDGMENTS

I would like to express gratitude to a number of significant individuals whom I will forever be grateful. It is with their continued enthusiasm, expertise, and guidance that this dissertation is complete.

I am most grateful to my dissertation committee members, Dr. Anita Hunter, Dr. Jane Georges, and Dr. Patricia Roth. I extend genuine thanks to my committee chair, Dr. Anita Hunter. She truly believed in me because, throughout the research phase and writing challenges, she never gave up and she never allowed me to give up. Thank you for your patience and guidance; I could not have accomplished this major stepping-stone in my life without you.

I would like to thank Dr. Jane Georges who apparently was destined to be involved in my nursing career at several levels. You have been such an inspiration; your gracefulness and support is what I will always remember.

I would also like to thank Dr. Patricia Roth. I appreciate who you are in my professional and personal life. You are the pillar of the USD doctoral program.

I especially would like to express my sincere appreciation and thanks to Donna Agan, Ed.D. for her exceptional statistical expertise, beautiful smile, research insight, and statistical humor that was often times very helpful during this endeavor. May she continue to experience a great life full of health, love, and laughter.

Finally, thanks to my family who have always supported my academic endeavors with encouragement, love, prayer, and confidence.

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Trajectory of a Journey

By Rita Renay Callahan

July, 2008

Journeys are pivotal in life
They can occur at anytime, like thoughts in the night
Some are planned and some are by chance
There are those of a spiritual nature, even some of romance

Journeys can be long or short
Maybe on the mild side or wild side
But no matter what, there is always a story
That hopefully brings glory

This journey travels the academic road
One that many times carried several heavy loads
Entailing moments of hidden fears and tears
As well as rainbows of friendly cheers

Initially there was excitement and wonderment
Enthusiasm of acceptance to this high esteem place
Many thoughts occurred of whether this was true
Knowing it could only be by His grace

This journey at USD Hahn
Was one that eventually brought calm
The professors overtly accessible and impressionable
Each embroidered in this tapestry with charm

An education has always presented the opportunity
To achieve a better life
One full of promise, utility, and nobility
One that is rife

Encountering new friends who too are in pursue
All sharing intense knowledge that brought new insights
Emboldened to reach new and greater heights
With the same goal of becoming one of a selected few

Working towards a PhD is the journey here
Causing numerous sleepless nights pondering year after year
Along with questions of will this ever end
And how much statistics is one expected to comprehend

This one major dream was so surreal
Involving much to test self-esteem
And bringing sacrifice
Along with queries of whether it is worth paying the price

But when times got rough
Perseverance instructed to not give up
Take hold the bluff and give it your best stuff
Embrace the journey with grace and gratitude

In the process of a journey, much is seen, heard, and learned
That might cause concern or maybe an increase yearn
Journeys are full of memories, some good, and some bad
This academic journey makes me think of my Dad and feel glad.

CHAPTER 1

Introduction

Breast cancer is second only to lung cancer as the most common cause of cancer death among American women (American Cancer Society [ACS], 2008). Approximately 40,000 women die annually from this disease with a high percentage of these deaths occurring in the African-American population. Though the incidence of breast cancer is lower in African-American women, the mortality rate far exceeds that of any other female racial group (ACS; Okunade, 2003). According to the American Cancer Society (ACS), an estimated 40,480 U.S. women will succumb to this deadly disease this year alone, compared to 40,460 in 2007. An estimated 5,830 African-American women died in 2007 from breast cancer, 14.4% of all breast cancer deaths.

The vast majority of the literature has focused on barriers of African-American women in relation to continual morbidity and mortality rates. These barriers include being diagnosed in late stages of the disease, fearing the disease, having fatalistic beliefs, health care access issues, lower socioeconomic status (SES), and presenting with aggressive-type tumors (Adams, 2007; Calle, et al., 2005; Guadagnoli, Luft, & Sassi, 2006). In an effort to better understand this phenomenon in African-American women,

this study was designed to assess the breast health and breast cancer communication between mothers and adult-daughters intended to perhaps have some affect on decreasing the daughter's potential for acquiring this disease. Healthy People 2000 was established as an important focus in attempting to deal with health care disparities; one such disparity is the unchanging breast cancer mortality rate of African-American women.

Today, the challenge continues with the extension of Healthy People 2010: the goal to decrease new cancers, illnesses, and further cancer deaths in those suffering the most (Centers for Disease Control, 2008). In an effort to assess health care disparity issues in the United States, it is imperative to note that in 2005 the population percentages by race included 80.2% White Americans constituted, 12.8% African-Americans, and 14.4% Hispanics. Asian-Americans (i.e., Chinese, Filipino, Japanese, Korean, Vietnamese) constituted 4.3% of the population and American Indian and Alaska Native comprised 1% of the population while Native Hawaiian and Pacific Islander comprised 0.2% (U.S. Census Bureau, 2006). The U.S. Census Bureau projects that, by the year 2035, African-Americans will comprise approximately 14.4% of the U.S. population. It is apparent that African-Americans, as well as some of the aforementioned racial and ethnic groups, have difficulties with life expectancy or longevity concerns secondary to disparities as poor health care outcomes, health care access, cultural barriers, and discrimination. For the period 2000 – 2004, the age adjusted breast cancer incidence rates for women in the United States by race and ethnicity per 100,000 were 132.5 for White women, 118.3 for African-American women, 89 for Asian/Pacific Islander, 69.8 for American Indian/Alaska Native, and 89.3 for Hispanic women. However, the age adjusted breast cancer mortality rate for women by race/ethnicity per 100,000 for 2000 –

2004 were: 33.8 for African-American women, 25 for White women, 16.1 for Hispanic and American Indian/Alaska Native, and 12.6 for Asian/Pacific Islander women (National Cancer Institute, 2006). Although White women have the greatest incidence of breast cancer in the U.S., breast cancer mortality in African-American women far exceeds the mortality rate in White women as well as all other women of color. The study's interest is in assessing positive breast cancer screening communication between cancer-surviving African-American mothers and their adult-daughters towards understanding whether adult daughters are encouraged in breast cancer screening activities, including mammography.

While the literature addressed mother-daughter relationships from the psychological or social perspectives (Hrywna, et al., 2003), such research projects did not address in depth the African-American mother-adult daughter relationship; more specifically, whether this relationship was influential in promoting positive health behaviors. Psychologically, chronic disease of any kind, especially cancer, invaded and affected the entire family, not just the patient (Clemow, Fisher, Fletcher, Lemon, & Zapka, 2006). Such tragedy significantly affected the relationships within the family system and the demise of these relationships could affect the health and quality of life for women with breast cancer or other life threatening condition. A major consequence of this disruption was the mother-daughter relationship dyad and the impact such emotional, social, physical, and familial factors could have on their communication (Sigband, 2001). A disrupted dyad and communication between these women could delay or negate participation in essential screening activities (Campbell, 2001; Conto & Myers, 2002; McTaggart, 2001). Psychoanalytic theorists researched mother-daughter relationships and

found that unresolved relational conflicts initiated during adolescence was often transferred over to the young adult stage (Charles, Frank, Grossman, & Jacobson, 2001). The mother-daughter relationship was multidimensional throughout the life span; daughters needing mother's nurturance as they developed; mothers wanting love from their daughters; daughters striving for independence. When the mother-daughter dyad was one that struggled with individual issues then confronted a diagnosis such as breast cancer, the ability to hear one another, help one another, and protect one another, might be compounded by a fear of morbidity and mortality (McTaggart).

Statement of the Problem

Breast cancer screening is imperative for all women to affect early detection and morbidity and mortality rates; such practice is especially essential for African-American women (Underwood, 2006). Because of the increased use of mammography screening, mortality rates and breast cancer treatments improved for women in the United States during the 1990s. Nevertheless, this change was not appreciated for African-American women where the morbidity and mortality rates continued to be dismal (ACS, 2008; Guadagnoli et al., 2006). Mammography, if utilized by more African-American women appropriately scheduled in relation to age, could be significant in saving these women's lives; significant evidence illustrates its benefit in early diagnosis and crucial in early treatment (ACS; Adams, 2007; Aldridge, Daniels, & Jukic, 2006; Chang, 2006; Guadagnoli et al.; Underwood).

Mammography testing detects approximately 80% to 90% of breast cancers in women who are without symptoms (ACS, 2008; Della-Monica & Wood, 2005; Underwood, 2006). Although the standardization mortality ratio (SMR) for African-

American women aged 25 to 34 improved between 1960 and 2000 from a rate of 3.214 to 2.196, African-American women continue to fare worse than their contemporaries and realize smaller improvements (ACS; Fryer, et al., 2005; Guadagnoli et al., 2006). A multitude of factors may contribute to this problem. In reference to this study, the focus is on communication in mother-daughter dyads and whether open communication between the dyad could result in participation in early breast screening activities. The phenomenon of whether mother and adult-daughter communication concerning breast health knowledge encourages screening activity has yet to be studied. Related research has been studied on mother's influence on daughter's chosen careers, sexual practice behaviors, communicative management of connection, mixed emotions, hetero-social behaviors, different disease processes, mother-daughter relationships and friendships, and breast cancer genetics (Aronowitz, Rennells, & Todd, 2005; Barbato, Graham, & Perse, 2003; Beaumont, 1993; East, 1999; Fingerman & Lang, 2004; Hutchinson, 2002; Le Poire & Prescott, 2002; Penington, 2001; Vogl-Baur, 2003). There is a lack of knowledge about any cultural effect on the mother-daughter dyad (Rastogi & Wampler, 1999), family medical history, genetic factors associated with illness, and the reluctance in seeking assistance or participation in disease prevention and health promotion activities. This lack of knowledge or participation may be linked to a cultural distrust regarding illness and treatment that is linked to the past; most notably the Tuskegee Syphilis Study (Abrums, 2004; Mason, 2005).

Unfortunately, historical socio-cultural health care barriers still cause skepticism today in encouraging positive health care practices by some African-Americans. This skepticism may relate to not being fully informed of health care or research information,

communication issues, beliefs or trust relating to researchers willingness to conduct ethical studies, or fear of being utilized as guinea pigs. Other barriers relate to fatalistic attitudes related to diseases like cancer; disproportionate racial composition of staff, primarily whites; and racism beliefs (Burmeister, Lynch, & Shavers, 2002; Mason, 2005). The study by Burmeister et al. assessed the knowledge of the Tuskegee experience and whether this knowledge influenced the willingness to participate in research studies. These authors concluded that Blacks (81%) versus Whites (28%) had knowledge of the historical study and that blacks (51%) stated that knowing the Tuskegee history affected their decision to not take part in clinical trials secondary to a lack of trust versus (48%) of Blacks who stated their decision would not be changed by knowing this information. Further extensive research needs to evaluate historical occurrences and reasons for African-American non-participation in preventive health care practices (Kennedy, 2001). One important question, whether African-Americans culturally identified as being spiritual, harmonic, and communicable, could be resourceful in educating and encouraging each other in an effort to increase this populations' participation in health care preventive measures (Penington, 2001, 2004).

Purpose of the Study

This study was conducted to address the gap in the literature concerning intergenerational communicative information that adult African-American daughters received from their mothers about breast health and breast cancer knowledge. The study explored mother and adult-daughters' communication about breast health, what was communicated about breast cancer knowledge, what prevented mother-adult daughter communication, and what the outcome or effect was of communication in reference to

breast health; whether adult daughters listened and took action to participate in screening activities.

The mother-daughter relationship is one of the most powerful and dynamic family relationships. Although mother-daughter relationships may fluctuate, the sustainability of the relationship throughout the life span is one that continues to exist and struggles to maintain itself (Fingerman, 2001; Penington, 2004; Rastogi & Wampler, 1999).

Fingerman stated, “There is great value in the mother-daughter tie because the two parties care for one another and share a strong investment in the family as a whole” (pp. 586-587). No greater relationship then that of can survive ongoing fluctuations (Campbell, 2001). Forty-eight mother-daughter dyads participated in a study conducted by Fingerman ($M_{\text{mothers}} = 76$ years; $M_{\text{daughters}} = 44$ years). The results from interviews and questionnaires concluded that 88% of the daughters said their mother had a positive influence on them. Ninety-two percent of the daughters said their current relationship with their mother was positive. Campbell reported that, at the level of the adult daughter and mother relationship, there existed a strong, unique, relational understanding between the two women. Although there might be emotional disruptions within the relationship, the two were at such a mature level that they strove to deal with these disruptions and could handle the related emotions better than any other relationship.

Background of the Study

Numerous studies have focused on family relationships, communication, breast cancer, and a combination thereof by utilizing a qualitative approach (Barbato et al., 2003; Bath & Rees, 2000; Conto & Myers, 2002; Hoppough, 2003). One study conducted quantitative research focusing on parent-child communication (Love, Lucchetti &

Powers, 2002). Others have studied parental-child communication associated with breast cancer (Hughes, et al., 2001). A mixed-method approach was used for breast cancer communication related to mother-daughter dyads and focused on effective solidarity in diverse dyads (Begley, 1996; Khair, 2003). Other studies examined how the effects of living, particularly unhealthy lifestyles, were environmentally and culturally transferred from generation to generation and how values, beliefs, and practices were socially passed down from one family to the next (Douglas, Pharoah, Ponder, & Stephen, 1997; McKenry, Murphy, & Price, 2000). Khair (2003) related the mother-daughter relationship as central to the family unit and that daughters by gender were bonded with their mothers even though they desired individuality. The strong closeness and intimacy shared between mother and daughter might affect interests related to understanding women's health issues. Khair's study revealed stronger ties with biological mother-daughter relationships in reference to roles and expectations than with non-biological mothers. Inherent cultural norms encouraged continual growth in the biological relationships; simply put, mothers and daughters would always be available for one another.

Developmental Adolescent Mother-Daughter Relationships

Developmental researchers have documented extensively how communication could be problematic in families where adolescents began to develop and cope with autonomy and independence issues, especially the adolescent female (Bowers, 2004; Fingerman & Lang, 2004). The adolescent period focused on developing self-determination and self-regulation within relational relationships; therefore, the most important familial relationship is that of the adolescent-parent (Fingerman & Lang). Given this stage of development, Erickson (1980) identified this period as one of identity

versus role confusion, where the adolescent attempted to deal with changes in numerous ways: cognitively, biologically, and more important, socially. The adolescent period was the most challenging as the teenager attempted to cope with maturity, physical developmental changes, and individuality. Family influence at this stage of development was crucial in the adolescent's developing behavioral, emotional, and value adjustments; however, these areas were not necessarily obtained successfully without adolescent-parent interactions (e.g., both parents and adolescents) struggling with communication patterns in new or changed situations creating awkward and stressful relationships (Fingerman & Lang). Sometimes the communication difficulties of the parent-adolescent relationship were motivated by specific gender-dyad dynamics (Arnett, 1999). The research supported that the mother-daughter relationship could be the most confrontational with regard to communication, but the two also had the capacity for connectedness (Fingerman, 2001; Miller-Day, 2004; Youniss & Smollar, 1985).

Fingerman and Lang (2004) discussed balancing individuality and relatedness in close relationships. For instance, in the adolescent mother-daughter relationship, as daughters attempted to be autonomous individually and at the same time attempted relatedness, they experienced a uniqueness of positive and negative ups and downs in their relationship that this was considered natural in a close relationship. In a study conducted by Hill, Mullis, and Smith (1995) examining perceptions of reported autonomy, intimacy, conflict, self-esteem, and quality of their relationship in 221 post-adolescent mother-daughter dyads, the researchers determined that the more individual autonomy achieved the greater the mother-daughter attachment. Although the mother-

daughter relationship could be confrontational and challenging, communication between the two could be positively influential for the family relationship (Apter, 1990).

An empirical study of mother-child relationships (Lichtman, 1984) found that a mother's breast cancer diagnosis and treatment played a role in changed relationships. Children in this study were defined as school age and adolescent girls and boys. Lichtman conducted interviews with 78 women newly diagnosed with breast cancer between the ages of 29 and 78 years old. Sixty-three of the subjects' significant others also participated in the interview. The researcher's interest was whether there was a significant change in the mother-child relationship after breast cancer diagnosis. The study reported that, while the majority of the mother-child relationships remained robust after experiencing breast cancer, about 12% of the relationships worsened. Some difficulties experienced by a few of the children consisted of changed communication patterns, especially if the breast cancer related to poor prognosis or death; expression of anger; and problems with school productivity. Lichtman neither studied nor evaluated the children's perspectives, a limitation of the study and relevant to further research involving breast cancer communication. These issues occurred because of the mother's encounter with a devastating prognosis, intense surgeries, and problems in adapting to the diagnosis and treatment. The results also revealed that the specific mother-daughter relationship suffered greater than the mother-son relationship with inferences from the daughter's fear of inheriting breast cancer and the increased demands placed on the daughters by the mothers.

A diagnosis such as breast cancer might cause difficulty in mother-daughter connectedness because, as the young adult daughter matured and attempted to cope and

manage the difficulties of young adulthood, this devastating disease could interfere and complicate the growth of the relationship (Kenemore & Spira, 2000; Sigband, 2001). Young adolescent girls expressed more distress overall related to the diagnosis. Sigband's aim was to evaluate family dynamics, both socially and personally, as they related to a chronic illness and its treatment. The theory of reasoned-action, as the theoretical framework for the study, was valuable in understanding breast cancer screening and prevention practices among African-American women. For an empirical study, the sample size was small and there was no indication of ethnicity representation, but the author identified the need for continual research. In an effort to encourage parent-child relational satisfaction, clear and open communication ought to take place (Apter, 2001).

Mother Adult-Daughter Relationships

As the adolescent mother-daughter relationship progresses to the mother-adult daughter level, the relationship begins to improve with less conflict and complicated adjustment problems (Apter, 1990; Fingerman, 1997). The mother-adult daughter stage continues to evolve over the relational life span; relational maintenance strategies continue to be important in family dynamics (Vogl-Baur, 2003). Strong mother-adult daughter relationships develop as both age; they share positive qualities, warmth, and compassion for one another in the growth of the relationship (Fingerman & Lefkowitz, 2003). The mother adult-daughter relationship tends to be more intimate involving support and care for one another. Fingerman and Lefkowitz found daughters to be the primary caregivers of their elderly parents as opposed to sons.

Mothers are important to the relational development of their adult daughters. Mothers have the opportunity to participate in how their adult-daughters mature, learn,

and care for self. In addition, mothers are positioned to teach their daughters how to acquire problem-solving skills and behaviors. Daughters are extensions of their mothers across generations and are often relationships of a tremulous nature; encountering ups and downs, attached and yet detached when the daughter desires separation of self from mother at particulate instances of the relationship (Miller-Day, 2004).

The mother-daughter intergenerational tie is the most perplexed relationship throughout the life span, especially at the mother adult-daughter level as the mother ages. The relationship is one that is of an oscillating nature with positive and negative emotions (Fingerman, 2001). In her in-depth study of 48 pairs of mother and adult-daughters, Fingerman identified that mothers and daughters battle with attempts to balance desires of intimacy and their need for autonomy. Situations exist within the relationship where both mother and adult-daughter experience intimacy and love, but also share feelings of hurt and betrayal by each other. The mothers in this study ranged in age from 69 to 93 years old, all healthy, and daughters were between 32 to 58 years of age. Mothers and daughters were in close proximity and communicated frequently, either on the telephone or in person during visits. Mothers described benefits relating to the relational involvement with their daughters, even in merely talking. Daughters on the other hand, described intergenerational tensions in relation to intimacy and demands. The notion that the mother constantly views herself as she views her daughter, meaning that the mother's sense of self derives through the living of her daughter, could compound the fluctuating complexity of the mother adult-daughter relationship. The predominant limitation of Fingerman's study was that the subjects were all Caucasians.

Despite some of the problematic issues that mothers and adolescence daughters experience, mothers and adult-daughters tend to communicate about lifestyle, choice of a mate, church, spiritual values, divorce, and psychological and emotional issues (McEwan, 1992). Mothers have a tendency to see their relationship with their daughters as more positive than their daughter's perception (Fingerman, 2001; McEwan). Multiple factors influence mother–adult daughter relationships: mothers thinking their daughters are grown-up women; daughters longing to be grown and independent; mothers dealing with their daughters' extracurricular activities like drugs, alcohol, and alternate lifestyles; daughter's choices about becoming professionals or stay-at-home moms; and economic and societal pressures (McEwan).

