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THE RELATIONSHIP BETWEEN RELIGION AND DIET-RELATED DISPARITIES IN
AFRICAN AMERICAN MEN

By

Joel Anthony Hamilton

B.S., Southern Illinois University, 2017

A Thesis

Submitted in Partial Fulfillment of the Requirements for the
Master of Science Degree

Department of Animal Science, Food & Nutrition

in the Graduate School

Southern Illinois University Carbondale

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THESIS APPROVAL

THE RELATIONSHIP BETWEEN RELIGION AND DIET-RELATED DISPARITIES IN
AFRICAN AMERICAN MEN

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Joel Anthony Hamilton

A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of
Master of Science
in the field Community Nutrition

Approved by:

Dr. Dawn Null, Chair

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AN ABSTRACT OF THE THESIS OF

Joel Anthony Hamilton, for the Master of Science Degree in Community Nutrition,
presented on November 15, 2018, at Southern Illinois University Carbondale.

TITLE: THE RELATIONSHIP BETWEEN RELIGION AND DIET-RELATED
DISPARITIES IN AFRICAN AMERICAN MEN

MAJOR PROFESSOR: Dr. Dawn Null

This study utilized a cross-sectional design to report quantitative results. Equal numbers of African American men, religious and non-religious, were sought out for comparison. Participants must have identified as African American, been 30 years of age or older, and lived within 10 miles of Carbondale, IL during the time of the study. African American men are at an increased risk of developing many diet-related disparities. This study aimed to see if religion influenced these factors.

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CHAPTER 1

INTRODUCTION AND BACKGROUND

Many factors influence the health of an individual. Determinants of health include access to healthcare, local resources, social factors, spirituality, and more (World Health Organization, 2017). Reduced access to health care and knowledge is associated with both inadequate financial and local resources (Hawkins, et al., 2015). Low numbers of local supermarkets decrease the likelihood of fruit and vegetable consumption (Satia, 2009). Studies show that African American men diagnosed with diabetes revealed that social support is effective in blood glucose control (Hawkins, et al., 2015). Additionally, research shows that religion and spirituality also influence physical health (Koenig & Hamilton, 2012). However, there is limited research on the influence of religion on diet-related disparities in African American men.

Religious Teachings and Beliefs

Certain religious groups associate education outside of biblical teachings to sinfulness. Research shows that this mistrust can create disparities in knowledge between certain religious groups and non-religious individuals. Studies show that many African Americans rely on their religiosity for support during times of conflict and identify God as a focal point of their coping abilities more often than other racial groups. (Avent & Cashwell, 2017). The main way to connect with God is through prayer (Levin, 2016). Whether it concerns physical health, lifestyle changes, or knowledge, the impact of relying on prayer for health improvement is unknown. Research shows that 78% of African Americans self-identify as Protestant. Protestant includes members of a historically African American church, Baptist, Methodist, Pentecostal, Holiness

(including the Church of God in Christ), Restorations, nondenominational, and Mainline Protestant churches, among others (Pew Research Center, 2009). Since the majority of African Americans are religious, religiosity's influence on diet-related disparities should be explored (Sherkat, 2011).

Need for the Study

African American males are at an increased risk of developing and inadequately managing their health conditions, when compared to other races. There are limited studies seeking to identify the factors contributing to diet-related disparities in African American men, with a special focus on those African American males who depend on faith-based counseling and religious practices for shaping their survival strategies in all aspects of their lives.

Purpose of the Study

The purpose of this study was to examine the relationship between religion and diet-related diseases including heart disease, diabetes, obesity, stroke, and high blood pressure among religious and non-religious African American men. This study did not seek to determine right or wrong, rather it compared risks and occurrences of diet-related diseases between the two groups.

Hypotheses

Hypothesis 1: It is hypothesized that Protestant African American men will have, on average, more risk factors for diet-related diseases than non-religious African American men.

Hypothesis 2: It is hypothesized that Protestant African American men will score on average higher on the God Locus of Health Control (GLHC) scale than non-religious African American men.

Research Questions

Research question 1: To what extent does level of education and religiosity influence African American men to seek medical attention for health improvement compared to relying on prayer for health improvement?

Research question 2: To what extent does socio-economic status impact risk factors for diet-related diseases among African American men?

Research Design and Sample

This study utilized a cross-sectional design to report quantitative results. Equal numbers of religious and non-religious African American men were sought out to allow for comparison. Individuals were recruited from local churches, community centers, word of mouth, tabling, various forms of social media, and barber shops. In order to have participated in the study, participants must have identified as African American, been 30 years of age or older, and had lived within 10 miles of Carbondale, IL during the time of the study. Individuals who participated were entered into a raffle to win a neck tie, pocket square, and cufflink set for their participation (optional).

Data Collection Procedures

A purposive sample of religious African American men was gathered from local churches who predominately minister to African Americans. Additionally, an equal number of African American men, who identify as non-religious, were sought out to participate in the study. This would provide a comparison population. Ideally, 100

individuals would have participated in this study. Both a paper and an online version of the survey was available. Regardless of the version, participants were required to read and sign the consent form. The identity and responses of the participants remained confidential.

The survey consisted of six sections. Section one asked questions about the use of prayer compared to modern medicine for health improvement. These questions were based on the Theory of Planned Behavior (TPB). Section two was the GLHC scale. Section three included a brief assessment of physical activity. Section four consisted of a nutrition quiz. Section five was a food frequency questionnaire. Socio-demographic data was asked in section six. Completed surveys were kept in a locked room until the data was analyzed. The statistical software, Statistical Package for the Social Sciences (SPSS), was used to analyze the data. This utilized a mix of descriptive and inferential statistics to explain the findings. Upon completion of the thesis project, the completed surveys will be shredded.

Assumptions, Limitations and Delimitations

This study was based on the following assumptions:

1. Participants were honest in their responses to survey items.
2. Participants were within the age, ethnicity, gender, and location criteria of the study (on the consent form, which was required).
3. Participants were able to recall their typical diet and medical history.
4. Participants were able to read and understand the survey (Flesch Reading Ease - 79.9 and Flesch-Kincaid Grade Level - 4.6).

Limitations

The following limitations should be considered when interpreting the results of the study.

1. Accuracy of self-reports must be taken into considerations.
2. Accuracy of reporting depends, partially, on how the individual was able to recall information (diet, medical history, income, etc.).
3. Participants may have answered survey questions based on what they believed to be socially desirable.
4. Not every individual within the criteria was presented with the survey.

Delimitations

1. A cross sectional survey design only allowed for associations and not cause and effect.
2. The study was limited to African American men aged 30 and over who lived within 10 miles of Carbondale.

Definitions

African American: a black American (Oxford, 2010).

Baptist: a member of a Protestant Christian denomination advocating baptism only of adult believers by total immersion. Baptists form one of the largest Protestant bodies and are found throughout the world and esp. in the U.S (Oxford, 2010).

Bible: the Christian scriptures, consisting of the 66 books of the Old and New Testaments (Oxford, 2010).

Caucasians: of or relating to one of the traditional divisions of humankind, covering a broad group of peoples from Europe, western Asia, and parts of India and North

American. [So named because the German physiologist Blumenbach believed that they originated in the Caucasus region of southeastern Europe] (Oxford, 2010).

Deity: a god or goddess (Oxford, 2010).

Disdain: the feeling that someone or something is unworthy of one's consideration or respect (Oxford, 2010).

Disparity: a great difference (Oxford, 2010).

Genetic: of or relating to genes or heredity (Oxford, 2010).

God: In Christianity and other monotheistic religions) the creator and ruler of the universe and source of all moral authority (Oxford, 2010).

Glucose: a simple sugar that is an important energy source in living organisms and is a component of many carbohydrates (Oxford, 2010).

Holiness: Denoting a Christian renewal movement originating in the mid-19th century among Methodists in the U.S, emphasizing the Wesleyan doctrine of the sanctification of believers (Oxford, 2010).

Inerrant: incapable of being wrong (Oxford, 2010).

Methodist: a member of a Christian Protestant denomination originating in the 18th-century evangelistic movement of Charles and John Wesley and George Whitefield (Oxford, 2010).

Missionary: a person sent of a religious mission, esp. one sent to promote Christianity in a foreign country (Oxford, 2010).

Mortality: the state of being subject to death (Oxford, 2010).

