

SOCIOCULTURAL TAILORING IN BREAST CANCER WEBSITES:
A CONTENT ANALYSIS

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by
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SOCIOCULTURAL TAILORING IN BREAST CANCER WEBSITES:
A CONTENT ANALYSIS

Presented by Brandi Herrman-Rose

A candidate for the degree of master of art

And hereby certify that, in their opinion, it is worthy of acceptance.

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DEDICATION

This thesis is dedicated to my husband, Jason Rose, whose interest in my research progress never wavered despite the fact that progress was slow and halting at times. I am happy that for the first time in our marriage, I will be able to drop the title “graduate student” that always seemed to follow closely after “wife.” You have been a tremendous help, support and guide as I took graduate classes that piqued my interest and, more recently, as I shaped and molded the research that led to this thesis. Thanks for everything.

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ABSTRACT

The purpose of this study is to examine breast cancer websites to determine the extent to which sociocultural cues, relevant to African Americans, are used to convey information in websites. Based on the literature, sociocultural factors include collectivism, spirituality/religiosity and racial pride. Additionally, this study uses a unique search option to determine the extent to which breast cancer websites target African American women with these sociocultural cues. The rationale for this study is that African American women are a high-risk segment for breast cancer; therefore, it is important to examine the extent to which message cues that resonate with this segment are used in breast cancer websites that this segment searches for health information about breast cancer. The study adds to existing literature by comparing the presence of sociocultural factors in government, nonprofit and commercial websites that provide information about breast cancer. The goal is to determine whether or not differences exist in both the frequency and type of sociocultural factors on these sites. The method was a content analysis of 50 breast cancer websites. Ethnic targeting of African Americans was present in some of the websites coded, though the use of targeting varied from zero to as many as 2,672. There was limited use of sociocultural cues; collectivism was the most dominant cue used, followed by spirituality and racial pride. There were no instances of religiosity. Government websites (versus non-profit or commercial) were most likely to provide information that targeted African Americans. In short, while there is a moderate use of

targeting, the use of sociocultural cues that would resonate with African Americans are largely absent in breast cancer websites.

CHAPTER ONE

INTRODUCTION

The study of breast cancer information available on the Internet is important as the information provided to educate men and women about breast cancer could lead people to take action and be diagnosed early. Breast cancer information may seem plentiful today, but not long ago, public discourse about breast cancer was a taboo subject in the media. Breast cancer discussion has increased dramatically in the late 1980s and early 1990s (Braun, 2003) after women began to speak out about their experience with the disease. Despite the public discussion that has taken place since the 1990s, each year an estimated 216,000 women will be diagnosed with breast cancer (*Cancer Facts & Figures 2007*, 2007). Within the magnitude of these figures, there are disparities among subgroups of women for cancer diagnosis and treatment. African-American women are at a lower incidence of breast cancer, but suffer from a higher incidence of death from the disease, most likely due to the fact that cancer is discovered at a later stage of development (Desantis et al., 2007; Siegel et al., 2006). Stage at diagnosis is the best predictor for breast cancer survivorship (Freeman & Wasfie, 1989) – early detection (at the local stage) is crucial for a better diagnosis.

The reluctance of African-American women to seek out clinical breast exams or mammograms is often based on economic and sociocultural factors (*Cancer Facts & Figures 2007*, 2007). While economic concerns are still present for many women – including African-American women, the availability of information is changing. Despite

the economic constraints to Internet use among those with a lower socio-economic status (SES), Internet usage continues to increase among those making less than \$30,000 annually (*Demographics of Internet Users, 2005; Demographics of Internet Users, 2007*). In addition, a growing number of African-Americans are accessing high speed Internet than in years past (Fox & Vitak, 2008). Given the increase in the use of Internet by those of a lower SES, there is a need to look beyond SES to the sociocultural factors of collectivism, spirituality/religiosity and racial pride in websites about breast cancer.

CHAPTER TWO

BACKGROUND

Public perception and media attention have increased to a point where during October 2007, designated as breast cancer awareness month, the topic of breast cancer was on every national, state and local media as well as new media (“National Breast Cancer Awareness Month Website,” 2007). While public discourse about breast cancer has increased throughout recent years, there are still troubling disparities among cultural groups. When breast cancer detection and fatality statistics are broken down by ethnicity, the results are staggering. The number of breast cancer cases among African-American women is fewer than among Caucasian women, even though the occurrence of death due to breast cancer among African-American women is increasing. While the death rate due to breast cancer has increased for African-American women, the breast cancer death rate among Caucasian women is decreasing (*SEER Cancer Statistics Review*, 2006). Despite these trends, interventions that are tailored to the needs of disadvantaged women, particularly women of color, can result in a decrease in cancer mortality (Mandelblatt et al., 1991).

The disparities among cultural groups suggest a need to examine information that may not be written or disseminated in a manner that assists African-American women. Research by Mandelblatt (1991) and, more recently, Kreuter et al. (2004; Kreuter & McClure, 2004), points to the fact that health information can be effective for African-Americans when the sociocultural factors of spirituality/religiosity, collectivism and racial

pride are taken into account with information dissemination. Since these factors can be used to effectively communicate health information with African-Americans, it stands to reason that these factors should be present in websites that provide information about breast cancer.

Though the direct link between media coverage and breast cancer screening cannot be completely affirmed, research shows that mass communication, coupled with interpersonal communication, drives women over 40 to seek a mammogram (Yanovitzky & Blitz, 2000). Despite defining the differences between mass and interpersonal communication, there has been little division between types of mass media attention. For instance, print, TV and radio communicate on a mass scale, but each reaches a different audience in a different way. The Internet is a medium that offers an opportunity to simulate one-to-one communication through mass media (Luo & Najdawi, 2004).

A study by the Pew Internet and American Life Project found that 73 percent of adults go online, and 55 percent have a high-speed Internet connection at home (Fox & Vitak, 2008). Given the widespread use of the Internet for health information, the need for information online is well established. Use of the Internet allows information to be accessible regardless of language proficiency level and literacy with the ability to receive information via audio and video files as well as sites translated into many languages (Fotheringham et al., 2000). As the number of people seeking health information online increases, so too does the amount of time they spend online seeking health information. One study showed that people averaged 30 minutes on a breast cancer information

website. Based on current usage trends, spending a half hour online at a given site is a very large amount of time to dedicate to one website regardless of how extensive it is (Bowen et al., 2003).

While the Internet is publicly accessible to all,

“certain groups of Internet users in 2006 are the most likely to have sought health information online: women, Internet users younger than 65, college graduates, those with more online experience, and those with broadband access at home” (Fox, 2006).

Though there is a subset of the population who utilizes the Internet more often, within that subset of people, health information seekers are varied and have distinct needs – many times based on cultural differences. In addition, more than half of online health information accessed is from those seeking information for others (e.g. parent, spouse, friend) who may need medical attention (Fox, 2006).

CHAPTER THREE

TARGET MARKETING

The theoretical orientation of this research is based on the social marketing paradigm. Though social marketing is not a theory, it provides an appropriate framework for the present study because social marketing often “uses marketing techniques to influence the voluntary behavior of target audience members for health benefit” (Glanz et al., 2005). Social marketing was first suggested as a method to deliver health information in the early 1970s (Kotler & Zaltman, 1971). Social marketing was originally a controversial and groundbreaking idea when it was first discussed, as the concept of marketing had never been pulled from a highly commercial context of its inception. Social marketing has since become an accepted method to disseminate health communication. There is a vast literature that discusses how social marketing principles have been used for campaigns ranging from tobacco cessation to alcohol use (Kotler et al., 2002). Due to success with these topics, social marketing techniques also have been touted as a prospect for cancer screening campaigns according to the National Cancer Institute (Glanz et al., 2005). Given its use for cancer campaigns, it can be utilized effectively for breast cancer awareness campaigns.

Social marketing campaigns often utilize target marketing to reach an intended audience. Targeting is the practice of identifying appropriate audiences who share consistent characteristics and providing messages specifically designed to reach and influence that group (Aaker et al., 2000). Social marketing campaigns that focus on health

and health behavior have used targeting to segment the audience to reach a specific group – for instance, a breast cancer awareness campaign for middle-aged women (Kreuter et al., 2000). This type of campaign illustrates a form of targeted marketing that utilizes demographic information such as age and gender.