As young adults, daughters learn and emulate their mothers. Some daughters depart from the parental home and take with them all that have been socially passed down to them. Their responsibility as an adult includes being available to their husbands and children, keeping negative feelings to themselves, and assuming the majority of household work (McEwan, 1992). McEwan reported that 38% of adult-daughters ($n = 30$) indicated an excellent relationship with their mother, 49% ($n = 39$) related an average relationship with their mother, and 13% ($n = 10$) stated a poor relationship with their mother. In addition, daughters in this study who experienced a positive relationship with their mothers had high self-esteem and an overall happy, satisfactory life. Although the mother-daughter relationship is a dichotomy throughout their lifespan, being both positive and negative, the dyad shares a special bond (ACS, 2008; Adams, 2007; Aldridge et al., 2006; Chang, 2006; Guadagnoli et al., 2006; Underwood, 2006).

Health care providers could encourage these relationships to move toward improving health care practices in both parties. This presents an opportunity for nurses to assess and teach mothers and adult daughters about health and well-being.

African-American Mother Adult-Daughter Relationships

The raising of African-American daughters is replete with the racial inequities of society. Historically, African-American women were socialized under the governance of oppression, discrimination, and indifferences. Consequently, African-American women in today's society are socialized to be stronger, more independent and, in some cases, to oversee the majority of household functioning (Joseph, 1991). Many of these families are poor leading to significantly increased stress, distress, and contributing to a number of health conditions. Some African-American mothers and daughters unfortunately share a history of continual relational difficulties linked to living in a predominantly White world placing them at a disadvantage in surviving socially, financially, and emotionally (Jacobs, Penn, & Spieth, 1993). A fragmented body of written information relates to African-American mother-daughter relationships, especially in literary and social sciences analyses. As with some White mother-daughter relationships, some African-American mothers and daughters share amazingly diverse as well as common entities in their relationship that convey connectedness. Because of their profound socio-historical differences in being raised in a primarily White society, some African-American women, upon initially holding their baby daughters, worried and prayed that their daughters would experience as many joys and as little difficulties of hatefulness as possible while developing into both their cultural Blackness and their womanhood (Joseph).

A discussion of the relevance of sexism and family separation in the African-American communities is imperative in order to appreciate the African-American mother-daughter relationship. During slavery, African-American women were socially oppressed, devalued, sexually victimized, and often separated from their children and family members (Joseph, 1991). At that time, African-American women were oppressed in numerous ways and such oppression and devaluation led to the belief by many professionals “that the degenerateness of blackness is passed down through black women” (Erskine, 2007, p. 33).

Given the past in the African-American mother-daughter culture, it is common for a daughter to have several mother models. These mothers step in and assist with caring for the daughter (Joseph, 1991). Other neighborhood mothers and older extended family members help influence what daughters learn and assist with preparing them to live in a society that devalues them. Many African-American mothers work hard at keeping their families together through economic stability, something that may limit their ability to be present for their children. Unfortunately, researchers and professionals perceive such absence as neglect instead of love that the mother intended (Hinson-Johnson, 2004). The neighborhood *other* mother provides the care and affection for the daughters, while the biological mother works. This practice reflects the *village* concept carried over from Africa in which the community cares for one another in an effort to save the whole. Such cultural connectedness enables African-American women to become strong, independent, and ready to manage the responsibilities placed upon them (Hinson-Johnson; Joseph).

Penington (2004) reported that Black and White adolescents identified 83% of parents, especially mothers, as a source of positive feelings, followed by friends (29%)

and God (25%). In this study, African-American mothers saw their teacher role as important for their daughter's lifelong learning. Unfortunately, this dyad can experience turmoil as both mother and adult-daughter engage in a power struggle (Joseph, 1991). Yet despite the cruelty often inflicted, they typically love and respect each other and are forever connected.

Health Behavior Decision-Making Models

Numerous health behavior decision-making models are utilized in explaining behavior or the notion to act. The decision to take action involves cognitive interactions between the individual's beliefs, attitudes, and one's environment (Rimer & Glanz, 2005). In explaining preventive behavior, some theories view behavior in terms of cost and benefit towards changing that behavior; however, this only works if the person is well informed and has had enough experience to form an opinion (Washington State Department of Health, 2008). Four such theories include the following: Health Belief Model (HBM), Social Cognitive Theory (SCT), Transtheoretical Model (TTM), and Precaution Adoption Process Model (PAPM). These theories or models are similar in that they view behavior change occurring in stages. In order for change to occur using the HBM model, behavior is dependent on five factors; the operative word for each is *perceived* (i.e., severity, threat, benefit, barriers), except for the last, self-efficacy. The SCT theory utilizes five proposed constructs to explain behavior change (i.e., reinforcement, behavior capability, expectancies, self-efficacy, reciprocal determinism). According to the TTM model, one must go through five stages for change behavior to occur (i.e., precontemplation, contemplation, decision, action, maintenance). Lastly, the PAPM model influences change in behavior through deliberate action as oppose to

gradual habit development; it too focuses on levels of change (i.e., unaware, unengaged, deciding about acting, decided not to act, decided to act) and acting/maintenance.

Although these models maintain factors that are influential in health care changed behavior, they were not compelling enough to support this study.

Thus, this study will utilize the Theory of Reasoned Action (TRA) as it represents a more robust model relating to African-American women making health care decisions (see Figure 1). TRA is a theory rather than a model; as designed it allows for statistical generalizations that predict behavior, especially attitudes and behaviors occurring in large groups of people. The two major constructs here relate to how strongly African-American women believe that changing their behavior (e.g., increasing breast cancer screening activity) will reduce the threat of the disease, and the social norms (e.g., beliefs about what significant others or community may think about the practice of the activity), perceived risks, and the advantages associated with taking action. The theory basis is that people (e.g., African-American women) consider numerous factors prior to making a decision to act or not to act on a particular behavior. This consideration about actions is based on intentions to act. The intention to act is comprised of the individual weighing his or her attitudes and subjective norms. The TRA assumes that people will usually act upon their intentions. The theory supports the consideration of others (e.g., family, friends, peers, physician, neighbors) when an individual or group is in situations of making social-psychological decisions. Furthermore, the TRA theory considers attitude and behavior to be positively correlated, promoting positive action tendencies. The

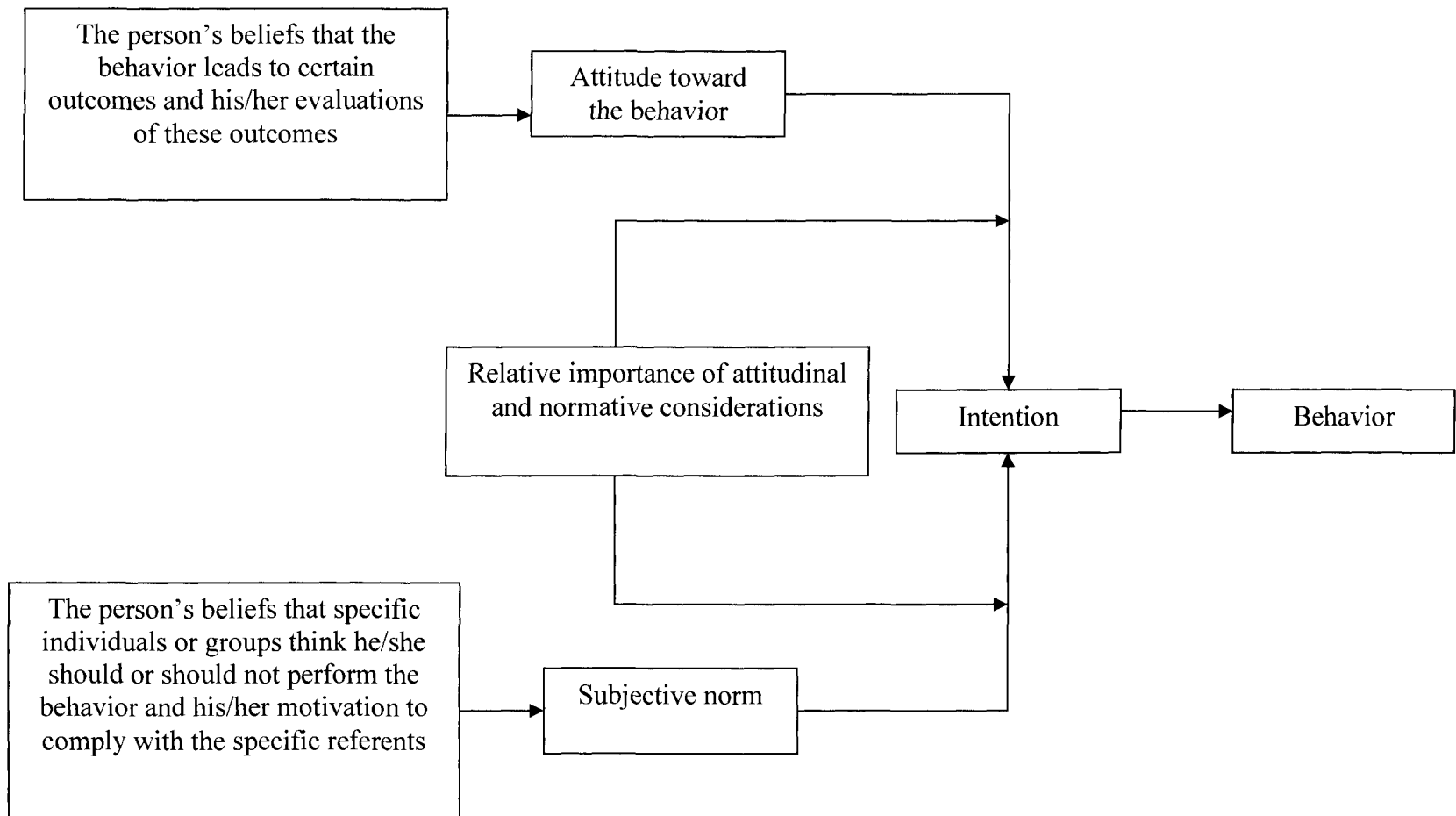


Figure 1: Reasoned Action Model - Ajzen & Fishbein, 1975

behavioral influencing variables of knowledge, risk perception, and communication are consistent with the theory relations of knowledge (i.e., notion or concept of threat), feelings about the attitude and behavior, self-efficacy, and intentions and balancing of attitudes. These attitudes are perceptions of benefits (e.g., attitude versus behavior in this study reflects breast cancer in opposition to the attitude toward mammography activity).

The four major constructs for the TRA are as follows:

1. *Belief*: a person's belief that performing a behavior of interest will lead to a particular outcome (e.g., breast health and/or breast cancer communication [the behavior] encourages participation in screening activity [the outcome]).
2. *Attitude*: beliefs that are accumulated over time, formed by personal experience, or possibly inferred by others (e.g., a breast cancer individual who believes in breast cancer screening activity because she has dealt with the disease process, a strong belief that the outcome of the action will be positive or negative).
3. *Intention*: the probability to perform the behavior. This intention encompasses the individual's attitude and subjective norms, although other variables may impede this process (e.g., demographic variables).
4. *Behavior*: the transmission of intention into action.

Furthermore, a person may be influenced by other factors that prohibit a person from responding intentionally (e.g., someone with personality traits, someone who thinks irrationally). Lastly, the modifying variables to the model for this study are knowledge, risk perceptions, communication, beliefs, self-efficacy, psychosocial variables (e.g., preferences, past experiences, influence of others), and demographic variables (e.g., age, income, gender, SES).

Just as there is usefulness to the TRA, there are limitations to its use. The theory is comprised as self-reporting ; as with this study, there is no direct observation of the information being reported; attitude and intention must occur concurrently for action to take place, but there is no measure of this; and there is limitation to someone who would not be able to make a conscious choice (e.g., volitional). From these theoretical perspectives, the research questions were developed.

Research Analysis and Outcomes

Research Questions

1. How effective is African-American mother-adult daughter breast health and breast cancer communication in encouraging early breast cancer screening activities intended to have a positive affect on the daughter's potential for acquiring the disease?
2. What are the relationships among knowledge about breast health and breast cancer that adult-daughters receive from their mothers, daughters' perceptions of the quality of the mother-adult daughter relationship, daughters' perception of their own health, daughters' perception of their mothers' health, and selected demographic variables?

Hypotheses

The hypotheses related to this study were:

1. There is no relationship between the variables of breast cancer knowledge, breast cancer risk perception, mother-adult daughter communication, and participation in early breast cancer screening activities.

2. Demographics, breast cancer knowledge, breast cancer risk perception, and mother-daughter communication predict participation in early breast cancer screening activities.
3. Breast cancer knowledge and risk perceptions moderate the effect of demographics and communication on early breast cancer-screening activities.

In analysis, the hypotheses was tested by using descriptive correlations and regressions to examine the relationships among variables. The Statistical Package for Social Sciences (SPSS) Version 10 (SPSS, Inc., 1999) was utilized for all data analysis. A non-partial statistician contracted by the investigator will manage the data analysis. All significance testing will be conducted with an alpha level of 0.05. The effects of the demographics will be studied.

Mammography use by African-American women tends to be limited when compared to Caucasian women. For example, in 2007, 52.9% of White women used mammography while only 49.9% of Black women used mammography (ACS, 2008). Once African-American women initiate mammography, they are less likely to maintain screening (Champion, Russell, & Skinner, 2006). One key predictor involving mammography use is age; older-adult women are less likely to conform or maintain that practice (ACS). The belief towards the desired behavior, in this case encouraging breast screening participation, is based on attitude, strong intention, and self-efficacy as communicated by the TRA. Intentions for change in behavior may be established towards increasing positive outcomes if specific variables are identified, encouraged, monitored, and adapted when appropriately specified. Mammography is only effective in decreasing mortality if closely linked to early detection. In this case, the benefits outweigh the odds.

Because African-American women have been understudied with regard to breast cancer disease and means of increasing screening participation and because this group shares the greatest loss relating to mortality, this study focused on breast screening activities with African-American women. The intent was to demonstrate that desired behavior can be predicted by TRA constructs: belief, attitude to change, and intention. The belief could be reflected in the individual evaluating or weighing the benefits and costs of the desired behavior. In addition, assessing risk perception in relation to barriers was a part of this process. Breast health and breast cancer knowledge were important determining factors in assessing solutions to mortality reduction. This study utilized the SPSS for the quantitative analysis of the mother-daughter self-survey instruments. The qualitative aspects of the surveys were self-reported.

Adult-Daughter Breast Cancer Screening Decision-Making

Multiple factors influence the African-American adult-daughter decision-making to participate in breast cancer screening activities: cognition, beliefs, values, perceived risks and benefits, breast health knowledge, previous health care experiences, education, lack of insurance, SES, religion or fatalistic viewpoint, experiences of oppression, and racism. There is a limited body of research regarding African-American women's decision-making processes about breast cancer screening activities, more specifically mammography. Fowler (2006a) looked at 30 African-American women ranging in age from 52 to 71 years in varied SES. The initial sample consisted of 16 women with a median household income of \$14,260, employed, retired, or medically disabled. Subjects were predominately single, widowed, or divorced. Most were also caregivers to older family members. Such responsibilities could serve as a deterrent to the African-American

woman's participation in health screening activities as her own health may not be viewed as an economic or personal priority in her life. The outcome of the study found that only one-half of the subjects obtained a mammogram during the previous 2 1/2 years.

The emergent theory, *Claiming Health*, was utilized in defining decision-making as it related to mammography screening. A few subjects refused to accept dimensions of health, including diet and exercise (Fowler, 2006a). These women chose instead to believe that health was closely connected to social (e.g., cultural heritage), spiritual (e.g., religious beliefs and supports), and mental dimensions (e.g., personal meaning of prior negative experiences with health care professionals or systems). Additionally, the women claimed health related to sisterhood and the church (e.g., supported by others' beliefs) and traditional beliefs trickled down from generation to generation. One subject stated, "My great-grand mother was 113 when she died. She did not get a mammogram. She did not need it. All of the women in my family lived a long life." (p. #). Sixty percent or more of the subjects were discouraged by the attitude of their male physicians. Ninety-seven percent of the women communicated beliefs that were generated from ancestors' values and experiences acquired during slavery times (Fowler). Other researchers have also found these engrained beliefs to affect the African-American woman's choice to obtain mammography screenings (Berry-Bobovski, Gold, Levin, Mellon, & Tainsky, 2006; Edwards, Unigwe, Elwyn, & Hood, 2003).

In studying family dyads with 27 Caucasian and 12 African-American women, Berry-Bobovski et al. (2006) revealed that diversity communication patterns existed with some family subjects. For example, some were open in discussions of their disease process while others preferred silence. The study described how family members

communicated about cancer risk and the factors that might affect how individuals and/or family members discussed and decided about informed decision-making. Similar to the present study, the authors looked at cancer risk knowledge, perceptions, and family communication. The findings revealed that diverse family communication patterns existed and not all members were informed enough to make an important decision about health. In a similar article, Fowler (2006a) determined that women's decisions about mammography screening were linked with five social processes: (a) acknowledging prior experiences with health care providers/systems; (b) reporting fears and fatalistic beliefs of breast cancer and related treatment; (c) valuing the opinions of significant others; (d) relying on religious beliefs and supports; and (e) caregiving responsibilities of significant others. Fowler further categorized these into three separate decision-making styles of taking charge, enduring, and protesting. In this study, subjects were consistent in affirmative statements that reverently emphasized decisions to disregard participation in mammography screening. Thus, to help adult African-American women make informed, cogent decisions about participating in mammography screening, health care providers and health care professionals (e.g., nurses) must communicate honestly, openly, and culturally with the women at the context level in which they tend to make decisions about health care practices. Researchers must continue to explore the notion of social process influences that may play a role in African-American women's participation in mammography screening activity.

Theoretical Framework

Health behavior decision-making models utilized in previous research studies involved African-American women's participation in breast health screening activity.

Since African-American mother-adult daughter dyads are potentially important in affecting morbidity and mortality rates relating to breast cancer, one important theory to frame this study is the TRA (Ajzen & Fishbein, 1980); the operation of this theory is the Information-Motivation-Behavioral (IMB) model. This model reflects perceived susceptibility with severity motivating action while perceived barriers block the chance for change (Ajzen, 1998). Becoming proactive about one's health is heavily influenced by one's perceptions, social and cultural norms, and the action's perceived benefits. Within the context of these perceptions lies the TRA that focuses on the predictability of decisions and actions influenced by attitude, social and personal norms, perceived control, benefits of action, and risks associated with the ultimate decision (Ajzen & Fishbein; DeBono, 1993). The theory also entails the concept of learned behaviors and conscious decisions and actions (Ajzen & Fishbein). The TRA conforms to a social learning theory focusing on a social-behavior model that encourages behavior change.

To address one of the problems contributing to the high morbidity and mortality rates among African-American women with breast cancer, the lack of early screening and interventions to identify and treat breast cancer, this quantitative research study was proposed.

Summary

Breast cancer morbidity and mortality rates among African-American women with breast cancer continue to be a national crisis. There are physiological, psychosocial, cultural, and health care system explanations for the crisis; however, with the knowledge of these associated factors, the crisis has yet to cease or decrease. To date, African-American women inadequately participate to ameliorate this crisis. This study was

important in acquiring and encouraging breast health and breast cancer knowledge with the understanding of how health care professionals are in opportune positions to educate African-American women about benefits concerning early detection and prevention. The knowledge gained could be of value to all health care providers: physicians, nurse practitioners, nurses at the bedside, and educators, when performing physical examinations and collecting the necessary health histories and health practice behaviors of these women. Additionally, the learned knowledge could benefit health care professionals in culturally individualizing health care approaches that might assist with some of the barriers attributed to poor breast cancer prevention participation (e.g., monthly breast self-exam [BSE], mammography).

Findings from this study could present the opportunity towards establishing specific cultural guidelines beneficial to the African-American woman. Health care professionals at numerous levels are in prime positions to facilitate healthy lifestyles, assess patient's knowledge and practice techniques (e.g., BSE), encourage quality of life, and decrease unnecessary emergency visits along with medical cost. This study proposed to look at what could be done to protect the daughters of these women from potentially suffering the same fate and whether health care providers had enough information about the mother-adult daughter relationship, in particular the African-American population, to know whether an intervention at this level could be beneficial. Using the theory of reasoned action and the information-motivation-behavior model as a framework, this study explored this relationship phenomenon.

Nursing Research Considerations

The majority of the literature researched for this paper supported increased communication with nurses educating mothers and adult-daughters relating to breast cancer, particularly oncology nurses. Both quality and quantity was imperative to mother-child communication, both in general and especially with mothers and adult-daughters, if the focus was on increasing detection and prevention of breast cancer and decreasing breast cancer mortality in African-American women. In order to have a positive parent-child dyad, factors that might present interference have to be taken into consideration (e.g., if a child felt anxiety in communicating with a parent, the parent-child relationship would benefit by understanding the source behind the anxiety).