Non-Denominational: open or acceptable to people of any Christian denomination (Oxford, 2010).

Obesity: a condition of being grossly fat or overweight (Oxford, 2010).

Pastor: a minister in charge of a Christian church or congregation (Oxford, 2010).

Pentecostal: of, relating to, or denoting any of a number of Christian sects and individuals emphasizing baptism in the Holy Spirit, evidenced by speaking in tongues, prophecy, healing, and exorcism (Oxford, 2010).

Prayer: a solemn request for help or expression of thanks addressed to God or an object of worship (Oxford, 2010).

Protestant: a member or follower of any of the Western Christian churches that are separate from the Roman Catholic Church and follow the principles of the Reformation, including Baptist, Presbyterian, and Lutheran churches (Oxford, 2010).

Race: each of the major divisions of humankind, having distinct physical characteristics (Oxford, 2010).

Religion: the belief in and worship of a superhuman controlling power, esp. a personal God or god (Oxford, 2010).

Restorationism: a charismatic Christian movement seeking to restore the beliefs and practices of the early church (Oxford, 2010).

Sacred: connected with God (or the gods) or dedicated to a religious purpose and so deserving veneration (Oxford, 2010).

Satanic: of or characteristic of Satan (Oxford, 2010).

Secular: denoting attitudes, activities, or other things that have no religious or spiritual basis.

Sedentary: tending to spend much time seated; somewhat inactive (Oxford, 2010).

Scripture: the sacred writings of Christianity contained in the Bible (Oxford, 2010).

Sinful: wicked and immoral; committing or characterized by the committing of sins (Oxford, 2010).

Westernized: cause (a country, person, or system) to adopt or to be influenced by the cultural, economic, or political systems of Europe and North America (Oxford, 2010).

Summary

African American men were the target population for this study. Both religious and non-religious African American men were chosen for comparison. Previous research shows there is an increased risk of diet-related health disparities in African American men, when compared to other groups. The data collected from the survey was used to address the research hypotheses and questions. Results from this study can be used to develop health-related interventions and future research.

CHAPTER 2

REVIEW OF LITERATURE

This chapter discusses research related to religion, education, and diet-related disparities as it pertains to religiosity in African American men. Literature covered in this section provides background information and reinforces the study's importance.

Health Literacy

Health literacy is how much an individual is able to interpret health information and translate that knowledge into an informed decision. General literacy is associated with higher level thinking. This includes critical thinking and interpersonal skills. Health literacy and general literacy are independent of one another. Factors associated with health literacy include sociodemographic factors, occupation, insurance, and economic position. Individuals with low health literacy tend to participate in more risky behaviors, such as having sedentary lifestyles and smoking. Individual yearly healthcare costs due to low health literacy sum up to 17% of individual spending, on average. These individuals also have lower levels of mental health status when compared to other races. African Americans are less likely to seek preventative health measures, like health screening, when compared to non-Latino Caucasians. They also have lower levels of health knowledge, when compared to non-Latino Caucasians. (Hodges, Rowland, & Paulette, 2014). Studies show that two-thirds of African Americans have low health literacy. Part of this is due to education (Hoover, et al., 2015).

Education

Through education we gain knowledge about various topics. Studies show 63% of African Americans with a high school diploma or less are members of a historically black church. Studies also show that 53% of African American college graduates are a part of a historically black church (Pew Research Center, 2009). Education plays a significant role throughout life. An important skill taught through education is critical thinking. Critical thinking is a combination of attitude, knowledge, and skills (Stone, 2017). Being able to correctly interpret information and decide an appropriate course of action is very important, especially concerning an individual's health. African Americans have lower rates of high education and lower levels of nutritional knowledge, when compared to other races.

Health Disparities

A population has a health disparity if the occurrence and death rate, due to a certain disease, is significantly different than that of another population. Diet-related disparities include significant differences in food intake, behaviors, and patterns. These factors can lead to a nutritionally inadequate diet and greater risk for the corresponding diseases and conditions, such as cancer(s) and heart disease (Satia, 2009). A lack of sleep can also influence health (Gazella, 2012).

Inadequate amounts of sleep can negatively impact the immune system and increases the risk of becoming obese, heart disease, and diabetes (Gazella, 2012). Access to sleep and health knowledge may be related to both religious and racial factors.

Nutritional Knowledge

Nutritional knowledge can mean the difference between life and death. The main cause of death in African American men is heart disease. African Americans show earlier signs of hypertension, high blood pressure, and have lower rates of seeking treatment, when compared to other groups. Nutritional knowledge can reduce the risk of developing conditions and can be lifesaving in some instances (Williams, 2017).

The intake of certain nutrients can impact disease risk. Excessive dietary sodium can increase the risk of developing hypertension, heart disease, and stroke. High amounts of dietary potassium can help excrete excess sodium. Knowing the effects of excess sodium is important in the health of an individual. Additionally, lowering the amount of cholesterol in the diet may help reduce the risk of developing cardiovascular disease (Bredbenner, Moe, Beshgetoor, & Berning, 2013).

Studies show adequate fruit and vegetable consumption along with nutritional knowledge can lower the risk for certain diseases (Moser, Green, Weber, & Doyle, 2005). Studies show 21.3% of African Americans eat five or more fruits and vegetables each day. This is lower than any other racial group in the United States. However, older age is associated with higher intakes of fruits and vegetables in African Americans (Satia, 2009). African Americans, at all stages of life, are recommended to have 1,500 mg of sodium each day. This is the general recommendation for individuals (of all races) over the age of 55, and those with chronic kidney disease, and those with other health conditions. This shows that African Americans are at a higher risk for certain diseases and how diet can impact the onset of disease (FDA, 2017). To begin understanding this topic, the history of African Americans must be explored.

Traditional African Diets

Traditional African foods included amaranth, African eggplant, and jute mallow. They contain vitamins, minerals, and phytochemicals that decrease the chances of developing certain diseases, such as cancer. Studies have shown that African eggplant has nutrients that also alleviate ulcers. Further studies show these foods improve health during pregnancy and decrease the risk of child mortality (Sefa, et al., 2015). Other traditional African foods include baobab, desert date, black plum, and tamarind. These plants provide different produce throughout the year including tubers, roots, grains, fruits, and pluses. High amounts of vitamin C and minerals, such as iron, are found in baobab. Iron increases the absorption of vitamin C. High amounts of potassium and magnesium could be found in safou. Black plums are a good source of iron and tamarind offers calcium and other minerals (Environmental Health Perspectives, 2015).

Studies show that the transition from traditional to non-traditional diets are related to weight gain, and an increased risk for type 2 diabetes, hypertension, and heart disease (Delisle, 2010). Studies also show that 20-25% of daily calories from the traditional African diet came from unsaturated fats derived of corn, palm, and peanut oil. The majority of daily calories in the United States, during the slave trade, came from white breads, cookies, donuts, and meats. History shows that enslaved Africans were shipped to the Caribbean and the United States. The amount of fat, processed foods, and meat increased in their diets during this transition, along with diet-related risk factors (Luke, Cooper, Prewitt, Adeyemo, & Forrester, 2001).

Diets of Enslaved African Americans

Descriptive literature suggests protein deficiencies in enslaved African American children. Reports of glossy ribs and extended abdomens are signs of a protein deficiency. A common practice of the owners of enslaved African Americans was to restrict protein from the diet of the enslaved African American child. Giving enslaved African American children meat was viewed as an investment. Giving enslaved African American children protein had an initial negative profit since children could not do as much work as adults. In the long run, the child would grow bigger and stronger if fed adequate amounts of protein. Protein was withheld until the child was 10 and began effectively working (Steckle, 1986).