Another commonly utilized demographic area that could be utilized for targeting is ethnicity (Kreuter et al., 2000). Given the importance of the Internet for health information, it stands to reason that African-Americans, already at a greater risk of mortality from breast cancer, would be targeted within breast cancer websites.

RQ1: To what extent are African-American women targeted in breast cancer websites?

Sociocultural Tailoring

Targeted marketing provides messages based on demographic characteristics including ethnicity, gender and age (Kreuter et al., 2000). However, population-based demographics can only communicate on a limited basis with the intended audience as they do not take into account cultural and behavioral patterns of a given subset of the population (Kreuter et al., 2000). In addition, demographic information does not predict or inform how audiences interpret and act upon health information (Kreuter et al., 2000). A more finely tuned targeting strategy, cultural or sociocultural tailoring, has been used to effectively communicate health information to ethnic groups (Rimer & Kreuter, 2006). Sociocultural tailoring reaches specific ethnic groups, which heightens the personal significance of a given message (Rimer & Kreuter, 2006).

For the purpose of this study, culture was defined in terms of the values, beliefs and practices that will directly or indirectly influence health education (Pasick, 1997). Though culture can influence many aspects of one's life, the influence of culture and sociocultural tailoring should be examined specifically in terms of its impact on health beliefs and behaviors.

A related concept utilized in targeting audiences and tailoring messages is the use of personalization. Personalization is a way of providing information to a group of individuals based on their needs, lifestyle, likes and dislikes (Kim, 2002). Personalization has been utilized in some health-related sites, like Healthfinder.com and WebMD.com, which have created web portals as a means of web personalization (Fisher et al., 2002). Though personalization is an interesting concept, for the purpose of this study, sociocultural tailoring, which previously has been utilized to study health communication, served as the primary construct here for studying the way in which information about breast cancer is tailored to African-American women online.

Within different cultural environments, there are various beliefs related to health, and though every culture cannot be grouped into a single set of standard beliefs, there are some recurring themes within cultures. For instance, in African-American communities, socioeconomic and cultural beliefs are tied to race and have a great deal to do with late-stage diagnosis. Though there are medical and economic factors at play among African-American women and health, African-American women diagnosed with cancer are more likely than other ethnic groups to pray and rely on God for a cure (Lannin et al., 1998). In

addition, African-American women were more likely to be afraid of breast cancer diagnosis as it may affect their relationship with men in their lives. They often worry about remaining attractive without being a burden (Lannin et al., 1998).

In addition to the socioeconomic and cultural beliefs present for African-Americans, recent studies point to a more aggressive strain of breast cancer that affects solely African-Americans (Gandy, 2007). The introduction of this information coupled with long-standing socioeconomic factors, provides an even greater impetus for information about breast cancer targeted to African-Americans utilizing sociocultural variables.

Several key factors reflect cultural norms and mammography screening. For African-American women, there are many sociocultural factors that can be utilized to effectively communicate the value of mammography. For the purpose of this study, three sociocultural factors will be reviewed. They include collectivism, spirituality/religiosity and racial pride (Lukwago et al., 2003). These three factors have been validated as sociocultural factors that resonate with urban African-American women (Lukwago et al., 2001). These three factors have been studied in the context of print media (newspapers and advertisements), though they have not been examined in the context of the Internet. Given that the Internet has become a primary source of information, and more African-American women have begun to seek information online, the study of this medium is vital to determine the extent to which African-American women receive information targeted to them in particular.

Collectivism

Collectivism is the belief that a group, particularly a family or others like one's self (in this case, other African-Americans) are of great importance. For African-American women, "kinship and collectivism are not inherently health-related [but] ... they may still influence health behaviors and outcomes" (Kreuter et al., 2004). Collectivism defines the belief that the primary faction within society is family and close friends – not the individual (Nobles, 1991). African-American women often feel a stronger connection to their family than their Caucasian counterparts. African-American women are often the primary caregivers within a family. Collectivism may manifest itself with reference to family, children, babies, friends, sisters and girlfriends (Kreuter et al., 2003).

Previous research has found the use of collectivism present in advertisements in primarily black newspapers when compared with mainstream newspapers (Rodgers et al., 2007). In addition, given Lukwago et al.'s (Lukwago et al., 2001) justification for the use of collectivism as a sociocultural factor, it could be utilized where more and more African-American women are seeking health information: online. Previous research has not shown the presence or extent of collectivism present in breast cancer websites. Therefore, a research question was posed to begin to delve into the question of the presence and extent of collectivism as a tool used to educate African-American women about breast cancer.

RQ2: To what extent is collectivism reflected in the content of breast cancer websites?

Spirituality/religiosity

Spirituality/religiosity is any of a combination of factors from the belief in God to the practice of church attendance, prayer and religious ceremony participation (Nobles, 1991). In a study of 193 people from multiple ethnic groups studied in Los Angeles, African-Americans were more likely to believe in the healing power of prayer (Klonoff & Landrine, 1996).

“Although there are significant overlaps between spiritual and religious experience, empirical evidence suggests that lay people make important distinctions between these two constructs” (Mattis, 2000, p. 118). Spirituality is often characterized as a belief in a higher being or power beyond humanity (Mattis, 2000). Religiosity, however, manifests itself in a more “adherence to prescribed rituals and beliefs about God or a set of gods” (Mattis, 2000, p. 118). Spirituality may manifest itself with reference to prayer, meditation or a higher power. Religiosity may manifest itself in reference to church, whether a physical building or group of people or mention of God (Kreuter et al., 2003).

Though there are two separate concepts, because spirituality and religiosity are so closely tied together, both were coded together when reviewing websites. Prior research has reviewed spirituality/religiosity in advertisements placed in black newspapers and mainstream newspapers (Rodgers et al., 2007). Kreuter and McClure (2004) explain the importance of the sociocultural factor of spirituality/religiosity, while Rodgers et al. (2007) show that sociocultural tailoring has been used in advertisements in black newspapers more so than in mainstream newspapers.

Given that African-American women are at a higher incidence of death from breast

cancer (Desantis et al., 2007; Siegel et al., 2006), and the Internet is a growing method of information-seeking behavior for African-Americans (Fox, 2006), there is a potential for the sociocultural factor of spirituality/religiosity to be present in breast cancer websites. There has not been substantial prior research to state a clear hypothesis, so a research question was posed to seek further information about the extent of spirituality/religiosity factors present in websites about breast cancer.

RQ3: To what extent is spirituality/religiosity reflected in the content of breast cancer websites?

Racial Pride

Racial pride manifests itself in the need to preserve the culture and traditions of African-Americans in the midst of a society dominated by other ethnicities, particularly Caucasians. African-Americans with a great sense of racial pride will often seek out churches, businesses and services that are owned or operated by other African-Americans (Grills & Longshore, 1996; Stokes, 1994). African-Americans will also seek information from magazines and other media that are primarily African-American in nature, and seek out healthcare providers who are also African-American (Grills & Longshore, 1996; Stokes, 1994). Racial pride may manifest itself with reference to the detrimental effects of a particular disease or health concern with respect to the African-American population rather than the entire affected population (Kreuter et al., 2003).

Prior research has examined racial pride as a sociocultural factor utilized in ads placed

in black versus mainstream newspapers (Rodgers et al., 2007). This research shows that there were more racial pride references in Black newspapers than in mainstream newspapers. Despite this information gleaned from newspapers, little has been done to research racial pride and whether it is present in websites related to breast cancer. Prior research does not provide a basis to assume that racial pride will be present in breast cancer websites, only that it is a highly resonant method of delivery of health information for African-American women (Lukwago et al., 2001). Given the lack of dedicated research for racial pride in websites, a research question was posed.

RQ4: To what extent is racial pride reflected in the content of breast cancer websites?

Nonprofit agencies, government-sponsored organizations and for-profit corporations all share in dissemination of information about breast cancer in an online environment. The needs and goals of each group is different, but often, the consumer does not readily seek out one type of agency or website for their online information (Miller & West, 2007). Rather, they view information that is most readily accessible, and rather than select one type of website over another, women (especially those diagnosed with breast cancer) read across a variety of sites to gather the most comprehensive understanding of their disease.

Although information about breast cancer is available across a variety of website types, the three most common entities that sponsor breast cancer information in an online environment are government, for-profit or commercial and nonprofit agencies. Prior

research has shown that commercial and nonprofit agencies differ in the way they provide online information about breast cancer (Vijaykumar, 2005). Given these differences and assuming that sociocultural factors will vary in frequency and type, it is important to sample across government, commercial and nonprofit sites to determine the extent to which these sociocultural cues exist.