There was a relevant need to continue research on mother adult-daughter communication in a strong effort to promote, encourage, and improve breast cancer prevention and detection. Mothers have had the opportunity to share their significant education in breast health to their daughters. Mothers might lack the skill and self-efficacy essential in communicating with their adult-daughters about breast health or breast cancer. Community-wide educational programs about breast health and cancer prevention would benefit in assisting to inform and educate their daughters. Mothers have been an integral part of the breast health and breast-cancer prevention team, particularly involving how to establish a breast-health communication moment with their daughters, learn about their own fears and anxieties relating to breast cancer knowledge, and ways of promoting communication. Many African-American women have been encouraged towards positive health-seeking activities more so from information and shared stories by

other African-American women who experienced similar problems and survived (Russell, Shedd-Steele, Skelton, & Swenson, 2003).

Understanding individual and cultural health practice beliefs is a key to a positive mother-daughter relationship. The concept of communication is correlated with health maintenance. Communication about breast health has to be instituted by health care professionals (e.g., nurses, physicians, social workers) to enhance and demonstrate the need for prevention and health maintenance. Research involving culturally diverse populations with regard to health practices is valuable in helping to identify and specifically promote teaching and encourage health care prevention strategies. Nurse practitioners, community nurse educators, as well as bedside nurses should participate more in performing community-based research that supports increase communication and health maintenance regarding the detection, prevention, and screening of breast cancer. Although breast cancer is associated with some fear, African-American women do not have to accept blindly with the fear of the disease or fear of discourse about the disease, but rather to know, fight, and live.

CHAPTER 2

Review of the Literature

This study will focus on African-American mother and adult-daughter dyads and intergenerational communication about breast health and breast cancer. The literature review will discuss breast cancer morbidity and mortality in this population of women and the contextual constructs related to information, attitudes, communication, and decision-making. Further discussions will hinge upon particular perspectives of interest relative to breast cancer screening activities in adult African-American daughters of mothers diagnosed with breast cancer.

Disparities in Breast Cancer Morbidity and Mortality

Women whose mothers have breast cancer might be at a greater risk of developing breast cancer secondary to the genetic inheritance of cancer susceptibility. Some African-American women with a family history of breast cancer could be at risk for significant negative consequences of breast cancer but be at even greater risk when they delayed treatment in the presence of the disease (Borland, Clarke, & Williams, 2000; Dagan, & Gershoni-Baruch, 2002; Donovan & Tucker, 2002). African-American women with breast cancer have had the highest mortality rate of any other population

(American Cancer Society, 2008; Clarke & Savage, 1996; Clilton, & Jones, 2002; Newman, 2005). In assessing mortality, a review of risk factors for both personal lifestyle and probable stage is imperative. Prognosis for some African-American women with breast cancer has been dismal and linked to numerous factors. The literature supported obesity, age at menarche, late stage diagnosis, SES, specific biological factors, lack of involvement in exercise, lack of access to health care, and dietary management issues (Calle et al., 2005). Mammography has improved survival and positively effected mortality. The 5-year survival rate for this population was 63% compared to 78% for their White non-Hispanic women counterparts. A major focus for this study was examining any disparity in cancer screening as it related to risk perceptions of breast cancer and whether there was a hindrance in participating in prevention methods. A greater part of the literature maintained that a discrepancy existed in African-American women's participation in breast cancer screening activities along with inconsistent maintenance due to cultural beliefs, education, social factors, and knowledge of BSE and mammography (Guadagnoli et al., 2006; Krieger, 2002b; Newman, 2005; Okunade, 2003; Petro-Nustas, 2002; Russell et al., 2004; Thomas, 2004).

Although the controversy about what risk factors precluded African-American women from participating in routine breast cancer screening activities, and some continue to question the efficacy of mammography, the ACS-recommended guidelines for BSE as early detection and mammography has been significant in explaining difference in mortality rates (Thomas, 2004).

Mammography and African-American Women

A mammogram is an examination of the breast by x-ray for the purposes of early detection in relation to breast cancer. The ACS (2008) recommended a screening baseline at 40 years of age then annually at 45 years unless a specific problem was identified necessitating annual exam earlier. Mammography use in African-American women continued to require effort causing these women to underutilize this identified method of early detection for breast cancer. This underutilization could explain the high mortality rate among these women. The percentage of women diagnosed with breast cancer after mammography screening was low; a range of 4% - 7.1% (Paskett, et al., 2006). Regular mammography by African-American women ranged between 4.2% to 83% (Champion et al., 2006).

Some factors that explain the underutilization of mammography in African-American women pointed to the lack of health insurance, not having a health care provider, insufficient knowledge about mammography, fear of procedural pain, lack of transportation, and the notion that mammography was not necessary because of one's low-risk status (Paskett et al., 2006; Cain, et al., 2005; Centers for Disease Control, 2008). Adversely, researchers communicated mammography's demographic predictors: higher income levels, age, race, marital status, having a health care provider, routinely receiving a reminder notice for mammography, having insurance, having a family history of breast cancer, practicing exercise, and having knowledge of breast screening guidelines (Calvocoressi, Claus, Jones, Kasi, & Stolar, 2005). Calvocoressi et al. spoke about psychosocial predictors to mammography. Women were just as encouraged to practice mammography if they perceived the importance of obtaining one, having

confidence that they could get it done, and high-perceived susceptibility to breast cancer encouraged participation. In Calvocoressi et al.'s study looking at effective utilization of predictors to promote adherence in mammography, compliant women tended to be White, younger, married, and of higher SES. The population comprised 1,451 women between the age of 40 and 79 years old; African-Americans represented 43.8% and Whites 56.2% of the sample. The authors also concluded that women with full, annual screening mammography insurance were no more compliant than those who did not have insurance. Women reporting moderate breast cancer susceptibility were more likely to adhere to the recommended mammography schedule when compared to those reporting high or low susceptibility.

Champion et al. (2006) documented other factors that affected African-American women's lack of participation in mammography screening. These researchers reported a substantial knowledge deficit regarding recommended mammography guidelines perhaps related to confusion about the guidelines. Therefore, the lack of education could possibly be a negative factor. In assessing factors affecting African-American women's adherence to mammography, a study by Calvocoressi, et al. (2007) observed three SES measures in African-American and White women (i.e., years of education, family income, occupational ranking based on the Duncan Socioeconomic Index adapted for spouse pairs). They concluded that, among African-American and White women, race differences in factors that predicted increased contact with health care providers were more prevalent in White women. The report stated that African-American women received inadequate communication compared to their counterparts and a difference in

adequate communication if the subject received her mammogram report from the facility over her specific primary care provider.

African-American Women and Decision-Making about Mammography

African-American women's decisions regarding health care utilization and health care maintenance, including mammography, has been influenced by many factors appropriate to the perceived perceptions of the population. Some of these factors pointed to cost, the right-fit primary provider in association with fluctuating health maintenance organizations (HMOs), and economic constraints (e.g., ability to make co-payments at office visits). Personal issues could also be involved including age, fear, fatalism, and cultural sensitivity to such factors where fear and lack of knowledge equaled embarrassment for some (Fowler, 2006b; Cohen, 2006). Generational factors like traditional values, ancestral myths, human dignity, and taking care of others before self (e.g., being mother and wife first) were pivotal to decision making. A popular fear among African-American women was being told after having a mammogram because they might have breast cancer; this influenced decision-making regarding mammography. In addition, some women thought that if they felt healthy, there was no need to seek medical assistance, especially as prevention (Calvocoressi, et al., 2007; Dodd, Facion, Miaskowski, & Paul, 2002).

Fatalistic beliefs stemming from slavery conditions of long ago have been salient to mammography screening decision-making by African-Americans, both men and women. Unfortunately, this belief might be true today with some African-Americans and placated on the notion of punishment; *It is God's will that I have cancer* (Cohen, Phillips, & Tarzian, 2001; Daniels, Finnie, & Powe, 2005; Erskine, 2007). These dimensions

represented a myriad of cultural factors that impede one's seeking health care and maintaining necessary follow-up (e.g., *I didn't want to bother anyone; This is deemed by the Lord*). This cultural belief has hampered communication with family members about a particular disease process and allowed religion to take precedence over one's life that could result in subsequent, unnecessary death, especially in older generations (Finnie & Powe, 2003; Hamlyn, 2008).

In a study by Juarbe, Kaplan, Karliner, Pasick, and Pérez-Stable (2005) of 970 women between the age of 40 and 80 years old, upon receiving reports of abnormal mammograms, reported that 70 % of these women had a full understanding of their results as communicated by their physician. In this same study, 30% of a minority reported somewhat of an understanding about their abnormal mammogram. This multicultural study included African-American women ($n = 240$; 24.4%), Asian women ($n = 142$; 14.6%), Latina women ($n = 181$; 18.7%), and White non-Hispanic women ($n = 407$; 42%). Thus, a lack of communication or unclear communication was relevant to health care decision-making. According to Banks-Wallace, Enyart, and Johnson (2004) who recruiting African-American women ($n = 20$), among others, for participation in a sedentary hypertensive study (i.e., not engaged in non-work physical activity), some of the African-American women appeared edgy concerning the intervention and others demonstrated concern at having non-African-American team members present; a reluctance to open up and communicate to others. In this study, the allotted recruitment timeframe was 3 months; it was evident that recruiting African-Americans for a study could require much time. The women expressed a strong desire to have African-

American team members available rather than White members. African-Americans were more apt to communicate in the presence of their own cultural mix.

The communication process between patient and health care providers was another key connected to African-American decision-making. The literature encouraged primary care physicians to communicate with African-American women relating to breast cancer screening (e.g., mailing mammography reminders especially if the previous was abnormal) and follow-up (Edwards et al., 2003). Building the trusting relationship was imperative with this population because of the distrust that culturally trickled down from years past. As it was communicated, the first impression was what helped in building a necessary relationship. A specific respect of both parties was needed and in this manner the African-American patient was encouraged to seek health care, participate more in screening activities, and be a part of the appropriate, true health care outcomes for this population (Cooper, 2004).

Ways of communication was another important dimension towards decision-making practices by African-Americans that represented itself as a discrimination disparity. Balsa, McGuire, and Meredith (2005) examined *statistical miscommunication* (i.e., clinical uncertainty) by looking at 523 clinicians selected from the Medical Outcomes Study (MOS) from three health care systems (i.e., HMO staff, multispecialty groups, independent practices). A representative cross-section of patients ($n = 21,480$) were selected from a pool of adults seen by the above providers over a 9-day period. The researchers also assessed a subsample of patients ($n = 11,664$) chosen from the MOS data that were patients of White family physicians or internists. They determined that significant statistical discrimination by some physicians relating to diagnoses of

hypertension, diabetes, and depression, all of which were prevalent in African-Americans. Race did make a difference in decision-making patterns between physicians and White and minority patients. With miscommunication being a disparity, physicians needed methods of communicating effectively with their patients. Thus, effective physician-patient communication was imperative to proactive decision-making and positive health care outcomes for both the patient and the physician that might encourage long-standing, trusting relationships.

Risk Perception and Breast Cancer Screening

The literature related to risk communication was well substantiated (Jacobs, 2000); however, the communication of the word risk as conceptualized was defined and understood differently in many languages and cultures, including the field of nursing. The concept of risk varied in degrees of meaning, carrying both a negative and positive connotation. In the scientific world, risk was theoretically linked to health-related concerns, translating *risk* in a danger sense and *high-risk* as a lot of danger. Over the decades, the term, risk, had been communicated by researchers, technology, the media, and others as being synonymous with severe danger or, in some cases, death. Individuals became conditioned to the meaning of numerous variables as they were consistently communicated across time. Jacobs referred to this as the *lay experience*, so risk acquired its own culture where the public became dependent on its communication as indicative of danger and beyond this belief followed categorical translations: voluntary risks versus involuntary risks. Interestingly, the public would be more willing to accept controlling risk (e.g., obesity, unprotected sex) than uncontrollable risk (e.g., radiation, second-hand smoke exposure).

Risk perception varied with each individual and was vital to understanding decision-making; therefore, early breast cancer detection practices might not be utilized if specific life events prevented initiation or follow-through (Lawson, 1998; Underwood, 1995). All women with a family history of breast cancer were at risk for the disease secondary to the familial link, but they might never actually acquire the disease. However, there was enough evidence in the literature to indicate that family history was a significant risk factor (Chalmers, Luker, Leinster, Ellis, & Booth, 2001). This greater risk position of developing breast cancer increased with the notion of a woman's first-degree relatives presently having the disease or being previously diagnosed with the disease (Underwood, 2006). Other reported breast-cancer risks were low SES, limited education, obesity, and from African-American race or Hispanic ethnicity (Bibb, 1999; Blount, et al., 2002).

Krieger (2002b), conversely, reported no link between population breast-cancer rates and SES. Within the past 50 years, the U.S. government only researched 10 population-based studies for SES gradients in association with breast cancer incidence. Breast cancer did not involve a selection process; it struck randomly, whether the woman was affluent or the country in which she resided was affluent (Krieger, 2002a). The inconsistency in the literature implored researchers to question whether SES was a strong predictor to breast cancer. Being at risk could affect how an individual or group might make choices and initiate action. In line with the theory of reasoned-action (Ajzen & Fishbein, 1980), these risks could be interpreted differently depending on SES, age, culture, and gender. Such interpretations affected attitudes, motivation, and perceptions of self-efficacy that interfere with relationships.

Biradavolu, Fenn, Keller, Lipkus, and Rimer (2001) conducted a pre-post, quantitative, descriptive study of the peril of informing women about their risk for breast cancer and their perceived 10-year risk of the disease. They examined women's emotions involved in contracting the disease and the subjects' intentions for getting mammograms. The researchers utilized newspaper advertisements to recruit 121 women aged 40 years and older. Of the subjects, 73% were White, 23% were African-American, and 4% were identified as *other*. The mean Gail score model utilized in measuring absolute risk took into account certain variables (e.g., women's age, breast cancer history, breast biopsies, whether they had children, the age of first live birth, age of menarche) to determine a mean Gail score of 2.65% ($SD = 1.13\%$, range = 0.4%-6.4%). The researchers found no significant differences in risk feedback as a function of age or education. White women perceived the information as being more informative than did African-American women ($M_{White} = 5.58$, $M_{African-American} = 4.67$, $t [117] = 2.64$, $p < .002$); 84% of the subjects reported correct Gail scores. Results revealed no other significant difference in pre-post measures. In this particular study, risk information did not have an effect or increase in a woman's decision to get a mammogram.

Information control, in which a woman managed the information that she wanted to receive, could be a strategic process in reducing fear and anxiety concerning risk information and could be utilized preventatively (Biradavolu et al., 2001). For example, 73 metastatic and non-metastatic African-American women who participated in a one-year follow-up, randomized control study demonstrated improved breast cancer knowledge after their participation in a psycho-educational support group (Hrywna, et al., 2003). The study assessed knowledge of risk factors for developing breast cancer, signs

and symptoms, side effects of treatment, and treatment efficacy. The reviewed research analyzed variance with education and income as covariates and *group* as the independent variable. The authors concluded group assignment played a significant role in the prediction of knowledge, with the intervention group having higher levels of knowledge than the control group ($\rho \leq .01$). The strengths of the study correlated with the subjects as African-American, not usually a homogeneous group; the positive group process among the treatment group; and high attendance during the meetings. African-American women were the only cultural subjects studied, hence the small sample size.

An African-American woman's risk perception about breast cancer and her decision to act by participating in routine, recommended mammography according to the guidelines might stem from various ways of knowing and understanding of the meanings of risk perception (e.g., absolute risk, relative risk). The literature tended to state that African-American women with breast cancer fell into the relative risk category thereby underestimating their risk for breast cancer.

Historically, (Biradavolu et al., 2001; Burmeister et al., 2002) barriers that delayed breast cancer detection by some African-American women could be linked to mothers communicating to their daughters about unfortunate experiences with White, medical health care people. Another significant barrier involved a lack of knowledge concerning African-American's familial medical histories and, when told that ancestors died from such problems as heart disease and diabetes, people assumed they did not need to be concerned about cancer because they would probably die from the same disease processes as their ancestors. Other areas focused on poor participation in early cancer

detection centering on the distress or fear associated with gynecological examinations because it brought back unwanted memories of previous sexual abuse as a child.

Understanding risk factors, including belief systems, media understanding, religiosity, and trust, and how they relate to African-American women's perceptions about breast cancer risk might play a role in early breast cancer screening and detection participation. Research conducted on African-American women with breast cancer examined numerous reasons for poor screening and prevention activities. Previous breast cancer studies focused on psychosocial, SES, and biographic factors (Lawson, 1998).

Perceived Risk and Fear

Benedict, Coon, Holder, and Hoomani, (1997) conducted a retrospective, correlational, descriptive study to determine the performance frequency of BSEs, clinical examination, perceived risk, and fear of adult daughters of women with breast cancer. This study determined that 52% of women performed monthly BSEs and 48% performed BSEs either sometimes or not at all. Another 31% reported not having received any type of instruction or knowledge about the procedure. Fear was a barrier related to the performance of BSEs with significance between the relationship of BSEs and mothers talking with their daughters concerning breast cancer. In a qualitative study, African-American women spoke about their feelings of having breast cancer and the meaning of the experiences. They also spoke about their medical and family histories and their perceptions of how they felt medical professionals treated them (Moore, 2001). Talking with family and friends and communicating with social networks about breast cancer and its emotional and devastating concerns were found to have positive effects in African-

American women, believing that early detection, screening, and educational intervention could lead to positive outcomes (Borland, et al., 2000; Husaini, 2001).

Cultural Beliefs and Breast Health Screening

Currently, early detection and screening, involving BSE, mammography, and clinical breast examination (CBE) presents as best practices against breast cancer disease (Cohen, 2006; Della-Monica & Wood, 2005; Guadagnoli et al., 2006; Nasser, 2004; Underwood, 2006). A qualitative study done in New England by Fletcher, Nekhlyudoc, and Ross-Degnan (2003) explored aspects of decision-making of women under 50 years of age related to screening mammography and concluded that the risks and benefits of breast cancer screening dialog need to take place between health care providers and their patients. One finding in the study was that women shared expectations of being screened starting at the age of 40; this is thought to be the consensus throughout the general medical communities. The researchers conducted in-depth semi-structured interviews with 16 consented subjects, nine White and seven African-American, with 10 of these women having prior mammograms. Subjects were knowledgeable and in a higher SES. Factors motivating 40-year-old women to consider screening included believing in following recommendations, media motivation, self-efficacy, and a strong attitude that breast cancer disease was prevalent and screening could reduce the risk of death. Although the interviews shared important relative factors of breast cancer screening beliefs and practices, it lacked generalizability with its small sample size.

Themes prevalent to most of the qualitative literature regarding barriers to breast cancer screening participation in African-American women identified that family came first; thus, there was not enough time to get a mammogram. Other barriers identified were

financial burdens, both cost and being uninsured; transportation; health care provider barriers; accessibility to screening locations; perceived cancer susceptibility; accessibility of health care services; fear of mammography or having cancer, and lack of knowledge about screening and procedures (Cain et al., 2005; Champion & Scott, 1997; Cohen et al., 2001; Fletcher et al., 2003). Cain et al. explored the effectiveness of a church-based educational intervention program aimed at increasing breast cancer screening among rural and urban African-American women. Their study drew from an extended pilot study. These researchers compared two urban program groups with a pilot rural sample having received the partial program. With data collected from 108 subjects aged 40 years or older from West Tennessee, Cain et al. used three structured-interview periods: one at baseline, at 3 months, and at 6 months. Churches participated in promoting the program and recruiting the women. The full-program involved two parts, a group video and question-and-answer session, and a home visit by a lay home health educator. The partial program only involved the group video and question-answer session. One of the videos utilized, as recommended by ACS (2008), was specifically for African-American women. The subjects received educational materials, a demonstration of SBE with a breast model, and access to a mammogram through vouchers from ACS if the woman was without insurance. Difference of proportion z-tests were utilized in testing significant differences in percent change across time between rural and urban groups. Cross-tabulations with chi-squared tests assisted in determining rural-urban differences in reasons relating to not getting a mammogram, and independent t-test were used in assessing barriers to mammography screening. Perceived barriers relating to the women not obtaining mammography screening, both rural and urban, during the year prior to baseline, were

not thinking about getting a mammogram (first for the urban sample) and the *doctor not recommending a mammogram* (first for the urban sample- do you mean rural sample?).

The third common reason differed for the rural and urban groups. The rural group did not think a mammogram was necessary, believing the breast were healthy (36.8% rural versus 18.2% urban, $p = 0.04$). The urban group was concerned that the mammogram would be too painful. The rural group tended to report more barriers to mammography screening than the urban group did.