Rectangular holes carved into clay floors served as food storage and root cellars in the quarters of enslaved African Americans. Root vegetables were stored here along with other foods. Cellars were close to the fireplace to prevent the produce from freezing during the winter months. The cooking items were mostly of Chinese and European origin. They included plates, teacups, and bowls. These items were obtained through trades. Cellars were used to store food as well as other items. These items included buttons, farming tools, and instruments (Samford, 1996). Cooking items included but were not limited to shovels, tongs, sauce pans, kettles, trammels, trivets, ladles, forks, skimmers, clam shells, pieces of broken pottery, toasters, griddles, pans, wafer irons, iron mortar, ovens, roasters, and coffee mills (Joyner, 1984). In some places, some enslaved African Americans could own livestock such as pigs and cows. This was their main source of protein. Domestic fowl were farmed for their eggs rather than the fowl's meat itself. These standard protein sources were accompanied by deer,

turtle, raccoon, squirrel, fish, duck, and rabbits obtained during designated hunting times. Even so, the majority of protein in the diets of enslaved African Americans came from domestic animals. Certain enslaved African Americans were given firearms for this hunting and others acquired fishing tools. Trace remains of walnuts, blackberries, and oyster shells were also found in the quarters of enslaved African Americans. Enslaved African Americans could garden pumpkin, watermelon, beans, cherries, corn, and peas. Maize, rice, beans, and peanuts were included in the diets of enslaved African Americans as-well. The remains of the animal bones used for cooking suggest they were part of soups and stews due to their fragmentary nature (Samford, 1996).

Stewed meals required less work and attention than other cooking methods. This type of cooking was similar to that of traditional West Africa. This aligned with the higher ration of bowls to plates discovered in the quarters of enslaved African Americans. Data also showed more chopped animal bones in the diets of enslaved African Americans when compared to the owners of enslaved African Americans. This showed that the diets of enslaved African Americans included more simmered foods opposed to the steaks and chops eaten by the enslaved African American owners. This style of chopping exposed the bone marrow and increased the nutrient content in the food. Studies show combining meat, vegetables, and starch (either beans or rice) helped to stretch food and evenly distribute it to the enslaved African American population. This slow cooking method allowed time for socialization and household chores after the day's work. Stewing also increased the palatability of poorer cuts of meat. Unbroken wine bottles have also been unearthed in the quarters of enslaved African Americans, indicating alcohol was a part of the enslaved African American diet as well (Samford,

1996). The diets of enslaved African Americans suggested high amounts of cholesterol, starch, and salt. It also suggested they had low amounts of calcium in their diet. The majority of the diets of enslaved African Americans included meats high in cholesterol (pig, cow, and eggs). These factors are associated with heart disease, diabetes, and other diet-related diseases.

Appetite and hunger are influenced by culture. Food for enslaved African Americans provided both nutrients needed to live and, in some cases, the only pleasure they would receive each day. This helped to coin the term, soul food (often referred to as comfort food) (Joyner, 1984). Enslaved African Americans were given food allowances each week. Some plantations had assigned cooking positions for the enslaved African American women and children.

Enslaved African American Spirituality

Archeologists discovered objects connected to West African spirituality in the quarters of enslaved African Americans. Many believe this spirituality strengthened the resiliency of enslaved African Americans. Coins, thought to prevent arthritis, were discovered in the quarters of enslaved African Americans, hinting that arthritis was common in this population. Items relating to spirituality included buttons, beads, carved bone, and dolls. Nkishi/minkisi were known to have strong spiritual energy and helped to ward off bad spirits. Mirrors were also associated with spirituality in the culture of enslaved African Americans. They were also found in graves. Jaw bones from animals were used to create instruments that played a role in traditional West African Spirituality (Samford, 1996).

Typical African American Diet: 1800-2000's

The diets of African Americans in Tuskegee, Alabama (1895-1996) included foods that were fresh and could be dried. This included high amounts of cornmeal, flour, bacon, lard, sugar, molasses; moderate amounts of pork, milk, buttermilk, butter, sweet potatoes, greens; and lower amounts of eggs, rice, and cow peas. Pork meat was a term used for pork fat. Actual pork meat was not available to many African Americans due to the cost. African Americans only considered chicken or rabbit to be meat in this location. Bacon grease combined with molasses, "sap," was accompanied by meat and cornbread. Only recently had flour become cheap enough to make biscuits. Higher nutritional intakes took place during the summer and spring, due to the availability of vegetables and eggs. African Americans ate fewer animal products (55%) during the winter and overall ate less food (30%) (Dirks & Duran, 2001).

In Franklin County, Virginia (1897) the diets of African Americans included foods that could be salted, dried, eaten fresh, or canned. This primarily included pork shoulder, herring, cornmeal, flour, salt, lard, sugar, sweet potatoes, mustard greens; moderate amounts of fish and bacon; and lower amounts of ham, pork sausage, eggs, milk, corn bread, pork jowl, brown sugar, molasses, collard sprouts, tomatoes, apples, strawberries, and peaches. The primary pork product was pork shoulder, which was boiled. Other meats were fried and eaten with corn bread (without salt or leavening). The corn bread was baked on hot ashes, directly (Dirks & Duran, 2001).

In Elizabeth City County, Virginia (1998) the primary diets of African Americans included foods that could be salted, dried, smoked, canned, and eaten fresh. This mainly included beef, fresh fish, cornmeal, flour, rice, bread, salt, pork, lard, sugar, and

cabbage; moderate amounts of ham, chicken, oat flakes, cornstarch, beans, bacon, potatoes, apples, blackberries, and strawberries; and lower amounts of beef liver, pork sausage, herring, turtle, milk, hominy, cornbread, crackers, macaroni, pork side, chocolate, beets, onions, lettuce, peas, corn, lemons, and oranges. They owned cows, but the milk was stored in box containers and turned into butter. The younger individuals drank buttermilk.

In Philadelphia and Washington, DC (1800s), the main foods were fresh, local, canned, seasonal, smoked, or dried. The main foods included beef, pork, pork sausage, fish, milk, flour, bread, beans, lard, butter, sugar, potatoes, sweet potatoes, and cabbage; moderate amounts of ham, mutton, sheep liver, eggs, oatmeal, rice, cake, pie, bacon, onions, tomatoes, and apples; lower amounts of corned beef, beef liver, beef heart, pork sausage, corned pork, scrapples, chicken, turkey, oysters, sardines, cheese, cornmeal, hominy, pudding, fatback, salt, pork, candy, turnips, peanuts, kale, spinach, string beans, catsup, oranges, grapes, and pears (Dirks & Duran, 2001).

Sweet potatoes were a main staple throughout the seasons. Sweet potatoes were found to be in 24% of non-African American diets during this time and in 47% of African American diets. Bacon, ham, chicken, cornmeal, hominy, and peanuts were found in African American diets more than non-African American diets. Actual meat (not meat fat) was not often seen in the diets of African Americans. Availability played a major role in the diets of African Americans. Cornmeal in Virginia was \$0.05 per kg and twice as much in DC. Also, bacon in Virginia cost 4 times less than it did in DC. Overall, low amounts of fruits, dairy, and vegetables were consumed.

The traditional foods of African Americans, prior to 1960, were called comfort foods, now known as soul food. Most of their diet consisted of native foods. Enslaved African Americans were given the unwanted cuts of meat to eat. The available resources lead to increased amounts of animal fat, sugar, and salt in their food. Salt was heavily used due to its preservative factors, since there was no refrigeration. After slavery ended, many African Americans used their cooking skills to gain employment as cooks. The traditional foods continue to be passed down through the generations to this day (Geyen, 2012).

20th Century African American Diets

Research shows that African Americans monitor the sodium in their diet (77%) (Chung-Tun, Zhang, Carlton, & Lo, 2016). Studies show that African American men are less involved in choosing/cooking their food than African American females. When compared to African American females, African American men are less aware of the nutritional benefits of certain foods. However, African American men are more likely to cook than Caucasian American males. African American men are more likely to eat for pleasure and convenience, rather than health benefits when compared to African American females. African American men also eat larger and more calorie dense meals than African American women. African American male diets contain more red meats, eggs, alcohol, and foods high in sucrose than African American women (Allen, Griffith, & Gaines, 2012).

Studies show that heterosexual married African American men have healthier diets than unmarried African American men. Studies show African American women take more responsibility for their husband's health and include healthier food options in

the meals provided. Studies show that food is seen as a symbol of love from an African American female to a man in a heterosexual African American marriage. Studies also show that African American men are less likely to express dissatisfaction with the foods prepared by their African American wives. Changes made in the diets of African American men (healthy changes) are generally short term, benefit others, and take place outside the household. Studies show that in African American heterosexual marriages, afternoon/evening food was the main responsibility of the wife. Studies showed a high occurrence of African American men being thankful that their wives cook for them. African American men who are retired cook more often, but cook for themselves, rather than others. African American men are more likely to cook breakfast other than any other meal (Allen, Griffith, & Gaines, 2012).