RQ5: To what extent do commercial, nonprofit and government-sponsored breast cancer websites vary in their use of sociocultural factors?

The study of an online environment is interesting as it provides a rich new medium to explore additional sociocultural factors. Though collectivism, spirituality/religiosity and racial pride are among the most-recently studied factors studied in print media, it is possible that additional sociocultural factors are present in websites about breast cancer. In addition, given the various types of breast cancer websites (commercial, nonprofit and government-sponsored), there may be distinctions between breast cancer websites created and maintained by different entities. To examine this, two research questions were offered:

RQ6a: What, if any, additional sociocultural characteristics are present in breast cancer websites?

RQ6b: To what extent do these new sociocultural characteristics differ among commercial, nonprofit and government-sponsored breast cancer websites?

CHAPTER FOUR

METHOD

Content analysis was the method. Content analysis is a sociological research method whereby “the researcher seeks to determine the manifest content of written, spoken or published communication by *systematic, objective, and quantitative analysis*” (Zito, 1975, 27). By studying the content of breast cancer websites, there was an opportunity to view the information available to the general population to better understand the information viewed.

Sampling method

The sampling method consisted of the use of key terms in a major search engine to yield the 50 most popular websites about breast cancer, details of which are provided below. The term “breast cancer” was input into one of the most common and most popular search engines, google.com. According search engine ratings by Nielsen (Sullivan, 2006), Google.com is the most commonly used search engine – constituting nearly half of all online searches. Using Google provides the ability to evaluate sites that appear to the general public, while utilizing a narrowed topical search, which is how the vast majority of people seek information online (Fox, 2006). The sites that were returned are listed in order by their relevance to the search term used, making it possible to code sites that are most pertinent to the term “breast cancer” (Blachman & Peek, 2007). With all searched information, the relevance of the results can dwindle for those items further from the top

of the search. Therefore, to secure a large enough number of sites, two additional search engines were used. This method of seeking information from search engines is congruent with the way the general population seeks health information. Those seeking health information first seek information using a common search engine – most often, Google.com. Should more information be desired, a person often seeks information by searching in another fashion. Therefore, Yahoo.com, a popular search engine and Alexa.com, a search engine that searches for websites based on their relevance to the search term and the site’s popularity, were both used to procure 50 relevant websites.

The first 50 sites returned from all search engines were combined, excluding any duplicated websites provided by the search engines, and as shown in Figure 1.

Figure 1. Total sample: 50 breast cancer websites coded.

Neulasta - Are you ready to start Chemotherapy	http://www.neulasta.com/
BREASTCANCER.ORG	http://www.breastcancer.org/
Susan G. Komen for the Cure	http://cms.komen.org/komen/index.htm
National Cancer Institute	http://www.cancer.gov/cancertopics/types/breast
BreastCancer.net	http://www.breastcancer.net/1.php
National Breast Cancer Foundation, Inc.	http://www.nationalbreastcancer.org/
Medline Plus	http://www.nlm.nih.gov/medlineplus/breastcancer.html
WebMD - Breast Cancer Health Center	http://www.webmd.com/breast-cancer/default.htm
MedicineNet.com	http://www.medicinenet.com/breast_cancer/article.htm
Femara (letrozole tablets)	http://www.femara.com/
Emend	http://www.emend.com/aprepitant/emend/consumer/index.jsp?WT.srch=1&WT.mc_id=N027Y
America's Car Donation Charities	http://www.donateacar.com/charity-United-Breast-Cancer-Foundation.php?gclid=CNu7hJPQxZYCFQJNagod-CiByw
Cancer Treatment Centers of America	http://www.cancercenter.com/landing-pages/breast-cancer/default.cfm
CancerInfo.net	www.cancerinfo.net/breast/understanding.aspx.html
Yoplait - save lids to save lives	http://www.yoplait.com/sls/Default.aspx
ABRAXANE	http://abraxane.com/about-breast-cancer.aspx
AROMASIN®	http://www.aromasin.com/content/home.jsp
Barbara Ann Karmanos Cancer Institute	http://www.karmanos.org/
American Cancer Society	http://www.cancer.org/docroot/CRI/CRI_2x.asp?sitearea=LRN&dt=5
Mayo Clinic	http://www.mayoclinic.com/health/breast-cancer/DS00328
Healthline	http://www.healthline.com/channel/breast-cancer.html

National Cancer Institute	http://www.cancer.gov/cancertopics/pdq/treatment/breast/patient
About.com: Breast Cancer	http://breastcancer.about.com/
Breast Cancer Treatment with Traditional Chinese Medicine	http://www.breastcancer.com/
Detailed Breast Cancer Risk Calculator	http://www.halls.md/breast/risk.htm
The Breast Cancer Site	http://www.thebreastcancersite.com/clickToGive/home.faces?siteId=2
National Cancer Institute - What you need to know about breast cancer	http://www.nci.nih.gov/cancertopics/wyntk/breast
Wikipedia – Epidemiology and etiology of breast cancer	http://en.wikipedia.org/wiki/Epidemiology_and_etiology_of_breast_cancer
Breast Cancer Awareness	http://www.breastcancerawareness.com/
Cancer.com	http://www.cancer.com/cancer/breast_cancer.html
CET Cancer Center	http://cetcancercenter.com/breast.html?gclid=CKOEouHn6JYCFRIMDQod6QS3OQ
MammoSite	http://www.mammosite.com/?gclid=CJjQ1ano6JYCFQMQswodFjaoPg
Cancer Info	http://www.cancerinfo.net/breast/understanding.aspx
Health	www.health.com/health/breast-cancer.html
Cancer Research UK	http://www.cancerhelp.org.uk/help/default.asp?page=3284
Yahoo Health - Breast Cancer Symptoms	http://health.yahoo.com/breastcancer-symptoms/breast-cancer-symptoms/healthwise--tv3621.html
Breast Health New Zealand	http://www.breast.co.nz/
007 Breasts	http://www.007b.com/breast-cancer-prevention-2.php
Breast Care Site	http://www.thebreastcaresite.com/tbcs
In Your Corner (ARIMIDEX)	http://www.inyourcorner.com/index.aspx?source=50213&WT.mc_id=50213&WT.srch=1
Feminist Majority Foundation	http://www.feminist.org/other/bc/
Cancer Backup	http://www.cancerbackup.org.uk/Cancertype/Breast
My Treatment Decision (Oncotype DX®)	http://www.mytreatmentdecision.com/?s_kwid=TC-2582-141849381511-S-17898918511
Oncotype DX	http://www.genomichealth.com/oncotype/default.aspx?c1=overture&source=Breast%20Cancer%20Broad&kw=breasts%20cancer
eMedicine Health	http://www.emedicinehealth.com/breast_cancer/article_em.htm
Breast Cancer: Network of Strength	http://www.networkofstrength.org/
University of Texas: MD Anderson Cancer Center	http://www.mdanderson.org/diseases/breastcancer/
Pink Ribbon Store	http://www.pinkribbonstore.com/gifts/site.do;jsessionid=B883480DFE3E5DA5B51C86A26FA0479.prod-c?siteId=343
Lance Armstrong Foundation	http://www.livestrong.org/site/c.khLXK1PxHmF/b.2662117/k.68D9/Hear_Survivor_Stories.htm?source=0I0204&utm_source=Yahoo&utm_medium=ppc&utm_campaign=ancersupport&utm_term=0I0204
Warriors in Pink (FORD)	http://www.fordvehicles.com/warriorsinpink/health

The rationale for the sampling method is that, as people search websites, they most often search using a key term. They rarely seek information from a particular web address or from a particular organization unless they have some previous knowledge about that organization or website (Rizzo et al., 2008). Since more people use a search engine to find

information about a given piece of information, the term “breast cancer” was used as a search term to determine which websites will be sampled (Rizzo et al., 2008).

It should be noted that during the time of this research, a unique search engine, rushmoredrive.com, was created that is devoted to search for information specifically targeting African-Americans. The researcher examined results turned up by a keyword search in rushmoredrive.com using the key term “breast cancer”. The results revealed links to Web pages deeply embedded within larger "mainstream" websites and only one website was found that was devoted to breast cancer and African-American women; however that site was about cancer in general and breast cancer was only a small portion of the site.