In an effort to encourage greater breast health screening participation in African-American women, a cultural qualitative study conducted by Russell et al. (2003) researched meaning of health in mammography screening with African-American women. The study focused on culture-specific beliefs related to breast cancer and communicating that culture played a pivotal role in health-seeking activities and outcomes. The results conveyed that mammography screening was a well known, publicized method utilized for early breast cancer detection and that numerous cultural considerations and/or factors could assist in influencing positive health-seeking activities. The strength of this study was the methodological use of divided occupational focus groups. The subjects consisted of 30 African-American women over 40-years-old from three occupational groups. The first group of 10 women encompassed executive, administrative, or professional specialty positions. The second group of nine women held technical and middle management positions and the third group consisted of 11 women working as service workers and clerical staff. All of the women had no previous history of breast cancer thereby making the results more reliable, valid, and untainted by previous histories. Soon after each session, the primary investigator and the research

assistant met to discuss general observations of the methodological process. An expert qualitative consultant, also part of the team, assisted in the transcription process. Utilizing content analysis, the researcher, consultant, and two African-American women reviewers, who were college students with a health care background) finalized the discussion sessions. The goal of the study was to gain further knowledge concerning the mammography screening experiences, perceptions, and health-seeking practices among African-American women.

The results from the three groups showed consistent descriptions in meanings of health and mammography screening. All of the women understood that the concept of health was different for each person and that each person took the responsibility in deciding active participation in the maintenance of continued health. African-American women are more encouraged towards breast cancer screening practices by way of other African-American women who were breast cancer survivors and were willing to share their personal stories. This qualitative study by Russell et al. (2003) identified that family relationships and social networks influenced African-American women's health perceptions and risks. The authors further identified health care system barriers associated with African-American women's health-seeking behaviors (i.e., discrimination, mistrust, lack of access to quality care).

Religiosity and Fatalistic Beliefs and Breast Cancer Screening

The literature spoke abundantly about religiosity or fatalistic beliefs being a devastating barrier associated with breast cancer screening participation of African-American women (Abrums, 2004; Daniels et al., 2005; Finnie, & Powe, 2003; Mayo, Parker, & Ureda, 2001; Thomas, 2004). Daniels et al. defined cancer fatalism as "the

belief that death is inevitable when cancer is present” (p. 318). The authors further explained how the fatalistic belief could interfere or impede the progression of participating in screening behavior, early detection, and acquiring treatment. Interestingly, Reynolds (2004) discussed extreme fatalistic beliefs of Hispanic women associated with cervical cancer; some believed that acquiring a cancer diagnosis was a punishment from God related to doing something that was considered bad or wrong, and that once determined, there is nothing that can change what has already occurred.

Mayo et al. (2001) researched the effects of fatalism and participation in mammography screening in rural elderly women. Using univariate analysis, the study concluded that fatalism was significantly associated with breast cancer screening participation. As in other studies, demographic factors (e.g., age, race, income, education, insurance availability) had a significant relationship to mammographic screening participation. African-American women who followed mammographic screening recommendations recorded lower overall fatalism than those African-American women who did not comply with the recommended mammographic screening. The study incorporated 220 elderly women from six county areas in South Carolina, 61% of them African-American women. Data were collected over a 3-month period utilizing the revised Powe Fatalism Inventory (PFI). The study included a pilot study of 60 women. In an effort to capture accurate data and properly measure the defining characteristic of fatalism in association with breast cancer screening, the study utilized factor analysis and correlation analyses, both Pearson’s and Spearman’s correlation. Significant positive associations were evident between fatalism and age ($r = .20, p < 0.01$) and race ($p = .39, p < .001$), and significant negative relationships existed between educational levels ($p =$

-0.59, $p = 0.001$) and physician recommendation ($p = -0.21$, $p = .001$). The average score for the revised Fatalism Inventory was 5.42, with a score of 11 indicating fatalism.

Practicing health promotion and participating in cancer prevention screening did not have a link to fatalistic beliefs.

African-American women attempted to cope with disparities in care by participation in cultural African-American churches, organizations, prayer, and private consciousness (Abrums, 2004). Abrums stated, “The black church has functioned as the center of power and social life within the African-American community” (p. #). Religious faith was the cornerstone of survival for African-American women (Phillips, 1999). Historically, prayer was the first line of action with the belief that prayer had the power to heal (Abrums).

Beliefs, Attitudes, and Knowledge

Cognitive factors (e.g., beliefs, attitudes, knowledge) and perception were shown to be strong predictors of social behaviors, including the encouragement towards breast cancer screening behavior (Berry-Bobovski et al., 2005; Burnett, Carter, & Hailey, 2000; Cohen, et al., 2007; Fowler, 2006a or b?). Studies involving these factors found that positive attitudes and knowledge were significant predictors to women participating in mammography (Burnett et al., 2000; Cohen, et al.). Contrary to the above, another study reported that 30% of women (317/1055) stated feeling well-informed regarding breast cancer knowledge; these women who reported feeling knowledgeable about breast cancer were more likely to adhere to recommended adherence guidelines for BSEs, CBEs and mammography (Cohen et al.).

Self-Efficacy

Another important factor that influenced decision-making with regard to breast screening behavior or activities participation was self-efficacy. Bandura (1986) initiated the definition of self-efficacy in relating the process to one taking specific self-behavior action. Later, self-efficacy was conceptualized in a person making a self-decisional behavior change based on connections to other factors (e.g., environment, observation of others, beliefs) relating to the world in which he or she lived (Lev, 2000). “Efficacy expectations are formed through information derived from actual performance, accomplishments, vicarious experience, verbal persuasion, and physiological states” (p. #). Lev reported an association of self-efficacy and quality of life with decreased symptom distress in women diagnosed with breast cancer. Subjects’ strategies had a profound affect on social support (e.g., self-talk, including family, talking with other cancer survivors) and these strategies increased some of the women’s knowledge and self-efficacy. Accordingly, the utilization of social support strategies, increased knowledge and self-efficacy was significant in encouraging health participation activities.

Mammography Screening and Influence by Others

Numerous factors could be attributed to African-American women’s motivation to participate in mammography (e.g., communication of breast cancer from survivors, physician suggestion or reminder, family members, respected community leaders, health care professionals) where trust has been established (Berry-Bobovski et al., 2006; Burnett et al., 2000; Cohen, et al., 2007; Fowler, 2006 a or b?; Klassen & Washington, 2008; Lev, 2000; Russell et al., 2003). Klassen and Washington investigated how social integration (e.g., social roles, social networks, social support) influenced health and well-being,

screening knowledge, early detection and treatment, and screening behaviors using home interviews from 1997 to 1998. With a sample of 576 urban African-American women aged 45 to 93-years old, they discovered that social integration positively associated with overall health and well-being and that social roles and networks significant correlated with screening knowledge. In addition, the study found that church networks linked with attitudes involving early detection and treatment. In assessing whether an association existed to screening behaviors and family networks, the authors reported a significant relationship to both recent screening and intention. However, integration operated through several mechanisms to influence whether a woman would participate in breast cancer screening. This study illustrated a strong family association in how children, spouses, and other relatives might encourage preventive screening practices.

Familial Breast Cancer Communication

A great deal has been published on communication related to illness and the challenges for families (Gilbar & Refaeli, 2000; Love et al., 2002). Love et al found communication to be positively related to family dynamics and relationships. A pilot study with 30 subjects, 11 men and 19 women, was followed later with a three-phase study of 400 undergraduate subjects, 163 men and 237 women between the ages of 17 and 25 years of age. The instruments collected data on a child-parent communication apprehension scale, dyadic communication apprehension, child-parent communication global (C-PC [Global]), child-parent communication specific (C-PC [Specific]), child-parent problem communication (C-PC [Problem]), and child-parent open communication (C-PC [Open]). This study reported significant differences between parent-child communication, apprehension, and dyadic communication involving both genders.

Correlations existed between parent-child relational apprehension and communication apprehension. This indicated relational and general communication inadequacies and frequencies presenting threats to important issues for both parties. One weakness of the study was the disproportionate sample of African-Americans (3% in Phase I, 5% in both Phase II and Phase III) compared to the White subjects (73% in Phase I and 53% in Phases II and III). If the authors had approached the study utilizing a triangulated design approach of parent-child relational apprehension and communication apprehension, greater construct validation might have been obtained. The large sample size in consort with these findings provided relevance to understanding why mothers and daughters might not have successful communication about major issues like health and illness but it could not be generalized across all populations because of the lack of representation from various cultures.

Previous research documented a correlation between family history of breast cancer and development of this disease in daughters (Conto & Myers, 2001; Dagan & Gershoni-Baruch, 2002; Douglas et al., 1997). In a study implemented between 1999 and 2000 related to high-risk hereditary breast cancer, 98 mother-daughter pairs with BRCA1 and BRCA2 mutations of breast cancer were selected from the medical records at a women's clinic (Dagan & Gershoni-Baruch). The results identified 31 mutation carriers, 10 out of 29 of these were determined to have maternal inheritance relevant to familial history, 19 definitely inherited the mutation from their mothers, and 16 resulted in a moderate-to-strong category of familial history of breast cancer. There was a significant difference in mean age at diagnosis for both mother and daughter mutation carriers compared with non-carriers. A one-way analysis of variance (ANOVA) with Scheffé

post-hoc analysis tested differences in ages at diagnosis, with additional statistical analysis using t -tests and paired t -tests. Although the study resulted in inconclusive evidence related to the anticipation of familial breast cancer, evidence did exist that diagnosis of breast cancer and carrier states was made earlier for these mother-daughter pairs. One possible explanation was of improved breast cancer screening and awareness, but the authors believed that a qualitative component to their study would have teased out important factors related to communication processes. Regardless, early detection allowed for early intervention and education that could affect morbidity and mortality. Genetic predictors increased the probability of breast cancer for women whose mothers had breast cancer. Although the sample size of 98 shared little relevance, the selected cohort research findings demonstrated the need for early identification and intervention with respect to high-risk breast cancer dyads.

Intergenerational Communication

A paucity of research addressed intergenerational communication and aging, specifically the adult mother-daughter relationship relative to the adult daughter caring for the aging mother and the effect of culture on communication. To understand mother-daughter relational communication, it would be important to understand ways distributing information as discussed by Williams and Nussbaum (2001).

Some people learn information and later acquire norms related to this learned knowledge. They learn either socially or culturally and by direct or indirect observation. For example, they learn through individual lens or by way of mass media, incidentally from families or friends, or initial intergenerational interactions. Learning can occur from intra-individual communication; conversations with self by way of reflexive activity, or

knowledge of self (Williams & Nussbaum, 2001). The intergenerational communication between mother and daughter could potentially affect the special bonding positively that is original and culturally natural and possibly encourage daughters of mothers with breast cancer to become empowered to take action in breast cancer prevention screening (Knotz, 1994). As mothers continue to assist in the maturity of their daughter's mental, emotional, physical, and spiritual well-being, they shared in opportunities of empowerment (e.g., career choices). Mothers also had increased opportunities to become advocates for daughters in efforts to encourage breast health screening participation among young African-American women (Knotz; Mosavel, Simon, & Stade, 2006).

Definition of Terms

Breast cancer risk factors (non-changeable). Particular factors relating to the possibility of developing breast cancer as a female: advanced age, increasing with age; personal history of breast cancer; family history, especially first-degree relative (i.e., mother, sister, daughter); genetic predisposition; early menarche or late menopause; nulliparity, never having had children; excessive weight, particularly associated with body fat, increase exposure to ionizing radiation, and race. White women were more likely to develop the disease; African-American women were more likely to die from the disease.

Breast cancer/breast health knowledge. Knowledge gained from various sources including information shared by mothers, friends, education, experience, health care practitioners, and media relating to the risk for developing breast cancer. In addition, the knowledge necessary to prevent cancer and encourage routine breast health screening practices.

Breast screening activities. Assessing for breast cancer prior to developed signs or symptoms according to ACS Guidelines.

Mammography. An X-ray of the breast utilized to detect breast changes; the older the woman, the greater the need for annual mammographic surveillance.

Breast self examination (BSE). The examining of the breast by an individual on a monthly basis; preferably several days post-menstrual cycle.

Clinical breast examination (CBE). Physical examination by a health care professional; performed as part of the total breast assessment.

Perceived risk perception. The individual's subjective judgment or belief(s) about the characteristic risk for developing breast cancer.

Communication. For this study, communication is defined as the intergeneration communication process between mother and adult-daughter about breast cancer and breast health that is intentional to increase knowledge and breast cancer screening participation.

Summary

This review of the literature produced a number of research findings that bare significant implications for African-American women with poor breast-cancer mortality rates. The qualitative studies were abundant in exploring dimensions of meaning in African-American women's perception of barriers and personal factors that related to mammography adherence. The studies were fragmented relating to breast cancer screening communication involving African-American mothers and daughters. However, the studies clearly illustrated that mammography had substantial value in early detection of breast cancer. One factor positively consistent in African-American women's

encouragement relating to screening behavior was social support from family, friends, or faith (Abrums, 2004; Cohen et al., 2001; Feldman & Tanner, 1997; Russell et al., 2003).

The seriousness of breast cancer for all women in the United States has been determined and documented. The literature review for this study signified that personal perceived susceptibility, religiosity or fatalistic views, and lack of trust in health care providers have been major barriers that interfered with breast cancer screening. Adult African-American daughters ought to be educated and motivated to partake in early breast cancer screening activities. This review further emphasized that the most powerful, dynamic, and life-long relationship was between mother and their adult-daughters. Quality, open, communication about health care issues and, more importantly, breast cancer knowledge, might enable African-American mothers and their adult-daughters to participate in breast cancer screening activity.

Literature Gaps

Studies indicated that screening activities in African-American women continue to be a serious health issue. The literature gaps evident in the area of mother adult-daughter communication and breast cancer was related to poor or weak quantitative and qualitative research secondary to small sample sizes and inadequate or non-existent Black subjects in the studies. Perhaps this was due to non-essential interest, research funding difficulties, or lack of appropriate measuring instruments resulting in positive validity outcomes. The literature supported mother-daughter communication related to pregnancy, smoking, eating disorders, and sexuality (Albarracin, et al., 2003; Barbato et al., 2003; Biordi, & Mims, 2001; Fingerman, 2001; Gilbar, & Refaeli, 2000; Hutchinson, 2002; Lee & Miller-Day, 2001; Le Poire & Prescott, 2002; Love et al., 2002). However, in

searching for mother-daughter relationships and dyads concerning breast cancer, the overall reports related breast cancer discourse between mothers and daughters about the impact of mother's disease process experience with breast cancer and the daughter's emotional status of the potential threat of the illness (McTaggart, 2001; Sigband, 2001).

Enormous amounts of research information validated the need for breast cancer prevention and screening. However, there was minimal data supporting how mothers with breast cancer could teach their adult daughters about how to positively utilize breast cancer statistics and information to promote prevention, detection, and early screening participation (American Cancer Society, 2008; Biordi & Mims, 2001; Booth et al., 2001; Cain, et al., 2006; Chang, 2006; Guadagnoli et al., 2006; Newman, 2005). Biordi and Mims' study revealed that if adolescent girls were positively influenced by their mother's education, knowledge, and reasoning levels when communicating about adolescent pregnancy, the girls were more inclined to not partake in the practice of multiple pregnancies.

Concepts prevalent to most of the literature on breast cancer related to family, support systems, genetic screening, fear, and risk. The concept of communication itself was well researched. However, the concepts of mother-adult daughter breast cancer screening communication relationships, African-American women and strength or resilience in the face of adversity, or mother-daughter education were researched poorly or not at all. This gap in understanding the communication relationships between the mother and adult-daughter related to inadequate screening activities and subsequent increased rates in breast cancer mortality might assist in positively increasing African-

American women's knowledge about breast cancer prevention and encourage active mammography screening practices.

For the literature searched, there was no exploration of mother adult-daughter communication factors to explain how positive, open breast-cancer awareness communication might affect preventive breast cancer screening activities. However, there were discussions related to positive screening outcomes associated with group and/or family involvement. An integrated methodological approach in perceived factors related to mother adult-daughter communication about breast cancer and outcome effects of communication in reference to positive action in screening activities could disseminate potential correlations (Begley, 1996). Because the mother-daughter relationship is the most influential and sustainable of all other relational relationships, this research explored the phenomenon and sought to promote improved breast cancer screening activities in African-American women. Of note, some who were unaware of ways to change, promote better health practices, or chose not to engage in change made a conscious decision not to participate in breast cancer screening activities that might positively influence health and decrease mortality.

Theoretical Framework

Theory of Reasoned Action

In order for change to occur, human behavior must be understood. Two theories utilized in this study explained behavior change and could be utilized as interventions for change: the TRA and the IMB model. If a person perceived positive results from a performed behavior, she or he would possess a positive attitude about the performance of the behavior (Blanchard, Courneya, Murnaghan, & Rodgers, 2002). Such a perspective

was perpetuated by the assumption that, as rational human beings, the logical use of information existed (Ajzen, 1998). A subcomponent of the TRA was the theory of planned behavior (Ajzen & Fishbein, 1980). This perspective helped explain the relationship between an individual's intent to engage in behavior and the attitude and subjective norms surrounding the performance of the behavior. Consequently, behavior intent became the sum of positive outcomes as the individual learned, grew, changed, and became more self-efficacious through such processes as encouragement, confidence, and empowerment (Ajzen). The TRA model (see Figure 1) has been utilized with previous breast cancer prevention and detection practices, specifically mammography (Lawson, 1998; Montano & Taplin, 1991; Pablo, 1999; Porche & Steele, 2005; Rutter & Steadman, 2004). Pablo's research study cited 90% of women subjects shared confidence in their health care providers, with the remainder citing their health care provider and the media as increasing their motivation to perform BSEs. A difference in those who performed the desired behavior and those who did not was related to beliefs, personal strengths, and positive outcome (Petro-Nustas, 2002). The strength of the behavioral intention and a strong attitude towards self-efficacy could affect the individual socially. Behavior was a function of relevant information, motivation, and behavioral skills that were pertinent to self-efficacy (Ajzen; Collins, Reed, & Woods, 2001).

The TRA was useful in this study because there was the human need for motivational change in African-American women to increase participation in breast cancer screening activities (e.g., BSE, CBE, mammography). TRA measured attitudes and social normative beliefs that were reflective in behavioral intention (Porshe & Steele,

2005). Critical to using the TRA was an understanding of the terms associated with the theory.

1. Ajzen and Fishbein (1980) defined behavior as “the transmission of intention or *perceived behavioral control into action*” (p. #). In this study, behavior consisted of the mother communicating with her adult daughter about breast health and breast cancer to encourage the daughter to first, complete the daughter survey, and secondly to increase knowledge as measured by the responses from the mother and daughter knowledge and communication questionnaires. The communication questionnaire specifically inquired about whether mothers and adult-daughters respectively were influenced to participate in breast cancer screening activities (Question 27) and to list screening activities that they participated in over the past 12 months (Question 28) as devised by the Primary Investigator. The knowledge aspect was derived from the Breast Health Intervention Evaluation (BRIE).
2. Behavioral intention was an indication of how hard people were willing to try and of how much an effort they planned to exert in order to perform the behavior. Behavioral intention was influenced by three components: a person’s attitude toward performing the behavior; the perceived social pressure, called *subjective norm*; and *perceived behavioral control*.
3. *Attitude* was the first determinant of behavioral intention. Attitude was the degree to which the person had a favorable or unfavorable evaluation of the behavior in question. In this study, the attitude would be the conviction that screening was important in that it influenced a healthy attitude as measured by the breast cancer knowledge questionnaire, as devised from the BRIE.

4. Subjective norm, the second predictor of behavioral intention, was the influence of social pressure perceived by the individual (i.e., normative beliefs) to perform or not perform a certain behavior. This was weighted by the individual's motivation to comply with those perceived expectations (i.e., motivation to comply). In this study, the subjective norm would be risk perception and was measured by the Breast Cancer Risk Perception questionnaire, as devised from the BRIE.
5. Perceived behavioral control was "the individual's belief concerning how easy or difficult performing the behavior will be" (Ajzen & Fishbein, 1980, p. #). In this study, the behavioral control would be determined by evaluating the demographic information of both mother and daughter measured by the responses to the questions. The TRA provided the basis for positive health promotion activities. Women could learn how to remove particular cultural or environmental barriers towards encouraged, changed behavior that enabled them to take control of their health and lives.
6. Self-efficacy was the individual's perception that she or he would be able to perform a certain behavior successfully. In this study, self-efficacy would be assessed and measured by comparing mothers' and daughters' responses to the breast cancer knowledge survey Question #7, *I am responsible for taking care of my own body including my breast* (see Appendix D).