Studies show that African Americans eat outside of the home (61%) weekly. When eating out, the main choice was fast food (29%), sit down restaurants (26%), and at soul food restaurants (22%). Those that chose fast food ingested lower serving amounts of fruits and vegetables (2.5 compared to 3.3 servings) (Cowling, 2006).

African American Health Ideals

Studies show that some African Americans rely on prayer to improve certain health conditions instead of using medicine (Koenig & Hamilton, 2012). This thought process can be transferred to diet-related disparities. Increased reliance on religion can lower the ability to interpret information (Hodges, Rowland, & Paulette, 2014). African Americans are less inclined to seek treatment for their health when compared to other races (Satia, 2009). Studies show 93% of African Americans, 65 years of age and older, identify with a religion (Pew Research Center, 2009).

Prayer

Many African Americans with a religious affiliation believe prayers benefit their health. They also believe the prayers of other individuals can impact health. Intercessory prayer (IP) is a category of prayer practice that includes praying for help and healing for others (Lesniak, 2006). In religion, prayer serves as a way to communicate to a higher deity. Many individuals use prayer when faced with circumstances that impact their health or wellbeing. This includes disease, natural disaster, sense of endangerment, or other factors. When faced with certain circumstances, even individuals that do not associate with a religion may rely on prayer. Studies have shown a positive effect of prayer on health, but the methods of these studies were not reliable (Levin, 2016).

Frequency of Church Attendance

Research has revealed a relationship between church attendance and mortality rates in African Americans. Studies show that individuals (over the age of 55) who do not attend church are 1.77 times more likely to die within the follow-up period (nine years), when compared to those who attend church once a week. This association was strong in African American men, but not for African American females. Younger African American males have a higher chance of not attending church than African American females. The strength of these results was stronger in the Southern states, when compared to the Northern States (Ellison, Hummer, Cormier, & G, 2000).

Religious Statistics

Most (87%) African Americans identify with a minimum of one religious' group. Studies show 78% of African Americans identify as Protestant (members of a

historically African American church, Baptist, Methodist, Pentecostal, Holiness, Restorations, nondenominational, and Mainline Protestant churches, among others). When compared with non-African American adults, more African Americans believe in a higher power (88% to 71%), believe scripture is the literal word of God (55% to 33%), pray each day (76% to 58%), and pray more often (Pew Research Center, 2009). Research shows 83% of African Americans believe in God with absolute certainty, 75% say religion is very important in their lives, 47% attend church weekly, 73% pray daily, and 69% express feeling spiritual peace while among African Americans at least once a week (Pew Research Center, 2014).

Fatalism

Some religions adopt a form of fatalism. Fatalism is the belief that certain things are predetermined, and the individual has no control over life circumstances. Fatalism can be used as a coping mechanism in life endangering situations, such as victims of terrorist attacks. Fatalism can lead to negative health behaviors related to diabetes management. Studies show that fatalism leads to higher HbA1C levels and a lower quality of life in people with diabetes. Fatalism is also associated with poorer activity levels, blood sugar testing, and diet in those with diabetes. Studies show religious individuals are more fatalistic than non-religious individuals. Studies also show religiosity has a negative association with depression as well as the locus of control in low income diabetics (Berardi, et al., 2016).

View of Religious Texts

Some religions remove children from the education system and home school them. This may limit the child's exposure to different ideas and hinder their ability and

motivation to learn more on their own (Darnell & Sherkat, 1997). Some religions view non-biblical education as Satanic. Studies show that some individuals, that interpret the Bible as the literal word of God, typically have small social networks and exclude outside views and opinions (Sherkat, 2011).

Some religions rely on sacred texts for guidance in life. Even though biblical text does mention diet, issues such as diet-related health conditions, medical care, and treatment, are not science based or peer reviewed. Relying on sacred texts might not allow individuals to get the proper nutritional education and overall treatment they need. Negative attitudes towards education are still taught in certain religions. Some conservative Christians do not condone secular education deeming it non-religious (Sherkat, 2011).

Segregation

African Americans were segregated in schools and not able to vote (Martin & Varner, 2017). African Americans were limited to where they could eat, drink, use the rest room, walk, and live (Brown, 2017). They were also enslaved, their education was withheld, and they were not recognized as full Americans. African Americans, as a society during this time, were then left with few places to go. Often, African Americans went to church for encouragement, community, general safety, education, and guidance (Hodges, Rowland, & Paulette, 2014). African Americans, for a time, could not gain merit, status, recondition, refuge, or acceptance in the education system. However, they could gain all of these through the historically black church (Hodges, Rowland, & Paulette, 2014).

Mistrust

African Americans had little control over their environment and their lives (Hodges, Rowland, & Paulette, 2014). Leaving their circumstances to an all-powerful deity is a belief held by a local Missionary Baptist Churches (Hopewell Missionary Baptist Church, 2017). African Americans have higher levels of mistrust than non-Latino Caucasians. Once the biggest hurdles in human rights were passed, a dependence on prayer and religion still remained strong in the African American community. However, nutrition and science-based education does not always correspond with religion. This religion, that seemingly got African Americans through hard times, was now being threatened by education. Due to this, many African Americans either chose to reject education or distrust the individuals trying to educate them. This mistrust might have also been influenced by the results of the Tuskegee study. This study targeted African Americans and purposefully did not provide treatment to a disease. Lying to and deceiving that study population created mistrust in the African American population towards the health field (Hoover, et al., 2015).

African American Activists

Relating to race to, music, literature, art, ethnicity, religion, and ideals created unity within the African American community. Finding commonalities strengthens the bond between individuals of the same religion (Sherkat, 2010). Many African American activists, Martin Luther King Jr. for example, shared the same ideals and religion as the people that followed him (Lawson, 1991).

Views and Customs

Views, customs, and traditions are passed down through the generations both intentionally and unintentionally (Sherkat, 2010). Views on who to trust and what to think are all included. Solely relying on prayer for health improvement and not making any individual changes in diet or activity level may increase risk for chronic diseases, and conditions.

African American Body Image

African Americans are more secure with having larger body sizes and experience less guilt when overeating when compared to other races. The diets of U.S.-born African Americans, when compared to other races, contain more calories, fat, and lower amounts of fiber and calcium. African Americans are less likely to over-exercise, purge, or use weight loss pills when compared to other races (Satia, 2009).

Education from the Church

Earlier it was explained how education can impact an individual throughout life. Many African Americans receive education from other African Americans of the same religious affiliation. This increases the reach of the church from just religion to overall education (Hodges, Rowland, & Paulette, 2014). Studies show 43% of African Americans find guidance of right and wrong from other African Americans. Studies also show 51% of African Americans interpret scripture as the word of god and that it should be taken literally (Pew Research Center, 2014).

African American Male Health Disparities

African Americans are at an elevated risk for low health literacy and have higher rates of obesity, chronic illness, mortality from cardiovascular conditions, and certain

cancers (Hoover, et al., 2015). African American men ages 20 and older drink water less than other men of different ethnic origins (2.92 L/day) (Rosinger, 2016). African American and Hispanic males, on average, ingest the highest number of calories from sweetened beverages when compared to other genders and races (213 kcals/day, 215 kcals/day) (Rosinger, 2017). The top 10 causes of death in African American males include heart disease, cerebrovascular diseases, chronic liver disease, and diabetes. All of these are diet-related conditions. Studies show 20.3% of African American males over the age of 18 smoke cigarettes (CDC, 2017). When compared to non-Hispanic white men, African American and Latino men have higher rates of diabetes (12% of the population), develop end-stage renal disease, and need to be hospitalized due to diabetes complications more often. When compared to women of the same race, African American and Latino men are more likely to die from diabetes (Hawkins, et al., 2015).

African American Stress

Studies show that African Americans and Native Americans experience more chronic stressors (unemployment, low income, etc.) than other racial groups. African Americans also experience transient stress (short term, arguments for example). Studies show that transient stress impacts the type of food choices (fast food, restaurant, home, etc.), and chronic stress impacts the food categories chosen (food groups) (Berge, et al., 2018). Studies show that utilizing proper stress relieving practices and/or seeking professional assistance for stress can benefit the health status of an individual. Males often avoid these practices due to the perceived loss of masculinity (Lease, Shuman, & Gage, 2018).