From this search, it was concluded that while it is interesting that a search engine aimed specifically at African Americans exists, that search engine turned up similar results (other than the one general site on cancer and African Americans) as the general Google.com search engine did. Hence, the focus of the African American-oriented search engine seems to be the identification of the terms "African Americans" and/or "Blacks" and most of these searches turned up deeply linked documents within general, mainstream websites. For example, one link that was followed turned up a PDF document that outlined breast cancer rates and mortality rates due to breast cancer among African Americans. Therefore, it was decided that the searches turned up by Google.com (combined with any unique search results turned up by the African American search

engine) provides an adequate list of websites about breast cancer for the purposes of this study.

Thus, the first 50 websites (presumably the most popular), including “sponsored links” were coded to determine the extent to which African-American women are targeted and the extent to which sociocultural factors of collectivism, spirituality/religiosity and racial pride are utilized. The rationale underlying this sampling method is that, quite simply put, this mirrors how users search for relevant health information. This is not to suggest that users will not have tried and true health sites that eliminate the need for search. However, the severity of the disease prompts individuals to use a broad net to capture the most extensive amount of information possible, starting with the top sites returned by the search engine. Selecting the first 50 websites for this research helps to ensure that at a minimum, the most popular sites are included in the content analysis.

Coding for Ethnic Targeting

Research question 1 attempts to determine the extent to which African Americans are targeted by the website using certain keywords. To determine the extent to which African Americans are targeted with information about breast cancer, each of the 50 websites was searched to determine the extent to which certain key phrases are used. The terms “breast cancer and African American” and “breast cancer and black” were searched and the number of hits was summed to determine the number of references to this ethnic group in particular. While there may be an overlap in the use of both terms, it was important to include both terms, as different people have different preferences in the way they use

these two terms. What this provides, then, is a summation of all (or at least most) breast cancer content referenced as being relevant to blacks, African Americans or both. This procedure not only identifies the extent to which ethnic targeting of this group occurs (by way of search results), but again, mimics the manner in which online search occurs in reality. Thus, by searching for information that is written for African-American women and breast cancer, an evaluation of the magnitude of that targeting can be gained while still maintaining valid search.

Coding for Collectivism

Collectivism is any reference, written or visual, that shows African-Americans working together, cooperating or providing support for the importance of tradition and family. Examples include mention of groups of individuals working together, cooperating, showing responsibility for others and showing respect for both tradition and families. (e.g., “She is not an army of one” “Family, friends and sisters, stand by her side!”) (Kreuter & Haughton, 2006; Kreuter et al., 2003; Rodgers et al., 2007).

Therefore, based on the previously used definition of collectivism, terms, images or graphics that include family, children or babies, will be coded as collectivism. Images of African-American women with children or one or more African Americans together will be coded as collectivism. In addition, references to people as resources or the mention of family and/or friend support were coded as collectivism (see Appendix B for codebook and code sheet).

Coding for Spirituality/Religiosity

Spirituality and religiosity are references a higher power, church or religious beliefs. Spirituality and religiosity, though distinct concepts, will be coded together for the purpose of this study. Spirituality/religiosity will be coded using both written and visual cues including mention of churches (congregational or structural), religious ceremonies or symbols such as a cross. In addition, use of terms such as “God,” “Jesus,” or “Holy Spirit” including Bible verses or references to the Bible will be coded as spirituality/religiosity. References to meditation or prayer were also coded as spirituality/religiosity. (Kreuter & Haughton, 2006; Kreuter et al., 2003; Rodgers et al., 2007).

Therefore, based on the previously used definition of religiosity, common areas that were used to code websites will include references to God, Jesus, the Spirit or a higher power as well as Bible verses and references to a church or church community. Images that were coded include images of a cross, crucifix, fish, and other religious symbols. Previous research about religiosity has focused on Christian references and symbols. Though there are religions beyond Christianity that African-Americans are involved with, Christianity (particularly historically black protestant churches) is the major religion of African Americans in the United States. Nearly 80 percent of African-Americans who consider themselves religious practice Christianity (*U.S. Religious Landscape Study*, 2008) (see Appendix B for codebook and code sheet).

Coding for Racial Pride

Racial pride was coded using both written and visual cues that include discussion or images of traditional African or African American culture. This may include references to one's work or accomplishments and how they empower a community (e.g., "Your help makes our community a better place to live" "Black people make America strong") (Kreuter & Haughton, 2006; Kreuter et al., 2003; Rodgers et al., 2007).

Therefore, based on the previously used definition of racial pride, common areas that were used to code websites included references to African-American doctors or other resources that were featured prominently as African-American. Beyond references to resources, any references to a community as being black or African-American or being strong based on the race of the community were also coded as racial pride (see Appendix A for codebook and code sheet).

Coding for the Web

The definitions for collectivism, spirituality/religiosity and racial pride were originally used in the context of print newspapers, and while these serve as a good reference point for an online environment, the coding process online differed from print to some degree. So much so that user reaction to the same stimulus can be quite different (Rodgers, 2005). Therefore, within breast cancer websites, emphasis was placed on text, images, graphics and hyperlinks that utilize sociocultural factors both visual and written within breast cancer sites.

Since the focus of this study is health information, advertisements were not coded.

Though ads can, indeed, be source of health information, the commercial content of ads implies a vested interest on the brand's part and this is beyond the focus of this research. Graphics, photographs and other images in the header and body of the homepage were coded. In addition, all words (except those in advertisements) were coded. For the top 50 websites, the content of the main page was coded as well as the content of every linked page from the main page. Coding went one link deep from the home page for two key reasons. First, people rarely delve beyond the second link into a website (Okazaki, 2004). Thus, by examining the home page and one link beyond the home page, this study provides a comprehensive view of the links that individuals might reasonably search in reality.

Additionally, this research examined every link that turns up in the search (from RQ1). This was done to ensure that a) the link is relevant to African Americans and breast cancer and b) to determine whether sociocultural cues are used in these presumed ethnic-specific links. Therefore, Web pages that are deeper than one link into a site are represented by way of searching for breast cancer information that is specifically geared toward African Americans, within the search itself. In this sense, the research provides a perhaps improved coding process over earlier studies that examined home page links only by examining both the "mainstream" links available to the general public (on the home page and one link deep) as well as the ethnic-targeted links that are specific to African Americans.

Unit of Analysis

The unit of analysis included each instance, whether a word, hyperlink, graphic or image, that directly or indirectly stated or illustrated the sociocultural factors of collectivism, racial pride or spirituality/religiosity. Therefore, for any of the 50 websites coded, there could be multiple instances or references (e.g. graphic, image, word) that invoke each of the three sociocultural factors, and every reference of the sociocultural factor was coded. This was done to capture the widest possible number of sociocultural cues on a single web page, providing the most conservative measure possible since past studies on print have in some cases been hard-pressed to identify an adequate number of sociocultural cues to allow for data analysis (see Rodgers et al., in progress).

Because websites were viewed on the screen, it was possible to cross-reference a single comprehensive website for multiple sociocultural attributes, written or visual. For example, four references to “God” on a single page would be coded four times under the spirituality/religiosity category. The same page with an image of an African-American woman with a children and the word “family” would be coded as collectivism twice—one for the woman/children and one for the word family since both convey the ideals of collectivism i.e., togetherness. By coding each and every reference to a sociocultural reference, we gain a sense of “all” the possible ways in which these cues may be present in websites (e.g., the photo of a family and the word family). In addition, by treating each instance of cue that is present in the site, we end up with a perhaps more conservative measure of sociocultural cues than if we only coded for one instance when there are, in fact, multiple instances within the same reference. This helps to ensure not only that we

comprehensively coded for the cues but also that we, ideally, end up with an N that is high enough to allow for data analysis, an issue that other studies of this type have highlighted

Since those who visit a website make a judgment about the value of a website by doing a quick scan of the homepage, the homepage of each site is of great importance. Information beyond the first page is only found if the homepage entices the viewer enough to get them into the initial information available. Access to interior pages often comes from the main page of a website. Therefore, pages linked from the main page were studied for sociocultural attributes. Hyperlinks, since they offer information about what else is available throughout the website, were coded based on the words that were used in the hyperlink (i.e., the highlighted words on the page, typically in blue, that provide a link to a deeper section). Hyperlinks are an important creative feature of websites because they enable users to scan the page very quickly to determine whether there is relevant information (Rodgers & Thorson, 2001). For instance, a hyperlink with the words “Faith-based healing” would be coded as spirituality/religiosity, and a hyperlink with the words “Pray with friends” would be coded as both spirituality/religiosity and collectivism.