From this theoretical position of subjective norms, attitudes, motivators, perceived control, and self-efficacy, research could be conducted to explore how mothers and daughters communicated and influenced breast-screening activities. To this end, this

framework could help health care providers understand the phenomenon of communication between family members trying to cope with devastating familial or genetic diseases, including breast cancer.

Information-Motivation-Behavioral Model (IMB)

The IMB model incorporated the norms, attitudes, self-efficacy, and control aspects of the TRA. This model was developed to explore and measure how aspects of the TRA theory related to health beliefs and how self-efficacy affected the perception of risks and communication to loved ones. This well-known model has been used with HIV risk-reduction studies. However, a study conducted by Aronowitz et al. (2005) utilized the IMB model in a pilot study to look at motivation influence variables of mother-daughter connectedness, sexual communication, and future time perspective (FTP) towards decreasing hetero-social risk behavior associated with African-American middle school-aged adolescent girls and whether mothers had some bearing on the girls' risk behaviors. The model was designed to encourage and promote changed, preventive behaviors in adolescents in mid-city high school settings. Aronowitz et al. performed focus groups consisting of 39 mother-daughter dyads that revealed differences in mother and daughter knowledge levels concerning HIV risk. Daughter-subjects were between the ages of 11 and 14 years old ($M = 12.4$ years) and mothers' ages ranged from 32 to 78 years old ($M = 35$ years). The authors performed univariate and bivariate analysis ($\alpha = .05$) and exploratory analyses using t -tests. The authors found, in relation to information about HIV, that daughters (28%) believed it to be difficult to contract HIV disease if the person was young. Mothers' HIV knowledge proved to be much higher than daughters'

knowledge ($t = -5.10, p < .001$) and the more HIV information the mothers knew, the more information the daughters knew ($r = .32, p = .04$).

As for motivation, there was a positive correlation between mothers' and peers' social norms ($r = .68, p < .001$) related to appropriate age and circumstantial sexual debut. The more HIV knowledge mothers possessed, the more comfortable they felt communicating to their daughters about other sexual issues ($r = .39, p = .01$). For the behavioral aspect of this study, most the daughters reported that they had not engaged in potential risky hetero-social situations and the daughters' report of being in unmonitored situations negatively correlated with the report of intention to remain safe ($r = -.62, p < .001$). What mothers and daughters reported knowing about HIV was not significant and perhaps revealed that they did not communicate with one another about HIV. Higher mother FTP did not correlate to higher daughter FTP ($r = .28, p = .12$). No relationship existed between mothers' and daughters' report of sexual communication ($r = .18, p = .37$). This study, as other research studies, found that information alone was not enough to influence a change in behavior. One particular weakness of this study was the use of self-reports. The study revealed that, perhaps earlier interventions toward building closer mother-daughter relationships might have increased opportunities for confidence building that could enhance the daughter's decision-making processes about not participating in sexual activities (Aronowitz et al., 2005).

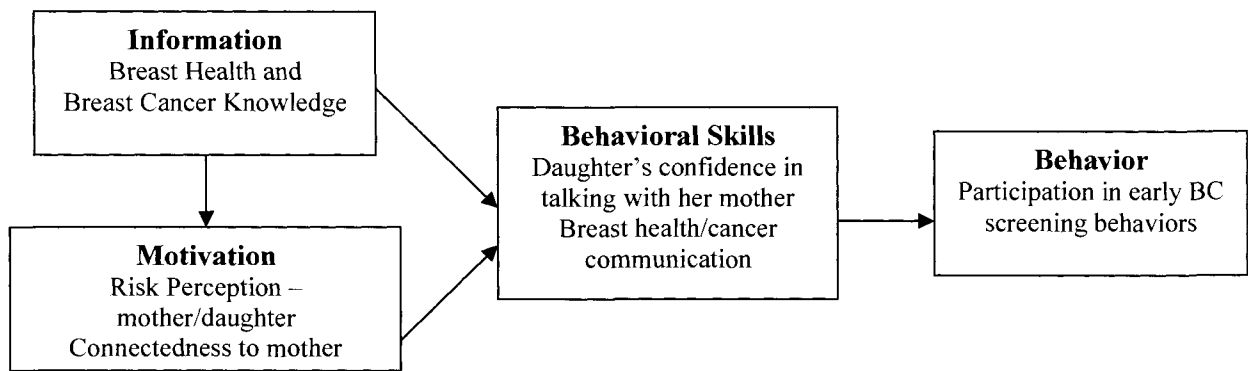


Figure 2: Information, Motivation, Behavioral Skills Model Measures Utilized.

The model served as the guide to assess the variables in this study and to interpret the results.

CHAPTER 3

Methodology

The research design, setting, population, and sample of this study are described here. The methods and procedures for the collection of data are also presented in this chapter. The review of literature established that breast cancer in African-American women is a national crisis (American Cancer Society, 2008; Biradavolu et al., 2001; Cohen et al., 2001; Fletcher et al., 2003; Husaini, 2001; Underwood, 2006). To reduce the morbidity and mortality in this population, identification of the factors that might contribute to this crisis is multifaceted. One possibility that has not been studied is how or if mothers diagnosed with this disease communicate to their daughters about breast health or breast cancer knowledge thereby initiating action in the adult daughter for participation in early breast screening activities (i.e., BSE, mammography, CBE). This feasibility study intends to address this gap by exploring through a quantitative methodology the following research hypotheses and questions:

H₁: There is no relationship between the variables of breast cancer knowledge, breast cancer risk-perception, mother-adult daughter communication, and participation in early breast cancer screening activities.

H₂: Demographics, breast cancer knowledge, breast cancer risk-perception, and mother-daughter communication predict participation in early breast cancer screening activities.

H₃: Breast cancer knowledge and risk perceptions moderate the effect of demographics and communication on early breast cancer-screening activities.

R₁: What are the risk perceptions of African-American mothers and adult-daughters about breast cancer knowledge, perceived and actual breast cancer risks, their communication, and pursuing early breast cancer screening activities?

R₂: What are the relationships among knowledge about breast health and breast cancer that adult-daughters receive from mothers, daughters' perceptions of the quality of the mother-adult daughter relationship, daughters' perception of their own health, daughters' perception of their mothers' health, and selected demographic variables?

Design

This was a descriptive between-subjects feasibility study designed to answer the aforementioned research hypotheses and questions. Descriptive research related to observing and describing information gathered as it occurred in its natural form or that which was limited in subject documentation (Hungler & Polit, 1999). A survey served as the method of obtaining information from subjects because information was needed that did not exist from previous research. This study employed the TRA (Ajzen, & Fishbein, 1980) in an attempt to identify, measure, and understand the perceptions, communication, and actions of African-American women in relation to breast health screening activities. This research consisted of a one-time survey only with the intent of determining whether relationships existed among or between the variables proposed (i.e., demographics, breast

cancer knowledge, perceived and actual breast cancer risks, communication, pursuing early breast cancer screening activities). Because of the one-time study, there was no attempt to generalize beyond the sample studied.

The proposed model depicted in Figure 2 reflected variables and relations linked with the TRA. The results of this study depended upon mothers providing breast cancer and breast health knowledge to their daughters in a variety of methods, primarily communication, towards behavioral activities building.

Population and Sample

The target population was African-American mother with adult daughters willing to participate, living in the United States. To be eligible, mothers had to have been diagnosed with breast cancer 12 months or longer, had adult daughters over the age of 18 years old, and who had completed the quantitative measures. Subjects were recruited from community-based churches, community breast cancer support groups, African-American professional organizations, personal contacts, community beauty salons in San Diego, CA, as well as Houston, TX, Pittsburgh, PA, and New York, NY, using informational flyers and by word of mouth. The sample was non-random and purposive. Purposive samples consist of subjects that are specifically selected by the researcher based on what best represents the research study hypotheses and research questions (Hungler & Polit, 1999). To account for missing data and attrition, the preliminary targeted population was 20 dyads. Attrition rates could be attributed to numerous factors. In this study, five mothers declined to participate (i.e., not having the time, daughter just delivered a baby, daughter lived out of the San Diego area, preparing for a trip, changed

decision about the study, failure to return completed survey questionnaires, lack of interest; see Table 1).

Criteria for inclusion in the study for mothers included:

- A diagnosis of breast cancer for 12 months or greater,
- No formal DSM –IV psychiatric diagnoses,
- At least one daughter at least 18 years of age,
- Speak English, and
- An ability to read at a ninth grade level.

Criteria for inclusion for daughters were:

- At least 18 years of age,
- No diagnosis of cancer,
- No formal DSM – IV psychiatric diagnoses,
- Speak English, and
- An ability to read at a ninth grade level.

Occupational categories for mothers ranged from being retired and working in clerical positions. The adult daughters' occupations varied from professional positions (e.g., real estate, administration) to clerical or skilled. In this feasibility study sample, daughters were more college prepared while mothers reflected some college or technical school type education. The study sample consisted of 16 participants; eight mother-daughter dyads. Though the sample size was not large enough to validate significance, the finding identified areas that deserve further study.

Procedure

Subject Recruitment

Prior to subject recruitment, permission to conduct the study was obtained through the University of San Diego's Institutional Review Board (IRB; see Appendix H). IRB documentation was not necessary for participating community churches, community support groups, and beauty salons. The PI distributed over 1,000 flyers announcing the study, visited African-American churches, made numerous telephone calls and visits to clinics, physician offices, and oncology cancer institutions and centers. In addition, the PI made appearances to Black San Diego professional organizations, placed a 2-week ad in one of the local African-American newspapers, e-mailed flyers, and attended two San Diego African-American breast cancer support-group meetings, as well as other cancer support groups. The researcher identified a contact person from each site. Upon approval, the research plan was reviewed with the identified contact person and the selected subjects either in person or by telephone. The PI explained the study, gave information regarding voluntary participation, reviewed the consent (see Appendix A), and assessed any questions. Questionnaire survey packets were mailed to each subject. The packet contained an instructional cover letter (see Appendix B), a signed consent form by the PI explaining the purpose of the research, a demographic questionnaire, three survey instruments, a self-addressed stamped envelope for return of the completed questionnaires, and the second copy of the signed consent form (enclosed in a separate, sealed envelop). Subjects were also informed about confidentiality, both verbally and written, including that no subject's name would be revealed. Confidentiality was assured by coding each subject with a corresponding number. No names were used

on any of the data sets, any subject identifiers were removed immediately upon completion of analysis, and all materials were locked in the investigator's study with access only by the investigator and the investigator's advisor. Any information shared by any of the subjects was confidential. Subjects were informed that they had the right to withdraw from this study at any time without penalty. Subjects were advised that, upon receipt of the questionnaires by the PI, they would individually receive a gift card. The target population was mother-adult daughter dyads willing to participate who had completed the quantitative measures.

The quantitative component of the questionnaires comprised the following: four Likert-type questionnaires measuring demographics, independent variables, breast cancer knowledge, risk perception, and mother-daughter communication. The questions asked subjects to further explore the perceptions that influenced action, and had relevance to the study variables. Examples of these questions included:

- What do you think the warning signs of breast cancer are?
- What do you think are the risks for breast cancer?
- How do you and your daughter/mother communicate?
- What is communicated about breast cancer?
- How has any of this affected your participation in early breast cancer screening activities? And what kind of activities?

Attempting to find meaning in traumatic and treacherous illness and disease for some might cause subjective responses such as fear, anger, despair, and loneliness (Slattery, 1996). This inquiry was directed towards gaining an understanding of African-American

women's thoughts and experiences that might relay information about poor breast cancer screening participation practices.

Data Collection

The study questionnaires were completed in the homes of each subject, by each subject as requested with respect to concerns for privacy and confidentiality. The PI received the questionnaires at various intervals over 4-months, from January 1, 2008 to April 28, 2008. The signed consent forms were separated from the questionnaires to ensure confidentiality. Confidentiality was further maintained by keeping the data and consent forms in a locked file with minimal access.

Instrumentation

Sample Demographics

A demographic questionnaire was used to obtain information relating to age, income, education, marital status, occupation, and health care sources (see Appendix C). The data collected for this study were self-reported. One disadvantage to self-report lays in respondent bias (Hungler & Polit, 1999). Conversely, self-reporting can be beneficial in understanding feelings, beliefs, facts about events, levels of knowledge, and intentions relating to future behaviors. Because of safeguards and the assurance of confidentiality, subjects were at ease in privately reporting their information minimizing any influence by the PI while completing the questionnaires. The surveys took approximately 15 to 20 minutes to complete.

Breast Cancer/Breast Health Knowledge

A 15-item questionnaire measured breast cancer knowledge and breast health knowledge (see Appendix D). The questionnaire included yes/no, true/false, and Likert-

type scales to glean information. Questions were derived from the BRIE evaluation, a federally-funded project conducted between 1996 and 2001 at Morehouse School of Medicine and at Georgia State University.

Risk Perception

A nine-item questionnaire measured breast cancer risk perception (see Appendix E). The initial question asked the subjects to draw a line on a numbered continuum from one (High) to 10 (Low) indicating their perceived risk of breast cancer. The other eight items were dichotomous. These questions were also selected from the BRIE evaluation.

Communication

The communication survey incorporated 28 items; one version each for mothers and daughters measuring the level of communication between the dyad (see Appendix F). The first five questions were multiple-choice followed by 17 questions assessing how mothers and adult-daughters viewed their relationship (e.g., *I can share my intimate secrets with my daughter/with my mother.*). Multiple-choice questions 23 – 25 required a response about how each view their relationship (e.g., *My overall relationship with my mother/with my daughter is...*). The last three questions were devised by the PI to measure mothers' and daughters' responses to communication about breast cancer and breast health and whether each felt that the daughter had been influenced to participate in breast cancer screening activities.

Mother and Adult-Daughter Questionnaire (MAD)

Closeness/connectedness subscale. Nine items of the Communication survey measured connectedness consisted of nine items (see Appendix F: F6 – F 12, F15, F23). This construct assessed how well mothers and daughters connected, including emotional

closeness. Connectedness did not necessarily mean frequent physical contact, verbalization, or gestures relating to closeness (Rastogi, 2002). The questions were worded to assess how mothers and adult-daughters view their ability to openly discuss intimate secrets or opinions in general by responding to various statements (e.g., *I can share my opinions and values with my mother/daughter.*). While the MAD questions assess communication, the questions on this study's survey measured only closeness and connectedness in intention of the developed construct. The questions required the subject to select the answer that best described each statement (i.e., 5 = *strongly agree*; 4 = *mostly agree*, 3 = *neither agree nor disagree*, 2 = *mostly disagree*, 1 = *strongly disagree*). The higher the score, the greater was the sharing between mother and adult-daughter. The highest possible score was 45.

Interdependence subscale. Interdependence consist of three items, (see Appendix F; F13, F14, and F22) and assessed mothers' and adult-daughters' mutual dependence relating to emotional and practical situations in the relationship (e.g., *I often depend on my mother/daughter for advice*; Rastogi, 2002). These questions utilizing the same multiple choice scoring as the connectedness subscale. The higher the score, the more comfortable the mother or adult-daughter felt in reference to asking for help or needing advice. The highest score possible was 15.

Trust in hierarchy subscale. This construct consists of six items (see Appendix F: F16 – F21). Rastogi (2002) believed that trust in hierarchy was significant in some cultural, intergenerational relationships. It is assessing how both mother and adult-daughter understood their hierarchical, relational interactions (e.g., *I always trust my mother's/daughter's judgment.*). Utilizing the 5 – 1 multiple choice scale, a higher score

demonstrated more tendency for the mother or adult-daughter to believe that the daughter respected the mothers' wisdom and honored the hierarchy status enough to come to the mother when needed. The highest possible score was 30.

Plan for Data Analysis

The returned questionnaires were reviewed, scored, and entered into a computer database by assigned code numbers. Each subject's information was computed and assessed as a group. Descriptive statistics were utilized in analyzing the data responses from the demographic survey and other questionnaires (i.e., breast cancer knowledge, risk perception, communication) in an effort to systematize and assess the data from an array of perspectives. Descriptive statistics were also used to analyze responses to the MAD communication instrument and subscale variables of connectedness, interdependence, and trust in hierarchy.

Quantitative data was analyzed using the SPSS Version 10.0.5 (SPSS, Inc., 1999). A test was deemed statistically significant if the probability of error was 5% or less ($\alpha = .05$). Regression analysis explored the effects of the independent variables (e.g., knowledge, risk perception, communication) on the dependent variables (e.g., increased breast cancer screening activity). ANOVA and regression analysis determined the relative strength of each variable for participation in early breast cancer screening activities. Cronbach's alpha looked at the internal homogeneity of the composed tools and their subcomponents or items.

Content analysis of subjects' qualitative narratives on the communication questionnaire informed how mother and daughter communicate about breast cancer, whether either were influenced by the other to participate in breast cancer screening

activities, and specific breast cancer activity participation over the past 12 months. The same three questions were assessed in relation to the variables of interest. The process of reviewing the written works of the subjects was performed to obtain recurring themes to help explain the quantitative results.

Descriptive Statistics

Descriptive statistics were measures of central tendency (e.g., mean, standard deviation, minimum, maximum, frequency distributions) described and summarized collected data relating to the demographic characteristics of the sample and study variables (Bibb, 1999; Hungler & Polit, 1999). The hypotheses were tested using the Spearman's correlation coefficient. This method of significance testing looked at the relationships among variables measured primarily on an ordinal scale (Hungler & Polit).

Summary

This study incorporated quantitative and some qualitative methods. Subjects were asked to complete four questionnaires to measure the independent and dependent variables. A descriptive correlational design illustrated the relationship between mother's and adult daughter's sharing of knowledge about breast cancer, breast health, and the utilization of breast cancer screening activity participation of the adult daughters. The study also assessed association between demographic variables on breast cancer screening activity participation by adult daughters. The findings in this feasibility study identified sampling problems and examined the potential of obtaining a further understanding about the phenomena of mother-daughter dyads, intergenerational communication, and the overall impact this might have on early breast-cancer screening

activities that could eventually reduce the morbidity and mortality of African-American women diagnosed with breast cancer.

Risk to Subjects

Survey questions related to breast cancer. As the inclusion criteria for mothers included a diagnosis of breast cancer, some of the subjects might feel uncomfortable during the completion of the questionnaires.

Limitations of the Study

One limitation of this study was the sample size, a non-probability sample. As such, the results can only be generalized to the subjects. In addition, data were collected through self-reporting questionnaires and, although surveys have advantages, their disadvantages include some subjects who might have a tendency to misrepresent their responses.

Another limitation was that this study was performed as a one-time, cross-sectional design preventing the opportunity to identify potential changes in the relationship between mother/daughter screening activities and other desirable factors over time. These difference could be appreciated in a longitudinal design study.

Other limitations to this study included the difficulty in obtaining substantial, eligible subjects from San Diego, CA who would answer information, confirming whether subjects actually had mammograms as stated; and extraneous factors between the relationships of the variables within the statistical analysis.

CHAPTER 4

Results

This chapter provides the results obtained, supports the purposed for this study, and assists in answering research questions. The findings for this study include data retrieved from a demographic survey, the BRIE study questionnaire relating to knowledge and risk perception, and the MAD instrument for communication. The chapter concludes with a discussion relating the TRA and IMB to knowledge, risk perception, and communication efforts.

A non-probability, convenience sample of 20 was the target sample size. The recruitment process occurred over 2 months. Data collection occurred over 4 months from January 1, 2008 to April 28, 2008. The researcher excluded some subjects from data analysis for reasons documented in Table 1. Although small, this sample size provided substantial information about the acceptability of measurement instruments and feasibility of implementing a larger scale study.

Table 1

Reasons for Subject Omission

Subjects	Reason for Omission
1	Incomplete Surveys
5	Traveled out of town
8	Failed to complete surveys timely
9	Dropped out

Sample Demographics

All women participating in this study were African-American. Frequency and percent distribution of subjects by age, income, education, marital status, and occupation for mothers and daughters are presented in Table 2. The majority of mothers (62.5%) were from the San Diego area.