African American Males: Seeking Help

African Americans, compared to other races, are 30% more likely to experience mental health conditions. They are also less likely to acquire medical treatment and suffer greater consequences. Masculine norms, self-stigma, and attitudes towards seeking help have been identified as vital health factors. Influences include mistrust, past experiences, gender roles, and institutionalized fears among others. African American men have a culture of self-reliance and resilience. Barriers to getting help also include shame and denial of poor health status. Studies show that due to these factors African American males use non-traditional means of treatment. These include increased reliance on community members, religion, among other factors (Holden, McGregor, & Blanks, 2012). Studies also show that individuals with lower incomes are less likely to take off work to go to the doctor. Missing work may result in less money on a paycheck. This was very impactful in the decision-making process of the individuals in these studies (Lease, Shuman, & Gage, 2018).

Causes of Death

Top contributors of premature death include diet, tobacco, high blood pressure, high body mass index (BMI), physical inactivity, and high cholesterol. The main cause of death in the African American community within the United States is heart disease. Middle-aged African American men are two times more likely to die of heart disease than Caucasian males (Williams, 2017). A major factor in the prevention and treatment of heart disease is diet and overall nutritional knowledge (DHS, 2017). Studies show that African Americans and Hispanics share common socioeconomic profiles. However, African Americans have increased mortality rates (Turra & Goldman, May). Health risk

factors such as unemployment, living in poverty, no home ownership, not being able to see a doctor, smoking, low activity levels, and obesity, living in poverty, lack of home ownership, physical inactivity, and obesity put individuals at an increased risk (above 25%) of health conditions across the lifespan in African Americans (Centers for Disease Control and Prevention, 2017).

Theoretical Framework

The theory utilized for this study was the Theory of Planned Behavior (TPB). The TPB explores the relationship between behavioral beliefs, normative beliefs, and control beliefs on an individual. Behavioral beliefs consider the individual's thoughts about the consequences of a particular behavior and this creates an individual's attitude towards a particular behavior. Normative beliefs consider the views of other individuals and thus creates subjective norm in regard to the behavior. Control beliefs consider the level of control an individual has in the behavior and thus creates perceived behavioral control in regard to the behavior (Ajzen & BL, 1991).

Fusion of behavioral beliefs, normative beliefs, and control beliefs create behavioral intention. The strength of the behavioral intention is dependent on the strength and type (negative and positive) of the influences of the behavioral, normative, and control beliefs. This either leads to a behavior or does not lead to a behavior (Ajzen & BL, 1991). This study examined each individual's behavioral intention by determining their behavioral beliefs, normative beliefs, and control beliefs in regard to diet-related disparities.

Summary

Many factors play a role in diet-related health disparities in the African American male population. Some factors come from the environment and others come from the individual. Studies show that African American men are at a greater risk for many diet-related diseases and conditions when compared to the general population. The themes identified through previous research were instrumental in the development of this research study.

CHAPTER 3

METHODOLOGY

Chapter three describes the methodological procedures used to conduct the study investigating the influence of religiosity and diet-related health disparities in African American men.

Hypotheses

Hypothesis 1: It is hypothesized that Protestant African American men will have, on average, more risk factors for diet-related diseases than non-religious African American men.

Hypothesis 2: It is hypothesized that Protestant African American men will score, on average, higher on the God Locus of Health Control scale than non-religious African American men.

Research Questions

Research question 1: To what extent on average does level of education and religiosity influence African American men to seek medical attention for health improvement compared to relying on prayer for health improvement?

Research question 2: To what extent on average does socio-economic status impact risk factors for diet-related diseases among African American men?

Study Setting

Local churches, community centers, tabling, various social media outlets, and barber shops were used for this study. Word of mouth was also used in order to recruit participants. Since prayer was a variable being studied, churches were a logical location to solicit study participants. Since African American men with no religious affiliation were also being solicited for this study, local community centers and barber shops, predominately serving the African American population, were utilized. The paper version of the survey was given on location and collected. The online version of the survey was sent to predominately African American groups; the Black Alumni Group for example.

Research Design

This study utilized a cross-sectional design to report quantitative results. Equal numbers of African American men, religious and non-religious, were sought out for comparison. Participants must have identified as African American, been 30 years of age or older, and lived within 10 miles of Carbondale, IL during the time of the study. Individuals who participated had a chance to be entered into a raffle to win a necktie, pocket square, cufflink set for their participation (optional).

Instrument

The survey consisted of six sections. Section one asked questions about the use of prayer compared to modern medicine for health improvement. These questions were based on the Theory of Planned Behavior (TPB). Section two was a God's Locus of Health Control (GLHC) assessment. Section three was a brief assessment of physical activity. Section four was a nutrition knowledge quiz. Section five was a food frequency questionnaire. Socio-demographic data was asked in section six. Completed surveys

were kept in a locked room until the data was analyzed. The Statistical Software, SPSS, was used to analyze the data. This utilized a mix of descriptive and inferential statistics to explain findings. Upon completion of the thesis project, completed surveys will be shredded.

Behavioral intention was measured by asking how likely they chose to use different types of health treatment (Question 1). Attitude was determined based on how they viewed different types of treatment (Question 2). Perceived control was evaluated based on if the participants believed they had control in going to the doctor (Question 3). Barriers to treatment were identified by determining what prevents them from going to the doctor. They were also be asked who they received medical information from (Questions 4 and 5). Subjective norm was determined by asking how likely they believe others were to seek certain types of treatment (Question 6). An individual view of their health was determined as excellent, good, fair, or poor (Question 7). The GLHC scale was used to determine how much control they believe god had on their health (Question 8). The survey collected data over the participant's level of physical activity (Question 9). Nutritional knowledge was measured using a general nutrition quiz (Question 10). The food frequency report determined how often the individual included certain foods in their diet (Question 11). Sociographic data was gathered as well (Question 12). The responses to these questions were used to answer the research hypotheses and questions.

The GLHC scale utilized in this study was a modification of the Multidimensional Health Locus of Control (MHLC) scale. The GLHC retained the same structure of the MHLC but had different questions and scales. To determine the validity of the GLHC, it

was originally used in a study involving rheumatoid arthritis and systemic sclerosis. The study sought to measure the belief that God has control over an individual's health. Studies show that an increase in personal control leads to better mental and physical responses to illness. The GLHC scale was determined to be internally consistent with a coefficient alpha between .87 and .94. GLHC can be used alone or in conjunction with other tests (Wallston, et al., 1999). This study used the GLHC along with other scales of measurement.

The nutrition quiz was gathered from a study evaluating the viewpoints of chefs based on scientific knowledge. The chefs included both professionals and students. The internal consistency of the nutrition quiz was .75 for scientific knowledge and .80 for U.S Dietary Guidelines. Out of the original 50 questions, this study utilized 10 of them (Reichler & Dalton, 1998). The TPB, as mentioned earlier, was incorporated in the survey. The survey also included a general food frequency questionnaire. The survey instrument is found in Appendix A.

Pilot Test

A pilot test was conducted in a classroom setting on February 8th, 2018. The results of the pilot test were analyzed using a two-sample independent t-test and a One-way ANOVA. In addition, a Cronbach's Alpha test was used to determine the reliability of the individual survey scales. The GLHC was the only scale with a sufficient number of items to run a Cronbach's Alpha, scoring .926. The desired Cronbach's Alpha score is .7. Therefore, the GLHC has high reliability. Expert validity was established by professionals in this field, and face validity was established by African American men in the target population.

Data Management and Analysis

The data gathered from the survey was put into the program, SPSS. An independent t-test and a One-way ANOVA test with a 95% significance level was used to analyze the data. A two-sample independent t-test was used for the two research hypotheses. Religiosity served as the independent variable. All other selected variables were dependent. A p-value of .05 or lower is desired to show significance of the statistical results. A Hierarchical Linear Regression was used for the research questions. Education, religiosity, and socioeconomic factors served as the independent variables. All other selected variables were dependent. Additionally, the F statistic should be above 1 to be significant in this study. Common trends were identified, and conclusions were made based on the results.

Table 1.

Hypotheses and Research Questions

<i>Hyp/Res Questions</i>	<i>Survey Questions</i>	<i>Statistical technique</i>
Hypothesis 1	1, 2, 3, 4, 5, 9, 10, 11, and 12	Levene's
Hypothesis 2	8 and 12g	Levene's
Res Question 1:	1, 2, 3, 4c, 4j, 6a, 6b, and 8	Pearson and Regression
Res Question 2:	1, 2, 3, 4, 5, 10, 11, and 12	Pearson and Regression

A list of hypotheses and research questions and the corresponding questions from the survey that were used to address them.