To determine whether a site is a government-sponsored, nonprofit or commercial website, the last three letters of the extension of the Web address were used. Web addresses ending in “.com” were coded as commercial; addresses ending in “.org” (and, in several cases, “.net”) were coded as nonprofit; and addresses ending in “.gov” were coded as government. Given this, and based on the search engine results, there were a total of 31

commercial websites, 5 government and 14 non-profit breast cancer websites, for a total of 50 websites.

To address the final research question, in addition to coding for collectivism, spirituality/religiosity and racial pride, websites were examined for any additional potential sociocultural cues beyond the three primary categories. When reviewing each website, common themes – whether referenced in words, images or graphics – were noted to determine if any common themes (i.e., sociocultural factors other than the original three that were examined) were present. In addition, should any common themes emerge, they were reviewed based on the type of site in which they were shown – nonprofit, government-sponsored or commercial (see results for more details).

Intracoder Reliability

There was one coder, which while not ideal, is arguably acceptable for an MA thesis of this type provided the intracoder reliabilities demonstrate adequate levels. The coding instrument was pre-tested by coding 10 websites. Intracoder reliabilities were obtained using Holsti's formula (Holsti, 1969), and an average intracoder reliability of .89 was obtained, which more than meets the minimum .85 intracoder reliability recommended by Holsti (1969). Therefore, it is argued that because the intracoder reliability exceeds the minimum we would expect for one coder, thereby suggesting that the data was accurately coded. Coding of all websites was then conducted during the month of November 2008.

After all sites were coded, the researcher waited one week to allow for a “cool down”

period and then selected 10 percent of the sites already coded ($N = 5$), the recommended number of websites needed to obtain an adequate sample size for reliability purposes (Wimmer & Dominick, 2006). Only websites that included all of the coded variables were chosen to ensure that each variable was coded for a reliability. Each of the five websites was then coded a second time to determine the ending intracoder reliability (Cohen, 1960; Holsti, 1969; Scott, 1955). Since online content can change rapidly, a screenshot of the 50 websites coded was saved. This ensured that identical content was coded and recoded to obtain an accurate intracoder reliability. As with the pre-test, Holsti's formula was used to calculate an intracoder reliability, which again, was .89. A conclusion that can be reached after conducting this rather in-depth pre-test/code-/re-code is that all reliabilities more than met the expected .85 minimum reliability for one coder and that this reliability consistently emerged across every iteration of the coding, thereby suggesting that the data was coded with fairly high consistency, as noted by Holsti's formula results.

CHAPTER FIVE

RESULTS

As noted earlier, a total of 50 breast cancer websites were coded. This translated to 31 commercial, 5 government and 14 non-profit websites. Within these 50 sites, a total of 245 sociocultural cues were coded, or 4.9 cues on average per website. These 245 cues were all references to collectivism, spirituality/religiosity or racial pride present in the form of words, images, graphics and hyperlinks. Specifically, the results for the research questions included the following.

RQ1: To what extent are African-American women targeted in breast cancer websites?

To examine the first RQ, a search for the terms "Black" and "African American" in combination with the terms "Breast Cancer" was used to turn up all results that were relevant to African Americans and breast cancer. Of the 50 websites reviewed, 14 did not have a search engine, so the search could not be conducted on these sites. However, these sites remained part of the study for sociocultural cues despite their inability to provide information about targeting. Of the 36 websites that had a search engine, five of the sites (four were commercial sites) did not turn up any results based on the key term search. The remainder of the sites (N = 31) that were searched showed at least a single reference to "African American" or "black" and "breast cancer." Hence, the range of relevant

keywords yielded by the search was from a low of 1 to a high of 2,672 (see Tables 1a-1c). The results returned used the words “African American” or “black” along with the term “breast cancer” to reference ethnicity related to the disease. As shown in Table 1a, government websites were most likely to have information targeted toward African-American women. There were instances where the information available numbered into the thousands. For instance, the National Cancer Institute website offered a total of 2,672 links to information targeted African Americans. The majority of these links were to reports that have been generated by the National Cancer Institute. The website that offered the second highest return on the search for “African American” and “black” with the term “breast cancer” was About.com. This website returned 2,430 sites that targeted African Americans.

Commercial websites were the least likely to provide information specific to African Americans (see Table 1b). Of the commercial websites, 16 either did not have a search or returned no results when the key terms were searched. The commercial websites that offered the most information targeted to African Americans were About.com and Health.com.

Of the non-profit websites, search results ranged from 0 to 1952 with the American Cancer Society search engine returning the highest number of relevant search results (see Table 1c). The search for both “black” and “African American” returned different results when searching for these key terms. In the instance of about.com, the term “African American” resulted in 500 results, whereas the search for “black” resulted in 1930. This

distinction between search terms suggests that it is important to use both terms to discover the ways in which African Americans are targeted with health information in an online environment. There were only two instances where a search did not turn up results when searched for “African American” but did for “black.” Therefore, in all but two cases, the use of both terms was helpful to glean information geared toward this group.

RQ2: To what extent is collectivism reflected in the content of breast cancer websites?

There were 138 instances of collectivism that appeared in the websites reviewed. This translates to 56 percent of the sociocultural cues identified here (see Table 2). If we average across the 50 websites, this translates to an average of 2.76 references to collectivism per website. The most common types of collectivism were references to family, friends, a spouse, a significant other and/or children (see Appendix A for examples).

RQ3: To what extent is spirituality/religiosity reflected in the content of breast cancer websites?

There were 84 instances of spirituality/religiosity, or 34 percent, within the 50 websites reviewed. Images that met the requirements of religiosity were not present. This means that the 50 websites yielded an average of 1.68 references to spirituality/religiosity per site. However, of the 50 websites examined, 36 (i.e., 72%) made no reference to spirituality or religiosity whatsoever. This means that the 14 sites that did have spiritual references, did so an average of six times per site.

The most commonly used words were “spiritual” and “meditation.” Though there were 84 total instances of spirituality/religiosity within all 50 websites, 56 of those references (or 67%) were found in two websites. One website www.breastcancer.com, focused on traditional Chinese medicine, and had 27 (48%) references to the term “spiritual.” The other website that offered a substantial number of references to spirituality/religiosity was <http://www.healthline.com/channel/breast-cancer.html>. Spirituality/religiosity was referenced on this site a total of 29 times. The site referenced “spiritual” 12 times and “meditation” 12 times. In addition, the term “God” was referenced two times, “prayer” was referenced once, and “religious” was referenced two times.

RQ4: To what extent is racial pride reflected in the content of breast cancer websites?

There were 23 instances of racial pride present in the websites coded, which translates to 9 percent of the total sociocultural cues coded. These were most often images of African American doctors or authority figures and quotes from prominent African Americans. The references to racial pride were found in six of the 50 websites coded. The largest number of racial pride cues came from an image of a doctor or other African-American authority figure.

RQ5: To what extent do commercial, nonprofit and government-sponsored breast cancer websites vary in their use of sociocultural factors?

Commercial websites (n=31) referenced collectivism 65 times, spirituality/religiosity 40 times, and racial pride 13 times. Government websites (n=5) referenced collectivism seven times, but there were no references to spirituality/religiosity or racial pride.

Nonprofit websites (n=14) referenced collectivism 51 times, spirituality/religiosity 40 times and racial pride 10 times.

For instance, on the Neulasta commercial website, <http://www.neulasta.com/>, there were eight instances of an image of an African American doctor. Nonprofit websites accounted for 10 racial pride references or images. Commercial websites, including Neulasta, accounted for 13 racial pride cues. Government websites did not account for any instances of racial pride.

As for search engine results (RQ1), it is interesting to note that government websites were most likely to target information to African Americans based on the number of results from the key search for “breast cancer” and “African American” and “breast cancer” and “black.” Commercial sites were the least likely, either not having a search available within the site or, when searched, yielding a small number of links to pages that referenced “African-American,” “black,” and “breast cancer.”

RQ6a: What, if any, additional sociocultural characteristics are present in breast cancer websites?