Table 2

Demographic Characteristics of Sample (n = 16)

Characteristic	Frequencies (n)	Percent (%)
Age		
28 – 40	5	31.25
41 – 53	3	18.75
54 – 66	5	31.25
67 and older	3	18.75
Education		
High School Graduate or GED	1	6.25
Some College or Technical School	7	43.75
College Graduate	5	31.25
Advanced College Degree	3	18.75
Annual household income		
Less than \$10,000	2	12.50
\$10,000 - \$14,999	2	12.50
\$15,000 - \$24,999	1	6.25
\$25,000 - \$34,999	2	12.50
\$35,000 - \$49,999	2	12.50
\$50,000 or more	7	43.75

Characteristic	Frequencies (<i>n</i>)	Percent (%)
Marital status		
Married	1	6.25
Divorced, Widowed, or Separated	9	56.25
Single	6	37.50
Occupation: Position/Hours or Time		
Retired/No Time	4	25.00
Professional/Full-Time	4	25.00
Legal Secretary/Full-Time	1	6.25
Clerical/Full-Time	2	12.50
Clerical/Disable	1	6.25
Skilled/Full-Time	1	6.25
Stay at Home Mom/Full-Time	1	6.25
Unmarked/Full-Time	2	12.50

Mothers

Mothers ranged in age from 50 years to 77 years ($M = 62$ years). One mother was married; the rest were divorced, widowed, or separated (87.5 %). The median annual income for mothers was over \$50,000. Six of the mothers completed some college or technical school (75 %). One mother was a college graduate while another earned a graduate degree. In assessing their occupations and time schedule of work; four were retired, two held clerical positions and worked full-time, one worked as a legal secretary in a full-time position, and one was unmarked. All the mothers had children including

adult daughters, as was required for inclusion, with five having *two* daughters over the age of 18 (62.5%). All of the mothers were covered under some form of health insurance: six with private insurance, one with Medicaid, and one with unspecified *Other*. Four mothers experienced no co-morbidity health problems, two had with one or two health problems, and two had more than three problems. The mothers had diverse experiences with breast cancer.

Daughters

The daughters ranged in age from 31 years to 52 years ($M = 40$ years). Although one-half of daughters worked professionally in full-time positions, they typically made less than their mothers did. Only two daughters made over \$50,000; one daughter made less than \$10,000 secondary to being disabled. Two daughters made between \$10,000 - \$14,999. Two other daughters made between \$25,000 - \$34,999, while one made between \$35,000 - \$49,999. As for education level, four daughters graduated from college, two earned graduate degrees, one had some college or technical school education, and one either graduated from high school graduate or had a general equivalency diploma (GED). Six daughters (75%) were single and two daughters were divorced, widowed, or separated.

Table 3

Daughter's Health Insurance Status

Type of Insurance	Frequency	Percent
Private Insurance	6	75.0
Medicare	1	12.5
Other	1	12.5

Contrary to what the literature stated concerning the lack of insurance as a barrier for some African-Americans, a confounding factor was that the majority of African-American women in this study, both mothers and daughters, had insurance coverage (75%). Although all health insurance is not the same (e.g., coverage for mammograms), the initial assessment indicated that daughters could make inquiries about having a mammogram. According to Calvocoressi et al. (2005), having insurance was highly correlated to utilizing mammography.

Knowledge

Knowledge was essential to the hypothesis testing relating to whether adult daughters would be encouraged to partake in breast cancer screening activities. The focus of this analysis was to assess and explain whether there existed an opportunity for adult African-American daughters to be encouraged by mothers who had been diagnosed with breast cancer to participate in early detection and breast cancer screening activities. The model chosen for this study was the TRA with incorporation of support from the IMB model. The model associates the related connected concepts, themes, interrelated communicated information between mother and daughter, and context. Because of the

dismal mortality rate in this population of women, the intent of the research question was uncovering if mother and adult-daughter communication included discussions about breast health and breast cancer knowledge. If so, then detecting whether daughters were encouraged or enlightened with knowledge in making decisions along with the associated behavior of participating in breast cancer screening activities.

In evaluating mothers' and daughters' ($n = 16$) understanding of what they believed the warning signs or symptoms of breast cancer were, one mother failed to list lumps; only one subject, a mother, listed shortness of breath as a sign or symptom, something she might have experienced that herself and felt it important enough to list. Although breast cancer pain could occur over the spectrum of the disease process (Levine, 2002), three mothers listed pain, soreness, burning in the breast while seven daughters listed this as well. All eight daughters (100%) listed lumps as a warning sign/symptom. Mothers and daughters were equal (75%) in selecting swelling or enlargement of the breast as a sign/symptom as well as changes in shape of breast or nipple (87.5%). Discoloration of the breast was selected occasionally by mothers (37.5%) but frequently by daughters (75%). When comparing the mother/daughter responses to warning signs, there were no significant differences, primarily due to the small sample size. A Chi-Square analysis required a minimum of 20 responses for a 2 X 2 table, at least five responses in each cell. As an alternative, a Fisher's Exact Test was computed. However, with the smaller sample size, finding statistical significance was even more challenging.

All daughters and 75% of mothers agreed that mammograms were effective at detecting breast cancer. One mother did not believe that doing monthly BSEs would

likely discover a lump indicating a problem; one mother and one daughter thought most lumps were symptoms of breast cancer. In evaluating the statement, *I am responsible for taking care of my own body including my breasts*, only one mother responded *mostly agree*; all daughters strongly agreed. The majority of the mothers (62.5%) strongly disagreed that nothing they did could prevent breast cancer; two mostly agreed and one mostly disagreed with that statement. For that same statement, four daughters responded *neither agree nor disagree*, two *mostly disagree*, and two *strongly disagree*.

According to the literature, fear and religiosity were barriers for some African-Americans and could lead to reluctance or refusal to participate in screening activities (Benedict et al., 1997). Some attributed God's will as the reason for having cancer (Cohen et al., 2001; Erskine, 2007; Daniels et al., 2005; Mayo et al., 2001). The results of this study are shown in Table 4 below.

Table 4

Responses to the Statement, Breast Cancer is the Will of the Lord

	Frequency	Percent
Mostly Agree	3	18.8
Neither Agree nor Disagree	2	12.5
Mostly Disagree	3	18.8
Strongly Disagree	8	50.0

The influence of other's knowledge (e.g., breast cancer survivors, family members, health care providers) in encouraging women to participate in breast cancer activities had been previous researched with positive and significant results (Burnett et

al., 2000; Cohen et al., 2007). In this study, this social networking perspective was represented by the statement, *I would be more likely to get a mammogram if encouraged or supported by someone close to me (husband, best-friend, sister, etc.)*. Responses varied with daughters replying; *mostly agree* (62.5%). In addition, mothers and daughters primarily felt that they would not be embarrassed having a mammogram (68.75%).

Risk Perception

The BRIE survey instrument (Appendix E) focused on knowledge, risk perception, and demographic information. The first statement asked subjects to estimate their risk of contracting breast cancer. The scale measured from high (1) to low (10). The average risk for mothers was 5.7 and the average risk for daughters was 3.4. Daughters perceived a higher risk for contracting breast cancer than did their mothers (see Figure 3).

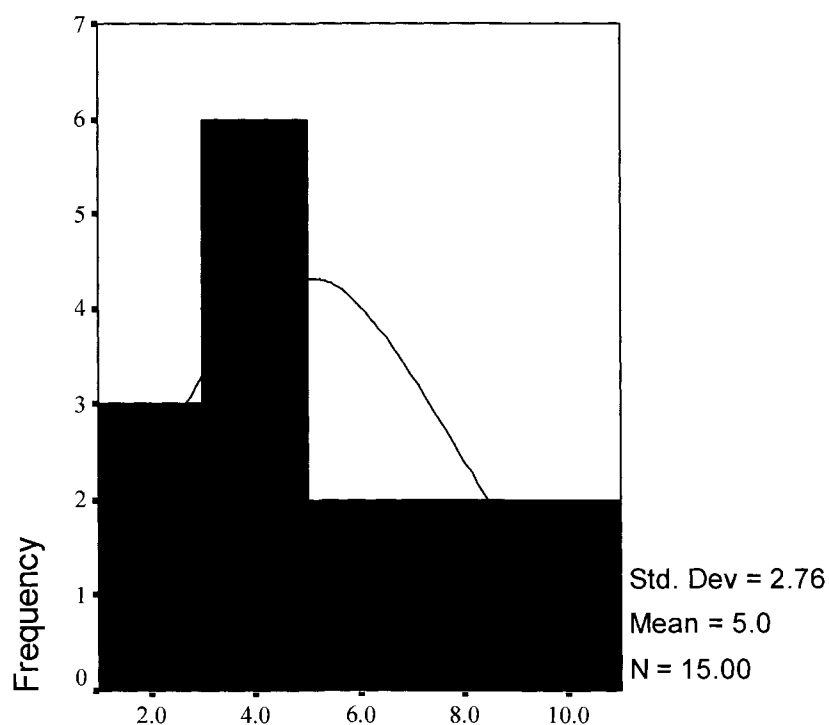


Figure 3. *Mothers' and Daughters' Perceived Breast Cancer Risk.*

Seventy-five percent of mothers and daughters accurately rated the risk of developing breast cancer in the United States as 1:10 (American Cancer Society, 2008). All subjects identifying the warning signs for breast cancer accurately reported that a high SES was not a risk factor. Two mothers failed to make the connection between family members who have had breast cancer and being at a greater risk. One-half of mothers and daughters accurately acknowledged that being overweight increased one's risk for developing breast cancer. The statement associating smoking to breast cancer was significant in that mothers were evenly split between *True* and *False*, but the majority of daughters believed there was a connection (Table 5).

Table 5

Response to the Statement, Women Who do not Smoke are at Less Risk for Breast Cancer

	Frequency	Percent
True	10	62.5
False	6	37.5

Both mothers and daughters were equal in their responses to the statement that women older than 50 were at greater risk for breast cancer than younger women; in each group, 37.5% of subjects agreed and 62.5% of subjects did not agree with the statement. This evidenced a lack of knowledge about the association between age and breast cancer for the majority of both groups. However, when queried about African-American women in general being at an increased risk for dying from breast cancer than women of other races and ethnicities, mothers and daughters were knowledgeable, with mothers (100%)

and daughters (87.5%) agreeing with the statement. When asked if there were foods that can decrease breast cancer risk, only one mother rated this as false.

Mother Adult-Daughter Communication

Communication between mother and adult-daughter was the primary focus of this study in evaluating whether an opportunity existed for adult-daughters to be encouraged to participate in early breast cancer detection and screening activities. Relationships were formed by way of established communication methods and efforts. Intergenerational discourse conveyed information based on the content of the message, interdependence, and connectedness between one another along with specific assertions of knowledge.

The initial questions, found in Appendix F, related to the duration of mother-daughter residency, travel distance, frequency of visits, and frequency of communication between mother and adult-daughter. Six (37.5%) mothers and daughters reported living with each for more than 25 years. Results of traveling distance (Table 6) revealed each dyad's agreement in terms of mileage between residences. There were no dyads living more than 30 miles but less than 800 miles apart or more than 3,000 miles apart.

Table 6

Responses to Statement about Travel Distance between Mother-Daughter Residences

	Frequency	Percent
3 miles or less	10	62.5
30 miles or less	4	25.0
3,000 miles or less	2	12.5

The dyads were close in reporting the frequency of visits between each other, with once a week (37.5%), almost every day (50%), and one dyad, because of longer reported distance; mother, less than once a year, and daughter, once or twice a year. In reference to communicating with one another (i.e., call, write/receive letters/email), seven dyads reported daily communication and two were weekly communicators. The dyads were close in stating that, if cost were not an issue, they would communicate about the same as they presently did.

Communication responses were coded into SPSS and data analysis utilized correlations and paired samples *t*-test for the Likert-type questions (see Appendix F). As the survey questions related more to intimate and personal relations, the scoring was more diverse. Ratings were significantly different between mothers and daughters in sharing intimate secrets with each other. Mothers were more agreeable that their daughters could share secrets with them, while daughters felt more neutral about sharing secrets with their mothers. Table 7 lists questions where mothers' and daughters' responses were significantly different from each other. A negative *t* value indicated that mothers more strongly agreed with the statement, a positive *t* value meant that daughters more strongly agreed with the statement when compared to their mothers. For all other questions, there were no significant differences, meaning that mothers and daughters agreed with each other.

Table 7

A Comparison of Significant Mother-Daughter Responses (Paired Samples t-Test)

Survey Question	<i>t</i>	<i>p</i>
I can share my intimate secrets with my daughter (mother).	-4.965	.002
My daughter (mother) will always love me regardless of what I do.	2.393	.048
My daughter (mother) always knows best.	3.550	.009
I always trust my daughter's (mother's) judgment.	3.989	.005
I feel I can use my daughter's (mother's) wisdom as a resource when making decisions.	2.762	.028

The majority of both mothers and daughters strongly agreed that if either one ever needed anything, the other would do whatever she could, even if it meant making huge sacrifices (see Table 8). With a scale score from 1 (*strongly agree*) to 5 (*strongly disagree*), daughters were more comfortable in reporting their dependence on advice from mothers than vice versa ($M = 2.00$ daughters, $M = 2.38$ mothers). Daughters agreed that their mothers knew best ($M = 2.00$) but mothers did not agree that their daughters knew best ($M = 3.50$). While daughters felt that their mothers always knew what was best for them ($M = 2.25$), mothers remained neutral on the subject ($M = 3.00$). In addition, daughters agreed that they could use their mother's wisdom as a resource when making decisions ($M = 2.13$), mothers indicated they were neutral to slightly disagreeing about their daughter's wisdom.

Table 8

Response to Statement, If My Mother Ever Needs Anything, I Help in Whatever Way I Can Even If It Means Making Huge Sacrifices

	Frequency	Percent
Strongly Agree	13	81.3
Agree	3	18.8

Again, daughters more than mothers tended to favor trust ($M_d = 2.13$, $M_m = 3.38$), wisdom ($M_d = 1.38$, $M_m = 2.75$), and need of consulting ($M_d = 1.63$, $M_m = 2.38$) when making a hard decision. There were no paired sample correlations. In reflecting mothers and daughters evaluation of their relationship, 43.8% of subjects viewed their relationship as close, 50% as very close, and 6.25% (one daughter) as somewhat close. Mothers and daughters ranged between satisfying and very satisfying with their overall relationship (see Table 9).

Table 9

Response to Statement, My Overall Relationship with My Mother Is:

	Frequency	Percent
Very Satisfied	10	62.5
Satisfied	6	37.5

The MAD questionnaire was developed and utilized as a culturally sensitive instrument to understand mother and adult-daughters relationship (Rastogi, 2002). There were three subscales assessed in this study (i.e., connectedness, interdependence, trust in hierarchy) and used with permission from the author.

The Cronbach's alpha reliability coefficient of the total scale of the MAD Questionnaire (Rastogi, 2002) was 0.713, indicating internal consistency. The Cronbach's alpha coefficient for the three subscales, as well as the means and standard deviations, can be seen in Table 10. Cronbach's alpha coefficients in the present study were comparable to those listed in the previous report utilizing the MAD.

Table 10

Reliability Analysis, Means, and Standard Deviations of the Subscales of the MAD

Subscales	Number of Items	Cronbach's Alpha	Mean	SD
Connectedness	9	0.606	36.68	3.29
Interdependence	3	0.778	11.88	2.33
Trust in Hierarchy	6	0.925	19.81	5.67
Total MAD	20	0.713	82.33	8.20

Connectedness

According to Rastogi (1999), the Connectedness subscale had a reliability coefficient of 0.92 with face validity established in pre-testing with a pilot sample, content validity derived from the attachment theory, and construct validity correlated with the Adult Attachment Scale (AAS) of 0.77. The first 5 questions and Questions 24 – 25 were not scored in this study as were not in the original study (see Appendix E). Connectedness subscale responses were coded into SPSS data analysis. Scores were totaled based on the number of items answered ($M = 37$; range 28 – 42). Reliability was measured using Cronbach's alpha (0.580). Lower scores reflect increased comfort and greater exhibit of connectedness. The mothers and daughters on average scored strong for connectedness. Table 11 lists the statistical data for each question in the Connectedness subscale.

Table 11

Means and Standard Deviations of the MAD Connectedness Subscale

Question	<i>M</i>	<i>SD</i>
I can share my intimate secrets with my mother (daughter).	2.31	.95
My mother (daughter) can share her intimate secretes with me.	1.93	1.10
I can share my personal feelings with my mother (daughter).	1.94	.74
My mother (daughter) can share her personal feelings with me.	1.63	.72
I can share my opinions and values with my mother (daughter).	1.44	.51
My mother (daughter) can share her opinions and values with me.	1.25	.45
If my mother (daughter) ever needs anything, I help in whatever way I can even if it means making huge sacrifices.	1.19	.40
My mother (daughter) will always love me regardless of what I do.	1.38	.72
Closeness to mother (daughter)	1.56	.63

Interdependence

The subscale has a reliability coefficient of 0.86 with face validity established in pre-testing with a pilot sample; content validity derived from the attachment theory and correlated with the AAS at 0.58 (Rastogi, 1999). Items for this subscale measured whether the daughter's expectation that mother would be available, emotionally or otherwise, whenever needed. Scores of interdependence ranged between 3 and 15; higher scores indicating high interdependence by daughters. Scores for this study ranged from 8 to 15 ($M = 12$), indicating high interdependence.

Table 12

Means and Standard Deviations of the MAD Interdependence Subscale

Question	<i>M</i>	<i>SD</i>
If I ever need any kind of help, I do not hesitate to ask my mother (daughter) for advice.	1.94	.93
I often depend on my mother (daughter) for advice.	2.19	.75
I feel the need to consult my mother (daughter) when making a hard decision.	2.00	1.10

Trust in Hierarchy

Trust in Hierarchy was also a construct of the MAD and was part of this study. It reflects positive aspects of the hierarchical intergenerational relationship between both mother and adult-daughter. Any-age daughter deferring to the mother for necessary support or information defined hierarchal trust; scores are reported between 6 and 30, with higher scores reflecting greater trust in hierarchy (Rastogi, 1999). A reliability coefficient of 0.87 related to actual trust in hierarchy. Content and face validity were assessed. The scores for this study ranged from 6 to 26 ($M = 20$), indicating a moderate-to-high trust in hierarchy. Daughters demonstrated significantly more trust in hierarchy.

Table 13

Means and Standard Deviations of the MAD Trust in Hierarchy Subscale

Question	<i>M</i>	<i>SD</i>
My mother (daughter) always knows best.	2.75	1.13
My mother (daughter) always knows what is good for me.	2.63	1.09
I do what my mother (daughter) suggests because it takes away the hassle of having to figure it out for myself	3.25	1.06
I always trust my mother's (daughter's) judgment.	2.75	1.00
I feel I can use my mother's (daughter's) wisdom as a resource when making decisions.	2.06	1.24
Sometimes I will give in to my mother (daughter) out of my respect for her.	2.75	1.13

Closeness

Closeness as related in the MAD study measured the comfort of subjects like intimacy and closeness. The correlations for actual and ideal closeness were 0.77 and 0.41 respectively (Rastogi, 1999).

Open-Ended Questions

Qualitative questions in this study included three questions at the end of the MAD communication questionnaire. The questions were established to capture actual mother and adult-daughter communication about breast health and breast cancer, whether this communication about breast health and breast cancer influenced the daughter's participation in breast cancer screening activities, and what were cancer-screening

activities utilized in the past 12 months. The major themes that resulted from the questions were sharing of anxieties about breast cancer, the need for support between mother and adult-daughter, being open about talking (e.g., “We talk about it openly”), and getting tested. Interestingly, two mothers and two daughters communicated about breast cancer in terms of *it* – there existed an incongruence between talking openly about breast cancer and not having the courage to identify *it* as breast cancer. Ninety-four percent of mothers and adult-daughters (14 out of 15 responses) communicated with each other about breast health and breast cancer and they were influenced to participate in breast cancer screening activities. Although this was significant for this cohort, it is important to note that the small sample size prevented generalizability to all women.

Mothers and adult-daughters were asked to list breast cancer screening activities that they had participated in over the past 12 months. The following is a list of what daughters openly communicate involving the questions posed by the PI.

- Receiving recent and annual mammograms,
- Participating in breast cancer fund-raising activities (e.g., Race for a Cure, Making Strides, Breast Cancer Three-Day),
- Routine ultrasounds, CT scans, MRIs, and breast examinations by their physicians (CBE), including check-ups with radiologists and oncologists.
- Attending seminars and support groups on breast cancer,
- Participating in a research study, and
- Home breast self-examinations (BSE).

One daughter reported, “I saw a breast specialist to have my breasts examined.” Another daughter stated, “My mother just recently gave me the number to a free

mammogram, I will have a mammogram before this study is complete.” Of interest, two daughters and one mother declined to complete this question.