Summary

This study utilized a cross-sectional design to report quantitative results. The data collected from the target population was used to answer the research hypotheses and questions. Expert validity was established by professionals in this field, and face validity was established by African American men in the target population.

CHAPTER 4

FINDINGS

This chapter outlines the data gathered from the target population in reference to the hypotheses and research questions. The first section describes the study sample and the various demographical factors. The second section is a descriptive analysis of the study variables. The final section addresses the hypotheses and research questions.

General Factors

A total of 73 individuals took the survey. Due to incomplete surveys and the participation of individuals outside of the criteria, this number was reduced to 53.

Of the 53 participants, 43 identified themselves as religious and 9 identified themselves as non-religious. The ages ranged from 31 to 69 years of age. Of the 53 participants, 37.72% (20 individuals) were single, 41.15 % (22 individuals) were married/living with someone, 13.21 (7 individuals) were divorced, 3.77% (2 individuals) were widowed, and 3.77% (2 individuals) identified with another marital status.

Health Status

Nearly a quarter (22.6%) of the individuals have been diagnosed with high blood pressure, 39.6% (21 individuals) have been diagnosed with high cholesterol, 20.8% (11 individuals) have been diagnosed with diabetes, 18.9% (10 individuals) have been diagnosed with heart disease, 7.5% (4 individuals) have been diagnosed with a stroke, 3.8% (2 individuals), and 22.6% (12 individuals) reported being diagnosed with another condition. Over a third (34%) have a mother/father/sibling with diabetes.

In terms of risk factors for chronic disease, 11.3% (6 individuals) of study participants had a stroke, and 3.8% were classified as obese based on their self-reported BMI.

Table 2.

Frequencies of Health-Related Factors (n=53)

<i>Religiosity</i>	<i>Frequency</i>	<i>Percent</i>
Yes	44	83
<i>High Blood Pressure</i>	<i>Frequency</i>	<i>Percent</i>
Yes	12	22.6
<i>High Cholesterol</i>	<i>Frequency</i>	<i>Percent</i>
Yes	21	39.6
<i>Diabetes</i>	<i>Frequency</i>	<i>Percent</i>
Yes	11	20.8
<i>Heart Disease</i>	<i>Frequency</i>	<i>Percent</i>
Yes	10	18.9
<i>Stroke</i>	<i>Frequency</i>	<i>Percent</i>
Yes	4	7.5
<i>Obesity Diagnosis</i>	<i>Frequency</i>	<i>Percent</i>
Yes	2	3.8
<i>Other Conditions</i>	<i>Frequency</i>	<i>Percent</i>
Yes	12	22.6
<i>Family History</i>	<i>Frequency</i>	<i>Percent</i>
Yes	18	34
<i>Smoke</i>	<i>Frequency</i>	<i>Percent</i>
Yes	6	11.3

The reports of health-related factors in a study of 53 African American men.

Religious Affiliation

Nearly all study participants (52 of the 53 individuals) identified with a religion. Of the 53 individuals, nearly half (49.1%) identified as Baptist, 1.9% (1 individual) identified as Catholic, 3.8% (2 individuals) identified with the Church of God, 18.9% (10 individuals) identified as Non-denominational, 5.7% (3 individuals) identified as Pentecostal, 18.9% (10 individuals) identified as other, and 1.9% (one individual) did not identify himself.

View of the Bible

Nearly half (47%) of the participants described the Bible as the actual word of God and is to be taken literally, word for word, 47.2% (25 individuals) described the Bible as the inspired word of God but not everything in it should be taken literally, word for word, and 5.7% (3 individuals) described the Bible as an ancient book of fables, legends, history, and moral precept recorded by men.

Table 3.

Frequencies of Religion Related Factors (n=53)

<i>Religious Affiliation</i>	<i>Frequency</i>	<i>Percent</i>
Baptist	26	49.1
Catholic	1	1.9
Church of God	2	3.8
Non-denominational	10	18.9
Pentecostal	3	5.7
Other	10	18.9
<i>Biblical Views</i>	<i>Frequency</i>	<i>Percent</i>
The actual word of God	25	47.2
Inspired word of God literally, word for word.	25	47.2
An ancient book of fables	3	5.7

The reports of religious related factors in a study of 53 African American men.

Nutrition Quiz

The highest score of the nutrition quiz was a 77.78%. The remaining 52 individuals scored a 66.67% (17 individuals), a 55.56% (26 individuals), a 44.44% (7 individuals), and a 33.33% (2 individuals). In general, over half (66%) failed the quiz.

Risk for Diabetes

Of the 53 individuals, 7.5% (4 individuals) scored a 4, 17% (9 individuals) scored a 5, 26.4% (14 individuals) scored a 6, 13.2% (7 individuals) scored a 7, 18.9% (10 individuals) scored an 8, 11.3% (6 individuals) scored a 9, and 5.7% (3 individuals) scored a 10. Scoring a 5 or higher classifies you as at risk for developing T2DM (ADA, 2018).

Muscle Strengthening

Our study showed that, in terms of muscle strengthening activities, 43.4% (23 individuals) did not exercise each week, 7.5% (4 individuals) exercised one day each week, 15.1% (8 individuals) exercised two days each week, 9.4% (5 individuals) exercised three days each week, 5.7% (3 individuals) exercised four times each week, 11.3% (6 individuals) exercised five days each week, 5.7% (3 individuals) exercised six days each week, and 1.9% (1 individual) exercised seven days each week.

Breaking a Sweat 30 Minutes or more at a Time

Of the 53 individuals, regarding breaking a sweat 30 minutes or more at a time, 24.5% (13 individuals) did not exercise, 9.4% (5 individuals) exercised once a day, 18.9% (10 individuals) exercised for 2 days each week, 11.3% (6 individuals) exercised three times a week, 11.3% (6 individuals) exercised four days each week, 11.3% (6

individuals) exercised five days, 3.8% (2 individuals) exercised six days a week, and 9.4% (5 individuals) exercised seven days a week.

Actual BMI

Of the 53 participants, 13.2% (7 individuals) had a normal Body Mass Index (BMI: 18.5-24.99), 28.3% (15%) were overweight (25-29.99), 26% (14 individuals) were obese stage 1 (30-34.99), 17% (9 individuals) were obese stage 2 (35-39.99), and 15% (8 individuals) were obese stage 3 above 40). To determine actual the actual BMI of the participants, they were asked to provide their weight and height. From there, the proper calculations were made, and classifications were assigned.

Religious Services

Of the 53 individuals, 17% (9 individuals) never attend religious services, 5.7% (3 individuals) attend religious services once a year, 7.5% (4 individuals) attend religious services several times a year, 5.7% (3 individuals) attend religious services once a month, 11.3% (6 individuals) attend religious services 2-3 times a month, 13.2% (7 individuals) attend religious services nearly every week, 17% (9 individuals) attend religious services every week, and 22.6% (12 individuals) attend religious services more than once a week.

Prayer

The results indicated that 3.8% (2 individuals) never pray, 18.9% (10 individuals) pray once in a while, 7.5% (4 individuals) pray once a week, 13.2% (7 individuals) pray a few times a week, 54.7% (29 individuals) pray daily.

Family Income

The study showed that 24.5% (13 individuals) had an income under \$30,000/year, 28.3% (15 individuals) had an income of \$30,000-\$49,000 /year, 22.6% (12 individuals) had an income of \$50,000-\$74,000/year, 11.3% (6 individuals) had an income of \$75,000-100,000/year, and 13.5% (7 individuals) had income over \$100,000/year.

Education

Our study concluded that 15.1% (8 individuals) had a maximum of a high school diploma or equivalent, 24.5% (13 individuals) had a maximum of some college, 13.2% (7 individuals) had a maximum of an associate's degree, 22.6% (12 individuals) had a maximum of a bachelor's degree, 7.5% (4 individuals) had a maximum of a master's degree, and 17% (9 individuals) had a maximum of a doctoral or professional degree.

Table 4.