No additional sociocultural factors beyond the three examined here were observed or identified. However, there were websites that utilized a large number of images of

African-American women by themselves, particularly in prominent locations within the site. Of the websites studied, 14 had at least one such image, but often had multiple images of different African-American women on the websites. No images of African-American women standing alone were present in government websites.

CHAPTER SIX

DISCUSSION AND CONCLUSION

The purpose of this study was to examine breast cancer websites to determine the extent to which African-Americans are targeted with information about breast cancer and the extent to which sociocultural cues were used to convey information about breast cancer, including collectivism, racial pride and spirituality/religiosity. This was accomplished with a content analysis of 50 of the most popular breast cancer websites, obtained through a search of two highly utilized search engines (and in combination with a search engine targeting African Americans).

The results revealed a general pattern in that government websites were the most likely to provide information specific to the African American population by way of sociocultural cues. The majority of these results were returned in the form of research or reports that focused on African Americans.

Collectivism was present more so than either racial pride or spirituality/religiosity in the websites coded. Additionally, collectivism was present in the three types of websites examined here—government, non-profit and commercial—and was present in a variety of contexts including images and individual instances i.e., words, within the text or hyperlinks of the sites. As noted, government sites were the most likely to provide collectivism as a sociocultural cue (60 percent), followed by nonprofit sites, which

presented collectivism as a cue on 42 percent of the websites studied. Only 29 percent of commercial websites (fewer than one-third) provided collectivistic cues.

Most references to spirituality/religiosity were made by a spokesperson with a quote. The use of the words “spiritual” and “meditation” were used the majority of times, though they were referenced the vast majority on commercial websites. Though the two concepts of spirituality and religiosity were coded together, based on prior operationalizations in the literature, there seemed to be greater use of spirituality than religiosity on the sites. For example, terms such as “spirituality” and “meditation” were used quite extensively in comparison to zero uses of religiosity. The literature has, indeed, conceptualized spirituality as a separate concept from religiosity and these results at least suggest that these two concepts may need to be separated for future studies. They were combined in the present study because that has how past studies using print have coded for this particular sociocultural cue. The lesson learned is that perhaps more insights can be gained by treating these as two separate concepts.

Racial pride was the least present of the three sociocultural cues, present in only six of the 50 sites examined.

An interesting contribution of this study was the examination of three different types of websites, government, non-profit and commercial, to determine whether these three site types use targeting and/or sociocultural cues in differential ways. The results showed that there were gaps in the use of spirituality/religiosity and racial pride among government websites. Commercial and nonprofit websites were the two types of

websites that had the most sociocultural factors present. These types of websites also varied their cues between text and images that were used as sociocultural cues, which suggests perhaps a more comprehensive use of ways that sociocultural cues can be presented within a site. Despite the fact that nonprofit and commercial websites used sociocultural cues to a greater extent than government sites, it was apparent that even then, most of these websites did not use these sociocultural factors to the extent that they could have; there were some websites that were too broad in their approach and that yielded very few references to sociocultural factors.

Theoretical Implications

Based on these results, the use of spirituality/religiosity and racial pride are utilized very sparingly within breast cancer websites. The use of collectivism was the most widespread sociocultural factor found in all types of websites: government, non-profit and commercial. The presence of this sociocultural cue in websites reinforces its ability to communicate within an electronic medium. In addition, the presence of racial pride and spirituality/religiosity found in some breast cancer websites, though not the majority, emphasizes the productivity of sociocultural factors in breast cancer websites.

Theoretically, this implies that the concept of targeting is not as prevalent as one might think in breast cancer websites. Although this is a common concept used in health communication messages, it does not appear to be a priority in the websites examined here with, perhaps the exception of the Chinese medicine website and Health.com. What this means, theoretically, is that with the growing number of African Americans seeking

information online, the use of targeting has not translated from a print environment to an electronic environment.

In addition, while the present study “lumped” spirituality/religiosity into one category, as the prior literature has, there is a general observation that the two concepts can be coded separately. For instance, it was observed that spirituality might be used more frequently than religiosity within breast cancer websites. Therefore, it is likely that these two concepts ought to be defined and coded separately when attempting to discover instances of sociocultural cues of this type. The separation of these two terms may yield different results, with spirituality and religiosity being used with different frequency. This makes sense if we consider that spirituality appears to have a broader application to more of a holistic lifestyle and can therefore be used in perhaps more instances than religiosity, which appears to be more context specific in terms of a religion (in this case, Christianity). Additionally, it may be that spirituality has broader application because it is less “offensive” to those who practice spirituality through meditation, for instance, as opposed to depicting an individual who is being “religious.” It may be, in fact, that pictures or instances of words about a spiritual individual are easier to produce and execute, creatively, while still maintaining a broad enough appeal to African Americans who are searching for breast cancer information. Clearly, there is lots of room to expand upon these two concepts in studies that are interested in sociocultural tailoring.

Practical Implications

In addition to theoretical implications, there are a number of practical implications. Social marketing and health communicators can use this information to bridge the gap between print and Web. The two media need to be operationalized and coded differently. Within a Web environment, there are a multitude of links from any given page, distracting the reader to move into different content. In addition, there are also varying importance of the graphics and images used on a page. Beyond that, the placement on a page and within a site is also of great importance. If information is buried deep within a long webpage or several clicks within a site, it is likely that content will not be discovered by the vast majority of those who view the site. Not only is the content of images, graphics and text important, but its size, placement on the page and the way in which that content is created. Some websites offered images that were large and at the top of the website – giving them prominence and importance for the viewer. Other images were much smaller and available toward the bottom of a page – making them less appealing and important to the viewer. Though it would create a complicated matrix, understanding the placement of sociocultural cues within a website would likely provide a better understanding of the use of those cues and their importance to the viewer.

The use of collectivism is the most easily identifiable sociocultural cue found within the websites coded. The use of this sociocultural factor can be replicated and utilized in websites with the use of images of African American women together and with children.

In addition, collectivism could be present with emphasis on the family as a central part of the network that helps women overcome breast cancer. With the use of collectivism in this manner, it is possible that these references to collectivism were the most numerous because they are appealing to virtually all women – within or outside the African American community.

It was noted earlier that despite the fact that spirituality/religiosity were coded as one variable in the present study (as past studies have done), it appears that these are two separate concepts that may require different definitions and different coding schemes. This is consistent with prior literature that conceptualizes spirituality as a broader, more general concept that can be used in a broader number of settings as opposed to religiosity, which is more context specific, typically to a specific religion such as Christianity. There are references to “God” though they are in the context of quotes from cancer survivors. The lack of reference to religiosity, but a more global reference to spirituality suggests that this is a more common approach being utilized by websites. If the goal is to reach the broadest number of individuals using the sites, it makes sense that the creators of the content would rely upon a cultural cue that has the broadest appeal. However, future studies are needed to determine if this approach has the intended effect or if a different approach is needed to yield the most effective outcomes. For instance, is it wise to rely more heavily on photographs of women doing yoga or meditating when the audience may, in fact, associate prayer or kneeling, typically associated with religion, as the more appropriate cue for this ethnic (or perhaps other ethnic) group? Follow-up research

studies can isolate these differences and conduct the necessary lab experiments to determine the effects of religiosity versus spirituality cues.

Of the three cues examined here, racial pride was present the least number of times. Oddly, racial pride is the one cue that could be represented perhaps the easiest of the three cues, both in terms of text and photos. The lack of this cue, but the ease at which it can be provided within the context of websites, provides an opportunity to increase this way of communicating with the audience. Racial pride could be better utilized by emphasizing the healthcare options where African American experts are available for mammography's, etc. for African American women. In addition, prominent African American spokespeople could provide person experiences of early detection and survival. The implication is that different forms of racial cue could be used within breast cancer websites that target African Americans and even greater use of those cues could and probably should be used since an African American who visits a site is likely surfing in search of photos or text that speaks to his/her specific ethnicity. Racial pride appears, at least, to provide a platform in which to accomplish this and health communicators may not be aware of this or it may be the case that racial pride is "too" specific to this ethnicity to have the broader appeals that collectivism and spirituality/religiosity have with a broader audience, even a broader ethnic audience. For instance, we expect that every ethnicity may be targeted with collectivistic themes but what about racial pride?