Interrelationships of the TRA/IMB and Variable Analysis

The TRA was chosen as this study’s theoretical model because it is popular both socially and psychologically relating to the prediction of behavior. The TRA has effective components or factors that influence behavior (e.g., attitude and perceived risk/susceptibility, knowledge, intention, beliefs, self-efficacy, perceived barriers (Ajzen & Fishbein, 1980). These are all factors that the subjects of the present study had to consider in their assessed questionnaires with the notion of making informed decisions to participate in breast cancer screening activities. The IMB model was integrated in the present study promoting support of the TRA; incorporating norms, attitudes, self-efficacy, and control aspects of the TRA and how some factors related to health beliefs and self-efficacy with respect to behavior. As for education, 50% of mothers and daughters had earned college or advanced degrees; 44% of the subjects had some college or technical school education. In experiencing higher education, the dyads represented opportunity for increased knowledge or understanding of breast health and breast cancer. Daughters were accurate 85.4% of the time in their knowledge about some of the warning signs or symptoms of breast cancer; mothers scored 67% accurate knowledge on the same elements. Risk perception was moderate between mothers and daughters; areas with poor ratings included obesity, smoking, and women 50 years or greater associated with breast cancer. However, knowledge, risk susceptibility, beliefs, mother’s diagnosis with evolved communication, understanding barriers, and self-efficacy were strong predictors of intention to participate in breast cancer screening activities.

The TRA and IMB were behavior models that promoted mammographic-screening. The models relied on numerous factors towards increasing the decision-making process to participate in breast cancer screening activities and the questionnaires completed by mothers and daughters encourage thought of attitude, self-efficacy, health beliefs, knowledge, intention, and empowerment to act. Both mothers and daughters had a high degree of understanding about mammograms. Forty-four percent of the dyads felt strongly that they could do something to prevent breast cancer. The concepts of connectedness and closeness as discussed by Rastogi (1999) and open communication between mother and adult-daughter created an opportunity for reasoned thought along with the intention to make an informed decision to participate in breast cancer screening activities (e.g., BSEs, CBEs, mammographic-screening).

To assess differences between mothers' and adult-daughters' responses to questions found in Appendix D, dependent *t*-tests examined the constructs *knowledge*, *risk perception*, and *communication* using Rastogi's (1999) instructions on scoring. As some questions were negatively worded, reverse scoring was used for those items to ensure consistency; that correct answers would get points and incorrect answers would receive no points. Questions 7 and 11 were thrown out because they were inappropriately stated for testing. The multiple-choice questions were recoded into Yes/No responses. The opening question in Appendix E, marking the breast cancer risk line, was eliminated from construct scoring as it could not be converted into a Yes/No response. Likewise, Questions 23 – 25 of Appendix F were not added into construct scoring. The *t*-test results demonstrated that daughters scored higher on communication, but that difference did not

achieve statistical significance. There was no correlation between age and breast cancer scores.

Analysis of Research Questions

Research Question 1: How effective is African-American mother adult-daughter breast health and breast cancer communication in encouraging early breast cancer screening activities intended to impact the daughter's potential for acquiring the disease?

Knowledge and breast cancer screening activity participation confirmed a positive relationship, but the difference was not enough to achieve statistical significance with the available sample size. Crosstab analysis of all knowledge questions were performed on mother and adult-daughter and no significance differences were found. Mother and adult-daughter communication was positive in general; daughters acquired some learning from their mothers and might have been inspired to participate in breast cancer screening activities. Daughters were closely involved in the mother's diagnosis and treatment processes as evidenced in the narrative, open-ended communication questions.

Research Question 2: What are the relationships among knowledge about breast health and breast cancer adult-daughters receive from their mothers; daughters' perceptions of the quality of the mother adult-daughter relationship; daughters' perception of their own health; daughters' perception of their mothers' health; and selected demographic variables?

The adult-daughters communicated positively about breast cancer knowledge in view of their answers to mammography. The daughters could have obtained this knowledge through a host of resources, including their mothers. In this study, there was no measurement of breast cancer knowledge exchanged between mother and daughter.

With regard to the perception of the mother-daughter relationship through the eyes of the daughter, daughters tended to rate their relationships with their mothers either close or very close. The overall relationship as stated by the daughters was between satisfying and very satisfying. In reference to breast cancer, daughters rated themselves low on the risk scale compared to mothers (3.4 to 5.7 respectively on a 10-point scale). There were no significant differences between breast cancer knowledge, perception of the mother-adult daughter quality of their relationship, daughter's perception of own health or mother's health, and demographics.

Review of the Hypotheses

This research study was initiated with the focus of three hypotheses in exploring relationships, communication, and behavior in search of determining whether the concepts of knowledge, risk perception, communication, and self-efficacy related to African-American adult-daughters participation in breast cancer screening activities. The following hypotheses were studied:

1. There is no relationship between the variables of breast cancer knowledge, breast cancer risk perception, mother adult-daughter communication, self-efficacy, and participation in early breast cancer screening activities.
2. Demographics, breast cancer knowledge, breast cancer risk perception, mother adult-daughter communication predicts participation in early breast cancer screening activities.
3. Breast cancer knowledge and risk perceptions moderate the effect of demographics and communication on early breast cancer screening activities.

Hypothesis 1 found no relationship between the variables of breast cancer risk perception, mother adult-daughter communication, self-efficacy, and participation in early breast cancer screening activities. Correlational analysis were performed on all variables and demonstrated a positive relationship between knowledge and participation in early breast cancer screening activities; however, no statistical significance was appreciated secondary to the small sample size.

Hypothesis 2 was assessed by multiple regression analysis and did not confirm any significant findings between knowledge, cancer risk perception, mother adult-daughter communication, and participation in breast cancer screening activities, although mother and adult-daughter shared high income and education levels. The only significant correlation was between breast cancer knowledge and breast cancer screening.

For Hypothesis 3, a univariate analysis of variance was conducted using breast cancer knowledge and breast cancer risk. The results did not moderate the effect of demographics. In addition, breast cancer communication did not prove significance that breast cancer knowledge and risk perceptions moderated the effect of demographics and screening activities. Again, the sample size was small, results were underpowered, and finding statistical significance would have required vast differences in the results.

CHAPTER 5

Findings

Summary

The purpose of this study was to investigate whether knowledge, risk perception, communication, and self-efficacy influenced African-American adult-daughters to participate in early breast cancer screening activities. This chapter discusses the findings within the context of the literature, reports the limitations, implications for practice, recommendations for the future, and conclusions.

This study revealed, as the literature alluded to, that mothers and adult-daughters shared intimate, strong, intergenerational relations; however, there were instances in which they fluctuated within this relationship involving positive and negative emotions, knowledge, general communication, and decisions (Fingerman, 2001; Fingerman & Lefkowitz, 2003; Vogl-Baur, 2003). The positive aspects to this important relationship could be utilized in promoting open mother adult-daughter dialogue to encourage breast cancer screening participation. As were some of the women who did not respond to this study, they might not be interested in or appreciate the need to curtail breast cancer mortality in this population. Poor results in subject recruitment were realized in this study although multiple sources were utilized and time was extended for return of surveys.

The majority of the women in this study understood that they are responsible for their own bodies and significant results were seen in these women's scores of being influenced to participate in breast cancer screening activities, although no specific measure of mothers educating daughters was utilized. Communication was the emphasis for this entire study in determining the impact of the mother adult-daughter relationship and communication processes and what opportunities existed in influencing each other to seek medical care where needed. The survey revealed that the majority of mothers and daughters were comfortable in conversing about breast health and breast cancer; when questioned about embarrassment in speaking on the subject, 75% of subjects strongly disagreed with that statement. Findings in the literature indicating that communication was linked to health maintenance, that African-American women were motivated, and that they demonstrate positive health-seeking activities after having acquired knowledge by other African-American women were strongly supported (Russell et al., 2003).

The results revealed that women who discussed and felt comfortable in their conversations with each other were more likely to make mammography appointments, have regular check-ups (e.g., ultrasounds, CT Scans, MRIs, radiology consults, oncology visits), and ask necessary questions concerning their health. Fowler (2006 a or b?) studied African-American women and their decisions to seek mammography screening and concluded that five pivotal social processes were important to the women making such a decision. Three of the five key points were evident in the present study: the reporting of fears and fatalistic beliefs of breast cancer and related treatment (e.g., getting a mammogram, believing breast cancer was the will of the Lord), valuing the opinions of significant others (e.g., mothers, daughters), and relying on religious beliefs and supports.

In this study, daughters' proximity to mothers was assessed related to communication opportunities. Except for one daughter, all other daughters reported visiting their mother either once a week or almost every day. In actual communicating with each other (calling, writing/receiving letters, emailing), both mothers and daughters equally stated communicating either daily or weekly. Some of the daughters communicated their involvement during the mother's cancer experience in the narrative/open-ended questions created by the PI. One daughter stated, "We communicate openly and, since I was her caregiver during her ordeal with breast cancer, I was intimately involved in all details." This positive concept provided significant evidence that can be useful to the limited research on mother adult-daughter breast cancer connectedness and breast cancer screening.

Results of this study revealed that all 16 subjects assessed and reported an understanding of the susceptibility of the risk of breast cancer; although 50% of mothers and daughters shared a lack of knowledge relating to obesity, smoking, and being over 50 years old were risks associated with breast cancer. All of the women agreed that mammograms were worth it. As in previous research as well as in this study, fear and fatalistic thinking presented as barriers for some women; areas requiring further education, support, and guidance by family, friends, and health care providers to assist in building strong self-efficacy.

The MAD subscales of connectedness and interdependence did not demonstrate any significant differences; however, trust in hierarchy illustrated significance with mothers scoring lower in the trust questions (e.g., *My daughter always knows best* versus *My mother always knows best*; Appendix F, Questions 16-21). Mothers were more

connected and less interdependence, but that difference failed to achieve statistical significance. Two of the mothers scored considerably lower on interdependence and trust. There were no significant correlations between closeness, trust, and interdependence.

Of note, while the MAD survey was designed for cross-culturally sensitive situations, it was not utilized in this manner for this study. It was used to assess the mother adult-daughter intergenerational relationship and their communication.

Conclusions

The quantitative information gathered throughout this research project pointed to the following conclusions:

- Daughters who were more educated, knowledgeable, connected to their mother, health conscious, and who perceived less barriers (e.g., fear and fatalism) were more likely to participate in breast cancer screening activities (BSE, CBE, mammography).
- Social support was not a critical factor for this cohort for the intention to participate in breast cancer screening activities.
- Positive mother adult-daughter relationships were associated with open communication.
- There was no significance between mammographic screening and demographic variables in this study population.
- The higher the level of education, the more likely the mother adult-daughter dyad was to participate in breast cancer screening activities.

- Some of the daughters may have had previous health care education about breast health and breast cancer or they may have gained such knowledge during the course of their mother's breast cancer experience.

The sample size of this study was much smaller than originally planned secondary to recruitment difficulty. It is imperative to mention that the findings from this particular study are generalizable only to the mothers and adult-daughters studied. Nonetheless, the concept of mother adult-daughter communication about breast health and breast cancer, and daughters going to their mothers for advice, sharing of knowledge and opinions, and trust in hierarchy may potentially increase health communication opportunities. Difficulty in mother and adult-daughter communication might be due to a habitual lack of real communication skills, discomfort in specific topics of discussion, or perhaps lacking the time to talk.

Limitations of the Study

Limitations to this study related primarily to the sample size that truly affected the interpretive results and that the sample was one of convenience rather than random. All of the subjects were African-American women. Adding more to the qualitative aspect of free, open-ended questions might have increased the descriptive personal experiences of both mothers and daughters and enlightened the study about knowledge, risk perception, specific subject experiences with breast cancer, treatment, and mammography. This would have also helped in obtaining information from daughters about their previous breast health and breast cancer experiences prior to the mother's diagnosis or whether they were changed by mother's experiences. Another major limitation reflected the use of self-reports and whether both mothers and daughters were honest in their reporting. There

were no measures utilized to test for truthfulness of the subjects. Despite the noted limitations, this study provides information that supports previous studies investigating mother-daughter relationships.

Clinical and Education Implications

The goal for this study was to promote early breast cancer detection and participation in breast cancer activities in the effort to have an impact on the mortality rate among the African-American population. Another important goal was in empowering these women to take charge of their health by encouraging other women and daughters to speak openly with each other and, more importantly, their health care providers. Increased communication could lead to successful disease prevention and increased breast health and breast-cancer activity adherence. How health care professionals interact with patients may influence the patient's health decision-making. Awareness of the African-American woman's health history is vital to increasing their participation in disease prevention and health maintenance (e.g., historical negative health care underpinnings experienced by the woman's mother, sexism, discrimination, differences in accessibility, quality of care). The benefits of open communication between mother and adult-daughter outweighed the costs of not seeking knowledge and understanding for the women in this study. Negative reporting of health care information represents a negative outcome for African-American women and this can encourage non-participation in positive health care behaviors.

With greater understanding of the intergenerational barriers that many African-American women experience in relation to their health status and self-efficacy in making sound decisions about self-care, health professionals have the opportunity to increase

health promotion and disease prevention practices within this group of women. The results from this study about mother adult-daughter relational communication and open dialogue can be useful in encouraging participation in breast cancer screening activities. Instead of health care professionals, the media, and advertisers emphasizing the negative consequences of having breast cancer or the *greater risks* for developing breast cancer, they should focus on presenting information and providing education utilizing a positive perspective (e.g., positive verbiage on the importance and benefits of routine breast cancer screening and early detection).

Nurses at all levels should reinforce positive beliefs, build confidence, share updated breast health and breast cancer information on improved methods, treatments, and research results, encourage and motivate, and allow women to communicate openly. More and improved methods for delivering breast cancer information to patients are needed to assist in the promotion of breast cancer screening and should be done in a beneficial manner so that the patient receives the message understanding the action needed to improve their health. Monahan (1995) communicated about how affect (e.g., fear) could pose to some as a negative or positive; that is, in the delivery method of information, the person could either receive the message as power towards acting positively or receive the message negatively and choose not to act at all, especially if the message related to health. In this study and with carefully framed risk-assessment questions, the women communicated positively about breast screening; almost all of the subjects had health insurance coverage, felt personal responsible for their own bodies, and followed through with annual check-ups because these were significant predictors for participation in breast cancer activities.

Establishing trusting, cohesive, patient-provider relationships is crucial to patients feeling comfortable in conveying their health information and their being open to receiving valuable health care teachings and knowledge for prevention and maintenance. Allowing for mother adult-daughter appointment visits can assist in building this intergenerational relationship and encourage open dyad dialogue and support for one another. Such action decreases fear and negativity while permitting opportunity for growth, understanding, and involvement in personal health care situations. Health care providers ought to become familiar and informed about the communities and patients that they serve. Specific, cultural, routine breast-health packets could be developed by health care providers and offered or distributed to patients privately because some patients desire information but are too embarrassed to request it. As communicated in this study, people have different styles of learning and it may help health care providers to assess how their patients learn at the initial meeting and attempt to share health information based on this preferred style. In today's world of advanced technology, especially the Internet, providers could establish their own websites for their patients to access and obtain health care information.

Nursing Education

Nursing programs should make sure that curriculums emphasize specific health care disease processes prevalent in the communities that they serve (e.g., breast health, breast cancer). Such programs would be providing nurses with the necessary, theoretical knowledge, practical hands-on examination skills, and communication skills that are needed in providing promotional and preventive care to the patients that they serve. Nursing programs should continue to stress culture-specific learning. Nurses are in

pivotal roles and should ensure that they are addressing patient's needs, institute teaching and learning one-on-one while patients are in their presence; all nurses should do this every day and in every venue where they work.

Nursing Research

Breast cancer continues to be the most devastating cancer disease for all women and accounts for more cancer deaths, especially African-American women, with the exception of lung cancer as the number one cause of cancer death (ACS, 2008; National Cancer Institute, 2007). The purpose of nursing research is to promote disease prevention and monitoring disease prevalence. Nurses in advanced positions (e.g., nurse practitioners, advanced practice nurses, doctor of nursing practice [DNP], doctor of philosophy [PhD] in nursing) perform research, assist in curtailing disease mortality rates, and develop alternative or modification interventions relating to disease and death. Research is occurring more at the local hospital level encompassing collaborative departments to assess factors that influence health promotion and health protection behaviors.

Policymakers

A major goal of Healthy People 2010 (U.S. Department of Health and Human Services, 2007b) is focused on health promotion and prevention as initiated with Healthy People 2000 by reducing new cancer cases and associated deaths that may occur, especially breast cancer mortality and morbidity. It encourages all people to work on taking specific and necessary steps towards the maintenance of health (U.S. Department of Health and Human Services, 2007a). Emphasis on improving access to breast cancer prevention screening services should continue at the local, federal, and state levels.

Opportunities to increase health education awareness for women about breast health and breast cancer through means of the media, communication advertisement campaigns, research, magazine advertisements, journal articles, newspaper health sections, and, most importantly, at the local level through health fairs and work environments should continue and be improved. With unprecedented health care costs in the United States, the need is far greater legislatively to create a health care policy to include all individuals and encourage preventive and promotional health behaviors.

Recommendations for Future Research

The original inspiration for studying breast cancer and mother adult-daughter communication in African-American women related to the continual high cancer mortality rate associated with this population. Even after the completion of the present study, further research is essential to query and assess why this group of women continue to experience such devastation with breast cancer. Apparently, lack of knowledge continues to be a factor as seen in this study where some women, equally mothers and daughters, were not aware that obesity, smoking, and being over 50 were linked with breast cancer. The majority of literature speaks to the factual insight that late-stage diagnosis in African-American women is associated with breast cancer mortality. With that said, perhaps findings from the present study on mother adult-daughter communication could advance research into seeking answers to the relationship of breast cancer and late-stage diagnosis.

The current study revealed factors explaining African-American mother adult-daughter communication about breast health, breast cancer, and breast cancer screening activities. Further research should follow comparing other cultural groups of women

utilizing a larger sample, perhaps looking at African-American daughters with breast cancer and mothers without breast cancer using the MAD instrument. Qualitative research on mother adult-daughter communication patterns presents an opportunity for further research as well. Of interest would be exploring the feasibility of quantitative research utilizing a longitudinal design for African-American mother adult-daughter communication about breast health and breast cancer. An additional topic would be whether dyads encourage increased participation in breast cancer mammographic-screening.

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Appendix A

University of San Diego (Mother) Research Subject Consent Form

Intergenerational Communication: Its Effect on Early Screening Behaviors in African-American Adult-Daughters of Mothers with Breast Cancer

Rita R. Callahan is a doctoral student in nursing at the Hahn School of Nursing and Health Sciences at the University of San Diego. She is exploring the African-American mother and adult daughter communication experience as it relates to the mother's breast cancer and the daughter's breast cancer screening activities. You are invited to participate in this research project for the purpose of exploring the insights of African-American women who have been diagnosed with breast cancer within the past 12 months and who have a daughter over the age of 18 who is interested in participating along with you.

The research project will involve one session or time that will take about 15 - 20 minutes. Rita will ask you to fill out three questionnaires that will ask you information about your breast cancer perceptions and the communication relationship between you and your adult daughter. A typical question on these questionnaires is, "What do you think are some of the warning signs or symptoms of breast cancer?" You will also be asked general questions about yourself such as age, occupation, and number of daughters in your family.

There may be a risk that you may feel tired or fatigued while filling out the questionnaires. You can stop at any time to rest, decide not to fill out all the forms, or withdraw from the study anytime. Sometimes when people are asked to think about their feelings, they feel sad or anxious. If you would like to talk to someone about your feelings at any time, you can call toll-free 24 hours a day: **San Diego Mental Health Hotline at 1-800-479-3339**

The benefit to participating will be in knowing that you helped nurses and healthcare providers know more about how to help African-American mothers diagnosed with breast cancer, and their adult-daughters with regard to breast cancer screening activities.

The only cost to you is 15 - 20 minutes of your time. You will receive a \$25 gift card of your choice to one of the following stores or services: Target, Vons Market, Walmart, or American Express for participating in the research project. Rita will give you the \$25 gift card even if you start the interview and decide not to finish it, or decide to withdraw from the study completely.

Any information provided and/or identifying records will remain confidential and safeguarded in a locked file in Rita Callahan's home for a minimum of five years. All data collected from you will be coded with a number and not your name. The results of the research project may be made public and information quoted in professional journals

or meetings, but information from this study will only be reported as a group, and not individually.

Participation in the research project is entirely voluntary and you can refuse to answer any question and/or quit at any time. Should you choose to quit, no one will be upset with you. Rita will still give you the \$25.00 gift card. Deciding not to participate or answer some of the questions will have no effect on your health care or any other services you might receive from doctors, nurses, or social services.

If you have any additional questions about this research project, please contact Rita Callahan at (619) 585-1158 or (619) 252-9787. You may also contact Dr. Anita Hunter, the professor who is supervising Rita's research, at the University of San Diego School of Nursing (619) 260-7609 for additional information.

I have read and understand this form, and consent to the research it describes to me. I have received a copy of this consent form for my records.