Table of Means (n=53)

<i>Scales/Assessments</i>	<i>Mean</i>
Nutrition Quiz Score	57.23%
Risk for Type 2 Diabetes Score	6.75
Muscle Strengthening (Days/Week)	1.94
Exercise for 30 min (Days/Week)	2.74
Actual BMI	32.99 (obese stage 1)
Religious Service Attendance	5.09 (2-3 times/month)
Prayer/Week	4.056 (few times/week)
Income	2.60 (\$30,000 – \$49,999)
Education	4.3 (Associates Degree)

The mean scores of scales/assessments in a study of 53 African American men.

Table 5.

Type 2 Diabetes Risk Factors

<i>Question</i>	<i>0 Points</i>	<i>1 Point</i>	<i>2 Points</i>	<i>3 Points</i>
Age	≤40	40-49	50-59	≥60
Male/Female?	Woman	Man		
Gestational	N/A	N/A		
DM in family	No	Yes		
High BP	No	Yes		
Physically active	Yes	No		
Weight	Under the first	Within the first	Within the	Over the

The calculated risk of developing type 2 diabetes using the scale developed by the American Diabetes Association in a study sample of 53 African American men (ADA, 2018).

Findings Related to Research Questions

Hypotheses

Hypothesis 1: It is hypothesized that Protestant African American men will have on average more risk factors for diet-related diseases than non-religious African American men. Risk factors included questions 1, 2, 3, 4, 5, 9, 10, 11, 12. Their nutrition scores and BMI calculations also were identified as risk factors. Of those, some resulted in statistical significance. A 95 percent significance level was used for this study. Significant results were determined based on the initial significance and the two tailed significance. If the initial significance was under .05, then the two tailed significance was used with equal variances assumed. If the initial significance was not under .05, then the equal variances two tailed significance was used.

A total of eight independent sample t-tests were run to test hypothesis one. The first t-test analyzed the mean difference between religious ($M = 3.660$, $SD = .6450$) and non-religious ($M = 2.778$, $SD = 1.394$) individuals on the following question, "If you were diagnosed with a disease, how likely are you to use both prayer and a doctor for treatment of a disease?" This was found to be non-significant ($t(8.71) = 1.856$, $p = 0.098$). This means there is no significant difference in religious and non-religious individuals in how likely they are to use both prayer and a doctor to treat their condition.

The second test analyzed the mean difference between religious ($M = 1.840$, $SD = .370$) and non-religious ($M = 2.000$, $SD = <.0001$) individuals on the following question, "Do you seek medical advice from your wife or partner?" This was found to be significant ($t(43) = 2.85$, $p = .007$). This means that non-religious individuals seek medical advice/information from their wife or partner more than religious individuals.

The third test analyzed the mean difference between religious ($M = 1.840$, $SD = .370$) and non-religious ($M = 2.000$, $SD = <.0001$) individuals on the following question, "Do you seek medical advice from a family member?" This was found to be significant ($t(43) = 2.85$, $p = .007$). Note, this is the same as the previous test. This means that that non-religious individuals seek medical advice/information from their family members more than religious individuals.

The fourth test analyzed the mean difference between religious ($M = 1.909$, $SD = .291$) and non-religious ($M = 2.000$, $SD = <.0001$) individuals on the following question, "Do you seek medical advice from SIH nurses?" This was found to be significant ($t(43) = 2.07$, $p = .044$). This means that non-religious individuals seek medical advice more SIH nurse's more than religious individuals.

The fifth test analyzed the mean difference between religious ($M = 2.550$, $SD = 1.223$) and non-religious ($M = 1.778$, $SD = .667$) individuals on the following question, "How often do you eat cheese?" This was found to be significant ($t(21) = 2.65$, $p = .015$). This means that religious individuals ate cheese more than non-religious individuals.

The sixth test analyzed the mean difference between religious ($M = 2.090$, $SD = .1.272$) and non-religious ($M = 1.333$, $SD = .5000$) individuals on the following question, "How often do you drink skim, 1%, or 2% milk?" This was found to be significant ($t(32.560) = 2.981$, $p = .005$). This means that religious individuals drink skim, 1%, or 2% more than non-religious individuals.

The seventh test analyzed the mean difference between religious ($M = 1.733$, $SD = 1.080$) and non-religious ($M = 1.670$, $SD = <.408$) individuals on the following question, "How often do you drink whole milk?" This was found to be significant ($t(21.540) = 2.194$, $p = .039$). This means that religious individuals drink whole milk more than non-religious individuals.

We failed to rejected the null hypothesis. Meaning, based on the results of this study, religious African American men, on average, do not have more risk factors for diet-related diseases than non-religious African American men.

Table 6.

Levene's Test for Equality of Variances for Hypothesis 1 (n=53)

	<i>Religious (M, SD)</i>	<i>Non-Religious (M, SD)</i>	<i>df</i>	<i>t</i>
*Prayer and Doctor	3.6660, .6450	2.778, 1.394	51	-2.975
			8.712	-1.856
*Advice from Wife	1.840, .370	2.000, <.0001	51	1.28
			43	2.852
*Advice from	1.840, .370	2.000, <.0001	51	1.28
			43	2.852
*Advice from SIH	1.909, .291	2.000, <.0001	51	0.931
			43	2.074
*Cheese	2.550, 1.223	1.778, .667	51	-1.811
			21.083	-2.654
*Skim, 1%, or 2%	2.090, 1.272	1.333, .5000	51	-1.747
			32.598	-2.981
*Whole milk?	1.733, 1.080	1.670, .408	34	-1.254
			21.54	-2.194
*Stoke History	1.925, .266	2.000, <.0001	51	0.931
			43	2.074

The Levene's Test for Equality of Variances for hypothesis 1 in a study of 53 African American men. An asterisk signifies a p value of less than .05. Some values are missing, which alters the df.

This will address the factors of using prayer and a doctor to treat health conditions, seeking medical advice from a wife or partner, seeking medical advice from a family member, seeking medical advice from SIH nurses, frequency of dairy consumption (cheese, skim, 1%, 2%, and whole milk), and history of stroke in a study sample of 53 African American individuals participating in a study exploring the relationship between religion and diet-related disparities in African American men.

Hypothesis 2: It is hypothesized that Protestant African American men will score on average higher on the Gods Locus of Health Control scale than non-religious African American men.

For this test, variances were assumed to be equal (Levene's $F = .0638$, $p = .428$). This result was not significant. This means there is no significance difference in the GLHC scores of religious and non-religious men. Based on the data, we failed to reject the null hypothesis.

Table 7.

Levene's Test for Equality of Variances for Hypothesis 2 (n=53)

		<i>F</i>	<i>Sig</i>	<i>t</i>	<i>df</i>
GLHC	Equal	0.638	0.428	-1.082	51
	not assumed			-0.976	10.545

Levene's Test for Equality of Variances for Hypothesis 2 in a study of 53 African American men. An asterisk signifies a p value of less than .05.

Research Questions

Research question 1: To what extent does level of education and religiosity influence African American men to seek medical attention for health improvement compared to relying on prayer for health improvement?

A Pearson Correlation was conducted to test the relationship between how likely participants were to use only prayer to treat their condition, and not go to the doctor (Very Unlikely = 1, Unlikely = 2, Likely = 3, Very Likely = 4), religiosity, level of education and their interactions. All correlations were found to be non-significant, all greater than, ($r(51) = -.222, p = .055$), except for how likely participants were to use only prayer to treat their condition and level of education. ($r(51) = -2.66, p = .027$), and their interactions. It is approaching significance with the relationship between how likely participants were to use only prayer to treat their condition and education combined with religion, ($r(51) = .222, p = .055$). As education level increases, the chances of using prayer to treat their condition and not go to the doctor decrease.

A Hierarchical Regression was used to test if religiosity and education significantly predicted participant's likelihood of using only prayer to treat their condition, and not go to the doctor. Data from the model summary and coefficients table was used in order to provide the following equations. The results of the regression indicated the two predictors explained 2.8% of the variance ($Adj. R^2 = .011$), $F(3, 49) = 1.491, p = .299$). It was found that the interaction of religion and education did not significantly predict the likelihood of using only prayer to treat their condition, and not go to the doctor ($\beta = -.280, p = .445$), and the regression model was found to be as such: $y = 0.73x + 2.274$.

A Pearson Correlation was conducted to test the relationship between whether or not individuals think they can go to the doctor or not (Yes = 1, Sometimes = 2, no = 3), religion, and education, and their interactions. All correlations were found to be non-significant, all greater than, ($r(51) = -.198, p = .078$), except for whether or not individuals think they can go to the doctor or not and level of education, ($r(51) = 2.97, p = .015$), and their interactions. As education level increases, individuals were more likely to think that they can go to the doctor.