Photos of African American doctors, which showed up as the highest number of racial pride cues here, may signal to users of the site that the site is meant for African Americans and not Hispanics or Asians, for instance. In this sense, using a specific cue of this type may be too tailored for websites that have limited budgets, presumably, and attempt to get more bang for the buck by targeting “all” ethnicities with sociocultural cues that speak to a broader segment. Additional research can examine this issue by examining the effects of racial pride vs. the other cues and by using a variety of target audiences as subjects of these experiments to isolate the best possible combinations of sociocultural cues that are appropriate and effective for a select target audience.

Fourteen of the websites that were viewed did not have an internal search option. As women with breast cancer often seek information specific to themselves when beginning to seek health information, the use of a search is vital to the ability to find important information. Without the ability to search a website for specific information targeted at a smaller subset of the population (in this case, African American women) there is a lack of targeting toward a group that is in the most need of information about breast cancer.

Limitations and Directions for Future Research

Despite the efforts to obtain a sample of websites predominantly about breast cancer, there were several limitations. First, sampling for websites presented a challenge. There were a disproportionate number of websites that were government sponsored versus non-profit and commercial. Although this study focused on obtaining a sample the way in

which a person in the general public might seek information about breast cancer, and this contributes to external validity, a follow-up study needs to be completed to overcome potential sampling limitations.

Secondly, the method used for this study was originally conceived for print media, not electronic. To best accomplish a study in this medium, several additional factors should be considered. For instance, though photos in print and online may have similar features, their placement on the page or screen as well as the addition of hyperlinks tied to the content of images of text creates a dynamic not found in print. The sheer number of hyperlinks on a single page provides a multitude of distractions for the reader not found in print media. These “interactive” features need to be examined to determine their role in information search relative to sociocultural cues and ethnic searches to see if there are features that can be combined or, in some cases, pulled a part to gain the most effective combinations of text, photo, hyperlink, etc. to deliver information about breast cancer as effectively as possible.

Third, due to budget limitations, a single coder was used. Although this is not ideal for a study that uses content analysis, it is not uncommon for an MA thesis to rely upon a single coder as the next best possible alternative given budget constraints, provided the intracoder reliabilities fall within or above the recommended minimum; and this study met this criteria. Future studies, though, will need to replicate or extend this research by using a second coder. Ideally, this coder will be well-versed in sociocultural cues that appeal to African Americans and/or will be an African American who is sensitive to these cues.

This will not only help to ensure strong intercoder reliabilities but may provide insights into perhaps more subtle sociocultural cues that a either an individual trained in this area and/or someone who shares this culture would be sensitive to in the coding. In this sense, additional cues beyond the three examined here may be yielded, as addresses in the final research question. Should a follow-up study be completed with these recommendations, it is possible additional sociocultural cues may be apparent, as addressed in the final research question.

Last, breast cancer served as the context of the current study. The websites of other health issues such as obesity or diabetes should be examined to determine the extent to which the coding scheme used here is translatable to other health contexts. Because the same was not randomly selected, due to severe limitations in the number of breast cancer sites that met the researcher's criteria, it should not be assumed that the results found here will generalize to other breast cancer sites nor health sites in general. Rather, additional follow-up studies are needed to test out the framework provided here to determine its applicability in other health websites.

Conclusions

The Internet is gaining popularity as a means by which to access health information, specifically information about breast cancer. The information online, though in continual transition, provides breast cancer information at any time to those seeking information. As such, this study seeks to analyze the content of websites that refer to breast cancer

and the extent to which those sites provide cultural tailoring for African-American women. The sociocultural cues of collectivism, spirituality/religiosity and racial pride, which are useful when communicating with African Americans about breast cancer, are largely ignored in the majority of websites. Though government sponsored websites target African Americans with information specific to that cultural subset, the way in which the information is presented largely ignores the sociocultural cues that could provide more effective communication.

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Appendix A

Table 1a. Search Results of Ethnic Targeting: Government Sites (RQ1)

Website Name	Web address	Type of Site: G= gov, N= nonprof, C= comm.	"African American" search	"Black" search	Total search
National Cancer Institute	http://www.cancer.gov/cancertopics/types/breast	G	1262	1410	2672
Medline Plus	http://www.nlm.nih.gov/medlineplus/breastcancer.html	G	164	364	528
National Cancer Institute	http://www.cancer.gov/cancertopics/pdq/treatment/breast/patient	G	876	914	1790
National Cancer Institute - What you need to know about breast cancer	http://www.nci.nih.gov/cancertopics/wyntk/breast	G	903	940	1843
Breast Health New Zealand	http://www.breast.co.nz/	G	0	25	25

Table 1b. Search Results of Ethnic Targeting: Commercial Sites (RQ1)

Website Name	Web address	Type of Site: G= gov, N=nonprof, C=comm.	"African American" search	"Black" search	Total search
Neulasta - Are you ready to start Chemotherapy	http://www.neulasta.com/	C	0	2	2
WebMD - Breast Cancer Health Center	http://www.webmd.com/breast-cancer/default.htm	C	108	276	384
MedicineNet.com	http://www.medicinenet.com/breast_cancer/article.htm	C	17	84	101
Femara (letrozole tablets)	http://www.femara.com/home.jsp?m=2&source=010308irmasrc=FEMWB0167&campaign=FEM-900797&site=google&HBX_PK=breast_cancer&HBX_OU=50&usertrack.filter_applied=true&Novaid=2229645022397725482	C	8	0	8
Emend	http://www.emend.com/aprepitant/emend/consumer/index.jsp?WT.srch=1&WT.mc_id=N027Y	C	no search	no search	null
America's Car Donation Charities	http://www.donateacar.com/charity-United-Breast-Cancer-Foundation.php?gclid=Cnu7hJPQxZYCFQJNagod-CiByw	C			
Cancer Treatment Centers of America	http://www.cancercenter.com/landing-pages/breast-cancer/default.cfm?source=google&c=SW_Imm_Mkt:Cancers_Breast:breast_cancer:Exact&ef_id=1812:3:s_f2cde9f8b077c5d64f843abba64142_2606827581:BpoSN9b6B2YAAEHwtCAAAAH:20081026192857	C	no search	no search	null
CancerInfo.net	www.cancerinfo.net/breast/understanding.aspx.html	C	0	0	0
Yoplait - save lids to save lives	http://www.yoplait.com/sls/Default.aspx	C	no search	no search	null
ABRAXANE	http://abraxane.com/about-breast-cancer.aspx	C			
AROMASIN®	http://www.aromasin.com/content/home.jsp	C	0	0	0
Mayo Clinic	http://www.mayoclinic.com/health/breast-cancer/DS00328	C	2	30	32
Healthline	http://www.healthline.com/channel/breast-cancer.html	C	119	85	204
About.com: Breast Cancer	http://breastcancer.about.com/	C	500	1930	2430
Detailed Breast Cancer Risk Calculator	http://www.halls.md/breast/risk.htm	C	no search	no search	null
The Breast Cancer Site	http://www.thebreastcancersite.com/clickToGive/home.faces?siteId=2	C			
Breast Cancer Awareness	http://www.breastcancerawareness.com/	C	no internal search	no internal search	null
Cancer.com	http://www.cancer.com/cancer/breast_cancer.html	C	100	100	200
CET Cancer Center	http://cetcancercenter.com/breast.html?gclid=CKOEouHn6JYCFRIMDQod6QS3OQ	C	no search	no search	null
MammoSite	http://www.mammosite.com/?gclid=CJQ1ano6JYCFQMQswoDFjaoPg	C	0	0	0
Cancer Info	http://www.cancerinfo.net/breast/understanding.aspx	C	0	0	0
Health	www.health.com/health/breast-cancer.html	C	474	463	937
Yahoo Health - Breast Cancer Symptoms	http://health.yahoo.com/breastcancer-symptoms/breastcancer-symptoms/healthwise-tv3621.html	C	25	65	90
007 Breasts	http://www.007b.com/breast-cancer-prevention-2.php	C	16	21	37
Breast Care Site	http://www.thebreastcaresite.com/tbcs	C	262	262	524
In Your Corner (ARIMIDEX)	http://www.inyourcorner.com/index.aspx?source=50213&WT.mc_id=50213&WT.srch=1	C	no search	no search	null
My Treatment Decision (Oncotype DX®)	http://www.mytreatmentdecision.com/?s_kwid=TC-2582-141849381511-S-17898918511	C	5	3	8
Oncotype DX	http://www.genomichealth.com/oncotype/default.aspx?c1=overture&source=Breast%20Cancer%20Broad&kw=breasts%20cancer	C	1	1	2
eMedicine Health	http://www.emedicinehealth.com/breast_cancer/article_em.htm	C	9	7	16
Pink Ribbon Store	http://www.pinkribbonstore.com/gifts/site.do;jsessionid=B8883480DFE3E5DA5B51C86A26FA0479_prod-c?siteId=343	C	no search	no search	null
Warriors in Pink (FORD)	http://www.fordvehicles.com/warriorsinpink/health	C	no search	no search	null