Signature of Subject (Mother)

Date

Name of Subject (Printed)

Signature of Investigator

Date

Appendix A
University of San Diego
(Daughter) Research Subject Consent Form

Intergenerational Communication: Its Effect on Early Screening Behaviors in African-American Adult-Daughters of Mothers with Breast Cancer

Rita R. Callahan is a doctoral student in nursing at the Hahn School of Nursing and Health Sciences at the University of San Diego. She is exploring the African-American mother and adult daughter communication experience as it relates to the mother's breast cancer and the daughter's breast cancer screening activities. You are invited to participate in this research project for the purpose of exploring the insights of African-American mothers who have been diagnosed with breast cancer within the past 12 months and who have a daughter over the age of 18 who is interested in participating.

The research project will involve one session of time that will take about 15 - 20 minutes. Rita will ask you to fill out three questionnaires that will ask you information about your breast cancer perceptions, breast cancer knowledge, and the communication relationship between you and your mother. A typical question on these questionnaires is, "What do you think are some of the warning signs or symptoms of breast cancer?" You will also be asked general questions about yourself such as age, and occupation. There may be a risk that you may feel tired or fatigued while filling out the questionnaires. You can stop at any time to rest, decide not to fill out all the forms, or withdraw from the study anytime. Sometimes when people are asked to think about their feelings, they feel sad or anxious. If you would like to talk to someone about your feelings at any time, you can call toll-free 24 hours a day: **San Diego Mental Health Hotline at 1-800-479-3339**

The benefit to participating will be in knowing that you helped nurses and healthcare providers know more about how to help African-American mothers diagnosed with breast cancer, and their adult-daughters with regard to breast cancer screening activities.

The only cost to you is 15 – 20 minutes of your time. You will receive a \$25 gift card of your choice to one of the following stores or services: Target, Vons Market, Walmart, or American Express for participating in the research project. Rita will give you the \$25 gift certificate even if you start the interview and decide not to finish it, or decide to withdraw from the study completely.

Any information provided and/or identifying records will remain confidential and safeguarded in a locked file in Rita Callahan's home for a minimum of five years. All data collected from you will be coded with a number and not your name. The results of the research project may be made public and information quoted in professional journals or meetings, but information from this study will only be reported as a group, and not individually.

Participation in the research project is entirely voluntary and you can refuse to answer any question and/or quit at any time. Should you choose to quit, no one will be

upset with you. Rita will still give you the \$25.00 gift card. Deciding not to participate or answer some of the questions will have no effect on your health care or any other services you might receive from doctors, nurses, or social services.

If you have any additional questions about this research project, please contact Rita Callahan at (619) 585-1158 or (619) 252-9787. You may also contact Dr. Anita Hunter, the professor who is supervising Rita's research, at the University of San Diego School of Nursing (619) 260-7609 for additional information.

I have read and understand this form, and consent to the research it describes to me. I have received a copy of this consent form for my records.

Signature of Subject (Daughter)

Date

Name of Subject (Printed)

Signature of Investigator

Date

Appendix B: Instructional Cover Letter

**Questionnaire Surveys on Women's Health and Communication
- Focus on Breast Cancer -**

Dear Subject,

We hope this letter finds you in good health.

Breast cancer is the second most common cause of cancer death in American women, aside from lung cancer. Approximately 40,000 women die annually from this disease with a high percentage of these deaths occurring in the African-American population.

The incidence of breast cancer is lower in African-American women; however, the mortality rate far exceeds that of any other female cultural group. According to ACS, Facts & Figures, 2008, an estimated 40,460 United States (US) women will succumb to this deadly disease this year alone.

In an effort to understand morbidity and mortality rates in African-American women, relating to breast cancer, the study's focus is in assessing the importance of breast health and breast cancer communication between adult daughters and mothers. We decided to conduct questionnaire surveys to focus on African-American women's breast health knowledge, breast cancer knowledge, perceived risk factors, and communication.

Your cooperation in filling out the survey forms carefully and in detail will help us better learn about African-American women's intergenerational communication in regards to breast health knowledge and breast cancer knowledge.

It will take about 15 - 20 minutes to fill out the questionnaire surveys. **Please take care not to put your name on the surveys.** You may place the date and time at the right top hand corner on each survey form. The surveys are confidential and your privacy will be protected, as the information you provided will be statistically process by computer. We will not use the information you provide in the surveys for any other purpose other than what is stated here.

We would like to ask that you, yourself, fill in this questionnaire. Your participation is strictly voluntary and will not affect the services you receive from any participating agency or clinic.

There are two copies of consent forms. Please sign both forms; keep one copy for your records and place the other signed consent form in the small envelope provided and then place it and your completed questionnaires in the larger envelope to be mailed back to the address below. Consent forms will be separated from questionnaires before they are

analyzed to maintain confidentiality. There is no postage required to return the completed forms.

Please return completed packets to:

Rita Callahan
424 Sanibelle Circle #123
Chula Vista, CA 91910-7542

The results of the surveys will be summarized as a report to the University of San Diego, San Diego, California in association of meeting the requires for a dissertation proposal.

If you have any questions about the questionnaires, please contact Rita Callahan or Dr. Anita Hunter (contact information listed below).

Please indicate your choice of gift certificate by circling it on the consent form that you are sending back to Rita. Thank you very much for your cooperation. We wish you the best of good health.

Sincerely,

Rita R. Callahan, RN, BSN, MA, PhD(c)
University of San Diego
Tel: (619) 585-1158 or (619) 252-9787
Email: rcallah11@cox.net

Dr. Anita Hunter: Faculty Advisor
Hahn School of Nursing and Health Science
University of San Diego
Tel: (619) 260-7609
Email: ahunter@sandiego.edu

Appendix C: Demographic Form

(Mother) Demographic Questionnaire Survey Form

Subject ID #: _____

Survey Date: _____

Breast Health Intervention Evaluation Survey

- Mailing Address (results of study will be mailed to you at this address) **Please List:**

Please fill in the blank or check the correct response.

1. What is your age? _____
2. What was your household income last year?
 - ☐1 Less than \$10,000
 - ☐2 \$10,000 - \$14,999
 - ☐3 \$15,000 – 24,999
 - ☐4 \$25,000 – 34,999
 - ☐5 \$35,000 - \$49,999
 - ☐6 \$50,000 or more
 - ☐0 Unknown
3. What level of education have you completed?
 - ☐1 Less than high school graduate
 - ☐2 High school graduate or GED
 - ☐3 Some college or technical school
 - ☐4 College graduate
 - ☐5 Advanced college degree
 - ☐6 Other
4. What is your marital status?
 - ☐M Married
 - ☐S Single
 - ☐P Partnered
 - ☐0 Divorced, widowed, or separated
5. What is your occupation?
 - ☐F Full-time work: C Clerical, P Professional, S Skilled, O Other
Specific: _____
 - ☐P Part-time work: C Clerical, P Professional, S Skilled, O Other
Specific: _____
 - ☐S Self-employed: C Clerical, P Professional, S Skilled, O Other
Specific: _____
 - ☐H Housewife

- ☐U Unemployed
 - ☐R Retired
 - ☐O Other: (specify _____)
6. Do you have children?
- ☐Y Yes (**Go to Question 8 of this survey**)
 - ☐N No (**Go to Question 12 of this survey**)
7. How many daughters do you have? _____
8. How many daughters do you have that are greater than 18 years-of-age? _____
9. Do you have a regular source of health care?
- ☐Y Yes
 - ☐N No
10. How do you pay for your health care? (Check all that apply)
- ☐Y Private Insurance
 - ☐Y Medicaid
 - ☐Y Medicare
 - ☐Y Cash, check, money order, or credit card
 - ☐Y Other
11. Do you currently have any health problems?
- ☐N No
 - ☐Y Yes, 1-2 health problems
 - ☐Y more than 3 health problems

If you know of any other African-American Mother-Adult Daughter subjects where the mother has been diagnosed with breast cancer within the past 12 months who may be interested in being interviewed, please ask them to contact me at (619) 585-1158.

(Daughter) Demographic Information Form

Subject ID #: _____

Survey Date: _____

Breast Health Intervention Evaluation Survey

- Mailing Address (results of study will be mailed to you at this address) **Please List:**

Please fill in the blank or check the correct response.

1. What is your age? _____
2. What was your household income last year?
 - 1 Less than \$10,000
 - 2 \$10,000 - \$14,999
 - 3 \$15,000 – 24,999
 - 4 \$25,000 – 34,999
 - 5 \$35,000 - \$49,999
 - 6 \$50,000 or more
 - 0 Unknown
3. What level of education have you completed?
 - 1 Less than high school graduate
 - 2 High school graduate or GED
 - 3 Some college or technical school
 - 4 College graduate
 - 5 Advanced college degree
 - 6 Other
4. What is your marital status?
 - M Married
 - S Single
 - P Partnered
 - 0 Divorced, widowed, or separated
5. What is your occupation?

F Full-time work: C Clerical, P Professional, S Skilled, O Other

Specific: _____

(Daughter) Demographic Information Form, Page 2

P Part-time work: C Clerical, P Professional, S Skilled, O Other
Specific: _____

S Self-employed: C Clerical, P Professional, S Skilled, O Other
Specific: _____

H Housewife

U Unemployed

R Retired

O Other: (specify _____)

6. Do you have children?

Y Yes (**Go to Question 7 of this survey**)

N No (**Go to Question 9 of this survey**)

7. How many daughters do you have? _____

8. How many daughters do you have that are 18 years-of-age or greater? _____

9. Do you have a regular source of health care?

Y Yes

N No

10. How do you pay for your health care? (Check all that apply)

Y Private Insurance

Y Medicaid

Y Medicare

Y Cash, check, money order, or credit card

Y Other

11. Do you currently have any health problems?

N No

Y Yes, 1-2 health problems

Y more than 3 health problems

If you know of any other African-American Mother-Adult Daughter subjects where the mother has been diagnosed with breast cancer within the past 12 months who may be interested in being interviewed, please ask them to contact me at (619) 585-1158.

Appendix D
(Mother/Daughter) Breast Cancer Knowledge Survey Form
 Breast Health Intervention Evaluation (BRIE)

Subject ID #: _____
 Survey Date: _____
 Time: _____

Please answer the following questions by checking the correct response; except where it ask to check all that apply, select all of the answers that apply to you.

1. What do you think are some of the warning signs or symptoms of breast cancer?
(Check all that applies.)

- ☐ Y Lumps in the breast
- ☐ Y Shortness of breath
- ☐ Y Pain, soreness, burning in the breast
- ☐ Y Nausea
- ☐ Y Discharge from the nipple
- ☐ Y Swelling or enlargement of the breast
- ☐ Y Changes in shape of breast or nipple
- ☐ Y Discoloration

Please circle the response that indicates whether you think the following statements are TRUE or FALSE.

- | | | |
|---|---|---|
| 2. Mammograms are not very effective at detecting breast cancer. | T | F |
| 3. Breast cancer is more difficult to cure if detected early. | T | F |
| 4. Mammograms can cause breast cancer. | T | F |
| 5. Women who do monthly breast self-examination are more likely to find a lump that could indicate a problem. | T | F |
| 6. Most breast lumps are symptoms of breast cancer. | T | F |

Please circle the response that most closely indicates your agreement or disagreement with the following statements.

- | | <i>Strongly Agree</i> | <i>Mostly Agree</i> | <i>Neither Agree nor Disagree</i> | <i>Mostly Disagree</i> | <i>Strongly Disagree</i> |
|---|-----------------------|---------------------|-----------------------------------|------------------------|--------------------------|
| 7. I am responsible for taking care of my own
body including my breasts. | 1 | 2 | 3 | 4 | 5 |
| 8. Mammograms can hurt. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 9. | There is nothing I can do to prevent breast cancer. | 1 | 2 | 3 | 4 | 5 |
| 10. | Breast cancer is the will of the Lord. | 1 | 2 | 3 | 4 | 5 |
| 11. | I would be more likely to get a mammogram if encouraged or supported by someone close to me (husband, best friend, sister, etc.). | 1 | 2 | 3 | 4 | 5 |
| 12. | I think mammograms are worth it. | 1 | 2 | 3 | 4 | 5 |
| 13. | I don't want to get a mammogram because I'm afraid of what it might show. | 1 | 2 | 3 | 4 | 5 |
| 14. | Getting a mammogram is embarrassing. | 1 | 2 | 3 | 4 | 5 |
| 15. | I am not afraid of getting a mammogram. | 1 | 2 | 3 | 4 | 5 |

Subject ID #: _____
Time: _____

High Low

1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 1 10

1.	The risk of developing breast cancer in the United States is 1 woman in 10.	T	F
2.	High socioeconomic status is a higher than normal risk factor for breast cancer.	T	F
3.	Women with a family member who has had breast cancer are at <u>greater</u> risk for breast cancer than women without such a family history.	T	F
4.	Women who are overweight are at <u>greater</u> risk for breast cancer than women who aren't.	T	F
5.	Women who do not smoke are at <u>less</u> risk for breast cancer than women who smoke.	T	F
6.	Women who are older than 50 are at <u>greater</u> risk for breast cancer than women who are younger than 50.	T	F
7.	African-American women in general are at <u>lower</u> risk for dying from breast cancer than are women of other races.	T	F
8.	There are foods that can decrease breast cancer risk.	T	F

Appendix F: (MAD) Mother-Adult Daughter Survey Form:
(Mother/Daughter) Communication

Subject ID #: _____
Survey Date: _____
Time: _____

Please answer all questions and choose the answer that applies best to you. Keep in mind your **CURRENT** relationship with your daughter.

For questions 1 through 5, circle the best answer.

1. My daughter has lived with me:
 1. More than 25 years
 2. to 25 years
 3. Less than 15 years

2. To visit my daughter, I have to travel:
 1. 3 miles or less
 2. 30 miles or less but more than 3 miles
 3. 200 miles or less but more than 30 miles
 4. 800 miles or less but more than 200 miles
 5. 3,000 miles or less but more than 800 miles
 6. More than 3,000 miles

3. I see my daughter:
 1. Almost every day
 2. About once a week
 3. About once a month
 4. About once every few months
 5. Once or twice a year
 6. Less than once a year
 7. Never

4. I communicate (call, write/receive letters) with my daughter at least:
 1. Daily
 2. Weekly
 3. Monthly
 4. Less than monthly
 5. Never

5. If cost was not an issue, I would communicate (call/write) with my daughter:
 1. About the same as now
 2. A little more
 3. Much more

Please circle the response that most closely indicates your agreement or disagreement with the following statements.

	<i>Strongly Agree</i>	<i>Mostly Agree</i>	<i>Neither Agree nor Disagree</i>	<i>Mostly Disagree</i>	<i>Strongly Disagree</i>
6. I can share my intimate secrets with my daughter.	1	2	3	4	5
7. My daughter can share her intimate secrets with me.	1	2	3	4	5
8. I can share my personal feelings with my daughter.	1	2	3	4	5
9. My daughter can share her personal feelings with me.	1	2	3	4	5
10. I can share my opinions and values with my daughter.	1	2	3	4	5
11. My daughter can share her opinions and values with me.	1	2	3	4	5
12. If my daughter ever needs anything I help in whatever way I can even if it means making huge sacrifices.	1	2	3	4	5
13. If I ever need any kind of help, I do not hesitate to ask my daughter for advice.	1	2	3	4	5
14. I often depend on my daughter for advice.	1	2	3	4	5
15. My daughter will always love me regardless of what I do.	1	2	3	4	5
16. My daughter always knows best.	1	2	3	4	5
17. My daughter always knows what is good for me.	1	2	3	4	5
18. I do what my daughter suggests because it takes away the hassle of having to figure it out for myself.	1	2	3	4	5
19. I always trust my daughter's judgment.	1	2	3	4	5

- | | | | | | |
|--|---|---|---|---|---|
| 20. I feel I can use my daughter's wisdom as a resource when making decisions. | 1 | 2 | 3 | 4 | 5 |
| 21. Sometimes I will give in to my daughter out of my respect for her. | 1 | 2 | 3 | 4 | 5 |
| 22. I feel the need to consult my daughter when making a hard decision. | 1 | 2 | 3 | 4 | 5 |

For questions 23 through 25, choose the answer that describes you best, and circle your response.

23. I consider my daughter and I to be:

1. Very close
2. Close
3. Somewhat close
4. Not very close
5. Not close at all

24. Compared to other ordinary families of my culture that I have known, my relationship with my daughter is:

1. More close than others
2. About the same as others
3. Less close than others

25. My overall relationship with my daughter is:

1. Very satisfying
2. Satisfying
3. Neither satisfying nor dissatisfying
4. Dissatisfying
5. Very dissatisfying

26. How do you and your daughter communicate about breast cancer? **Please write your answer in the space provided below.**

27. My communication between my daughter and me, about breast cancer, and breast health has

influenced my participation in breast cancer screening activities:

1. Yes
2. No
3. My daughter and me talk about breast health, but not about breast cancer
4. My daughter and me talk about breast cancer, but not about breast health
5. My daughter and me never talk about breast cancer or breast health

28. List breast cancer screening activities that you have participated in over the past 12 months. **Please write your answer(s) in the space provided below.**

Appendix G: Advertisement Flyer

AFRICAN AMERICAN MOTHERS AND DAUGHTERS NEEDED

Looking for mother and adult daughters (over the age of 18) to participate in a study that focuses on breast health and breast cancer knowledge.

I am a nursing doctoral student who is doing research on the communication process of African-American mothers with breast cancer and their adult daughters.

If you are willing to participate
Please contact Rita Callahan, RN, PhD(c) to learn more at

(619) 585-1158 or (619) 252-9787

Or email: rcallah11@cox.net

Appendix H

University of San Diego IRB Research Approval

University of San Diego

Institutional Review Board

Project Action Summary

Action Date: November 29, 2007

Note: Approval expires one year after this date.

Type: ☐ New Full Review ☒ New Expedited Review ☐ Continuation Review Exempt
Review Modification

Action: ☒ Approved ☐ Approved Pending Modification ☐ Not Approved

Project Number 2007-11-057

Researcher(s): Rita R. Callahan Doc SON

Dr. Anita Hunter Fac SON

Project Title: Intergenerational Communication: Its Effect on Early Screening Activities
In Adult African-American Daughters of Mothers with Breast Cancer

*Note: We send IRB correspondence regarding student research to the faculty advisor
who bears the ultimate responsibility for the conduct of the research. We request that the
faculty advisor share this correspondence with the student researcher.*

Modifications Required or Reasons for Non-Approval

None

The next deadline for submitting project proposals to the Provost's Office for full review
is N/A You may submit a project proposal for expedited review at any time.

Dr. Thomas R. Herrinton

Administrator, Institutional Review Board

University of San Diego

herrinton@sandiego.edu

5998 Alcalá Park

San Diego, California 92110-2492

Office of the Vice President and Provost

Hughes Administration Center, Room 328

5998 Alcalá Park. San Diego. CA 92110-2492

Appendix I

MAD Instrument Approval

Rita Callahan

From: Rita Callahan [rcallahl@cox.net]

Sent: Sunday, April 15, 2007 11:45AM

To: 'Mudita Rastogi'

Subject: RE: Request for Communication Tool Use...

Thank you so much for the permission. I will be happy to send you a copy of the dissertation once completed. One more thing, would it be possible to obtain the MAD tool from you? I have not viewed it yet and am trying to find a complete copy of it. Alternatively, could you suggest where I might obtain its entirety?

Thanks,

Rita

From: Mudita Rastogi [mailto:muditarastogi@hotmail.com]

Sent: Saturday, April 14, 2007 4:34 PM

To: 'Rita Callahan'

Subject: RE: Request for Communication Tool Use...

Hi Rita,

Yes, feel free to use it. I would love to know more about your research and how you plan to modify the MAD. You may also want to see the following article:

R.astogi, M. (2002). Mother-Adult Daughter questionnaire (MAD): Developing a culturally sensitive instrument. *The Family Journal*, 10(2), 145-155.

Best,

Mudita Rastogi

From: Rita Callahan [mailto:rcallahl@cox.net]

Sent: Saturday, April 14, 2007 4:20 PM

To: MuditaRastogi@hotmail.com

Subject: Request for Communication Tool Use...

Dr Rastogi,

My name is Rita Callahan and I am a doctoral student at the University of San Diego. I read your article: Adult Daughters' Perceptions of the Mother-Daughter Relationship: A Cross- Cultural Comparison and would like to ask permission to use the MAD tool in my study, with some revisions in questions, I believe it would work with my study My research title is Intergenerational communication: Its effect on early screening behaviors in African-American daughters of mothers with breast cancer With your permission. I would of course send you a copy of the tool as used in my study Please reply at your convenience.

Rita Callahan

N0D32 1.1820(20061020) Information

This message was checked by N0D32 antivirus system. <http://www.eset.com>

12/18/2007