Table 1c: Search Results of Ethnic Targeting: Non-profit Sites (RQ1)

Website Name	Web address	Type of Site: G= gov, N= nonprof, C = comm.	"African American" search	"Black" search	Total search
BREASTCANCER.ORG	http://www.breastcancer.org/	N	48	58	106
Susan G. Komen for the Cure	http://cms.komen.org/komen/index.htm	N	126	75	201
BreastCancer.net	http://www.breastcancer.net/1.php	N	no search	no search	null
National Breast Cancer Foundation, Inc.	http://www.nationalbreastcancer.org/	N	10	107	117
Barbara Ann Karmanos Cancer Institute	http://www.karmanos.org/	N	13	27	40
American Cancer Society	http://www.cancer.org/docroot/CRI/CRI_2x.asp?sitearea=LRN&dt=5	N	1020	932	1952
Breast Cancer Treatment with Traditional Chinese Medicine	http://www.breastcancer.com/	N	no search	no search	null
Wikipedia - Epidemiology and etiology of breast cancer	http://en.wikipedia.org/wiki/Epidemiology_and_etiology_of_breast_cancer	N	0	0	0
Cancer Research UK	http://www.cancerhelp.org.uk/help/default.asp?page=3284	N	2	17	19
Feminist Majority Foundation	http://www.feminist.org/other/bc/	N	15	35	50
Cancer Backup	http://www.cancerbackup.org.uk/Cancertype/Breast	N	2	21	23
Breast Cancer: Network of Strength	http://www.networkofstrength.org/	N	65	34	99
University of Texas: MD Anderson Cancer Center	http://www.mdanderson.org/diseases/breastcancer/	N	704	463	1167
Lance Armstrong Foundation	http://www.livestrong.org/site/c.khLXK1PxHmF/b.2662117/k.68D9/Hear_Survivor_Stories.htm?source=010204&utm_source=Yahoo&utm_medium=ppc&utm_campaign=Acancersupport&utm_term=010204	N	31	41	72

Table 2. Sociocultural cues coded in the 50 breast cancer websites.

<i>Sociocultural Cue</i>	<i>Total N Coded</i>	<i>Overall Percent</i>	<i>Range (low to hi)</i>	<i>Average per 50 websites</i>
Collectivism	138	56%	0-15	2.76
Religiosity/Spirituality	84	34%	0-27	1.68
Racial Pride	23	9%	0-7	.46
TOTAL	245	100%	0-44	4.90

Table 3. Non-profit Sites x Collectivism

Image: 2 or more AA adults	Image: AA person w/ children or family	Image: other (copy & paste)	Reference: Family	Reference: child/ren, daughter, son	Reference: Spouse/partner	Reference: Friends	Reference: assistance from others	Reference: not being alone	Reference: Other (copy & paste)	Total Collectivism
	2		2	2	1	1				4
			2							2
0										
2	7		1						2 "Remember, we all stumble, every one of us. That's why it's a comfort to go hand in hand."	11
2	3		5			2				13
			3			8	3			15
			3		3					6
51										

Table 4. Non-profit Websites x Spirituality/Religiosity

Image: Cross	Image: crucifix	Image: fish	Image: praying hands	Image: Alpha/omega	Image: Bible	Image: Church	Image: Other (copy & paste)	Reference: God	Reference: Jesus	Reference: Lord	Reference: Spirit, Holy Spirit, spiritual	Reference: prayer	Reference: Meditation	Reference: church	Reference: Bible or Bible verse	Reference: other (copy & paste)	Total Religiosity/s pirtuality
												1	2				3
								1								7 (divine intervention; blessed)	8
														2		2	4
											27						27
											1						1
40																	

Table 5. Non-profit Website x Racial Pride and Other

Image: Black doctor/authority figure	Image: prominent AA	Reference: prominent AA	Reference: Quote from prominent AA	Reference: AA community	Reference: strength of AA	Reference: looking out for other AA	Reference: Other (copy & paste)	Image: Other (copy & paste)	Total Racial Pride	Image: Other	Reference: Other	Total Other (images of AA)
								1		same one black woman - survivor		1
1										1 - black woman		1
									0			
			7							7 3 (aa woman)		3
										21		21
1									1	3		4
									10			28

Table 9. Government Website x Collectivism

Image: 2 or more AA adults	Image: AA person w/ children or family	Image: other (copy & paste)	Reference: Family	Reference: child/ren, daughter, son	Reference: Spouse/partner	Reference: Friends	Reference: assistance from others	Reference: not being alone	Reference: Other (copy & paste)	Total Collectivism
1										1
1	0		0					0	0	1
			3			2				5

7

Table 10. Government Website x Spirituality/Religiosity

Image: Cross	Image: crucifix	Image: fish	Image: praying hands	Image: Alpha/omega	Image: Bible	Image: Church	Image: Other (copy & paste)	Reference: God	Reference: Jesus	Reference: Lord	Reference: Spirit, Holy Spirit, spiritual	Reference: prayer	Reference: Meditation	Reference: church	Reference: Bible or Bible verse	Reference: other (copy & paste)	Total Religiosity/spirituality
																	0

Table 11. Government Website x Racial Pride and Other

Image: Black doctor/authority figure	Image: prominent AA	Reference: prominent AA	Reference: Quote from prominent AA	Reference: AA community	Reference: strength of AA	Reference: looking out for other AA	Reference: Other (copy & paste)	Image: Other (copy & paste)	Total Racial Pride	Image: Other	Reference: Other	Total Other (images of AA)
									0			
									0			
									0			0

Appendix B

Codebook

Every website will be entered and information on the first page will be coded. Then, every link from the main page will be coded. The coding will take place only one link into the document. If links are present on the second page, those links will not be coded. Every instance of a particular sociocultural cue will be coded.

Collectivism

References or images that connote collectivism will be coded. Every instance of a particular reference will be counted. For instance, if the title is “Family obligations” and within the text of the copy, the term “family” is used twice, that would count for a total of three references to “family.”

References that should be coded as collectivism include:

- References to family
- References to children or son(s)/daughter(s)
- References to a spouse, partner or husband
- Reference to assistance from others
- References to not being alone

Images should be coded every time they appear – even if the same image is repeated multiple times. Images that would count as “collectivism” include:

- Images of two or more African Americans together
- Images of an African American woman with a child or children

Spirituality/Religiosity

Spirituality and religiosity will be coded. Every instance of a word, phrase or image being used will be coded, even if it appears multiple times. For instance, if the title is “Meditation” and within the text of the copy, the term “meditation” is used twice, that would count for a total of three references to “meditation.”

References that should be coded include:

- God
- Jesus
- Higher Power
- Lord
- Holy Spirit/Spiritual/ Spirit
- Prayer
- Meditation
- Church (physical or with members)
- Bible verse or Bible
- Any other reference to spirituality/religiosity or a variation of the words sited above

Images that should be coded include:

Image of a cross

Image of a crucifix

Image of a fish

Image of praying hands

Image of Alpha and Omega

Image of a Bible

Image of a Church

Any other image that connotes spirituality/religiosity

Racial Pride

Racial pride will be coded. Every instance of a word, phrase or image being used will be coded, even if it appears multiple times. For instance, if there is an image of an African American doctor and later an African American nurse, each instance would be coded. Therefore, the two images would count as two separate instances of racial pride.

References that will be used to connote racial pride include:

References to prominent African Americans

Quotes from prominent African Americans

References to the African American community

References to the strength of the African American community

References to looking out for others who are African American

Images that should be coded for racial pride include

Images of prominent African Americans

Images of African Americans in authority/medical roles such as doctor or nurse

Other

Additional sociocultural cues may be present in the websites. Should a trend appear, these instances should be noted. If a trend is present, all websites will be coded again to seek references or images that fit with that newly discovered sociocultural factor.