A Hierarchical Regression was used to test if religiosity and education significantly predicted whether or not individuals think they can go to the doctor or not (Yes = 1, Sometimes = 2, no = 3). Data from the model summary and coefficients table was used in order to provide the following equations. The results of the regression indicated the two predictors explained 6.4% of the variance ($Adj. R^2 = .064$), $F(3, 49) = 2.181, p = .102$). It was found that the interaction between religion and education did not significantly predict the likelihood of whether or not individual thinks they can go to the doctor or not ($\beta = -.001, p = .984$), and the regression model was found to be as such: $y = -.001x + 1.412$. However, a statistically significant main effect emerged suggesting education was a statistically significant predictor of whether or not the individual thinks they can go to the doctor. This suggests those who obtain a higher education were more likely to think they can go to the doctor.

A Pearson Correlation was conducted for how participants rates going to the doctor (Good = 1, Neutral = 2, Bad = 3) and the interaction between religion and education. All correlations were found to be non-significant, all greater than, ($r(51) = .062, p = .329$) except for how the participant rates going to the doctor and religion, $r(51)$

= -.233, $p = 0.46$), and their interactions. As education level increases, individuals were more likely to think that they can go to the doctor. However, a statistically significant main effect emerged suggesting education was a statistically significant predictor of how individuals rate going to the doctor. This result suggests those who obtain a higher education were more likely to rate going to the doctor as good.

A Hierarchical Regression was used to test if religiosity and education significantly predicted how participants rates going to the doctor (Good = 1, Neutral = 2, Bad = 3). Data from the model summary and coefficients table was used in order to provide the following equations. The results of the regression indicated the two predictors explained .2% of the variance ($Adj. R^2 = .002$), $F(3, 49) = 1.042$, $p = .384$). It was found that the interaction between religion and education did not significantly predict the likelihood of whether or not individual thinks they can go to the doctor or not ($\beta = -.028$, $p = .604$), and the regression model was found to be as such: $y = -.028x + .032$.

Research question 2: To what extent does socio-economic status impact risk factors for diet-related diseases among African American men?

A Pearson Correlation was conducted to test the relationships between whether or not individuals seek medical advice/information from newspapers/magazines (Yes = 1, No = 2), religion, and age. All correlations were non-significant, all greater than ($r(51) = .179$, $p = .100$), except relationship between whether or not individuals seek medical advice/information from newspapers/magazines and age, ($r(51) = .263$, $p = .029$), and their interactions. The younger the individual, the less likely they were to seek medical attention from magazines/newspapers.

A Hierarchical Regression was used to test if religiosity and age significantly predicted whether or not individuals seek medical advice/information from newspapers/magazines (Yes = 1, No = 2). Data from the model summary and coefficients table was used in order to provide the following equations. The results of the regression indicated the two predictors explained 6.9% of the variance ($Adj. R^2 = .069$), $F(3, 49) = 2.287$, $p = .090$). It was found that the interaction between religion and education marginally predicts the likelihood of whether or not individual thinks they can go to the doctor or not ($\beta = .005$, $p = .172$), and the regression model was found to be as such: $y = -.005x + 2$.

A Pearson Correlation was conducted to test the relationship between if participants do not go to the doctor because of a lack of time (Yes = 1, No = 2), age, and religiosity. All correlations were found to be non-significant, all greater than, ($r(51) = .179$, $p = .100$), except for the relationship between if participants do not go to the doctor because of a lack of time and age, ($r(51) = .270$, $p = .025$), and their interactions. Younger individuals were more likely to not go to the doctor due to time constraints than older adults.

A Hierarchical Regression was used to test if religiosity and age significantly predicted if participants do not go to the doctor because of a lack of time (Yes = 1, No = 2). Data from the model summary and coefficients table was used in order to provide the following equations. The results of the regression indicated the two predictors explained 3% of the variance ($Adj. R^2 = .030$), $F(3, 49) = 1.533$, $p = .218$). It was found that religion and education did not significantly predict the likelihood of whether if participants do not go to the doctor because of a lack of time ($\beta = -.398$, $p = .411$), $y = -$

.007x + .012. However, a marginally statistically significant main effect emerged suggesting age was a marginally significant predictor if participants do not go to the doctor because of lack of time. Again, results suggest those who were younger were more likely to think they cannot go to the doctor due to time constraints

A Pearson Correlation was conducted to test the relationship between seeking medical treatment from the internet (Yes = 1, No = 2) with religion and age. All correlations were non-significant, all greater than, ($r(51) = .209, p = .066$), except the relationship between seeking medical advice/information from the internet and age, ($r(51) = .269, p = .026$), and their interactions. There is also significance in the interaction between seeking medical treatment from the internet and religion combined with age, ($r(51) = .307, p = .013$), and their interactions. The younger the individual, the higher the likelihood of seeking medical advice/information from the internet.

A Hierarchical Regression was used to test if religiosity and age significantly predicted whether or not individuals seek medical advice/information from the internet. Data from the model summary and coefficients table was used in order to provide the following equations. The results of the regression indicated the two predictors explained 5.3% of the variance ($Adj. R^2 = .053, F(3, 49) = 1.968, p = .131$). It was found that the interaction between religion and education did not significantly predict the likelihood of whether if participants do not go to the doctor because of a lack of time ($\beta = -.324, p = .498$), and the regression model was found to be as such: $y = -.006x + 1.427$.

A Pearson Correlation was conducted the test the relationship between if participants do not go to the doctor due to cost, religiosity, and age, correlations were found to be non-significant, all greater than, ($r(51) = .249, p = .036$), ($r(51) = .246, p =$

.038), ($r(51) = .330, p = .008$), and their interactions. The younger the individual, the more likely they were to not go to the doctor due to cost.

A Hierarchical Regression was used to test if religiosity and age significantly predicted whether or not individuals seek medical treatment due to cost. Data from the model summary and coefficients table was used in order to provide the following equations. The results of the regression indicated the two predictors explained 6% of the variance ($Adj. R^2 = .060$), $F(3, 49) = 513, p = .111$). It was found that the interaction between religion and education did not significantly predict the likelihood of whether participants do not go to the doctor because of a lack of time ($\beta = -.067, p = .866$), and the regression model was found to be as such: $y = -.089x + 1.469$.

Table 8.

Pearson Correlations (n=53)

<i>Likelihood of medical treatment</i>	1	2	3
Education	-0.66		.
Religiosity		-2.66	
edu + rel			.448*
<i>Think they can go to the doctor</i>	1	2	3
Education	-2.97*		-
Religiosity		.092	
edu + rel			-.448
<i>Doctor Treatment Views</i>	1	2	3
Education	-0.04		
Religiosity		0.092	
edu + rel			-0.448*
<i>Magazine/newspaper advice</i>	1	2	3
Age	.263*		

Religiosity		.179	
age + rel			.855*
<i>Time as a barrier to treatment</i>	1	2	3
Age	.27*		
Religiosity		.179	
<i>Advice from internet</i>	1	2	3.885*
Age	.269*		
Religiosity		.179	
age + rel			.855*
<i>Cost as a barrier to treatment</i>	1	2	3
Age	.249*		
Religiosity		.179	
age + rel			.855*

Pearson Correlations in a study of 53 African American men. An asterisk signifies a p value of less than .05.

Table 9.

Adjusted R² (n=53)

	Adj. R ²
<i>Likelihood of medical treatment</i>	.011
<i>Think they can go to the doctor</i>	.064
<i>Doctor Treatment Views</i>	.002
<i>Advice from magazine/newspaper</i>	.069
<i>Time as a barrier to treatment</i>	.030
<i>Advice from internet</i>	.053
<i>Cost as a barrier to treatment</i>	.060

The Adjusted R Squared values in a study of 53 African American men. An asterisk signifies a p value of less than

.05.

Table 10.

Coefficients (n=53)

<i>Likelihood of medical treatment</i>	<i>B</i>	<i>Beta</i>
Education	-0.108	-0.262
Religiosity	-0.077	-0.042
edu + rel	-0.073	-0.28
<i>Think they can go to the doctor</i>	<i>B</i>	<i>Beta</i>
Education	-0.049	-0.282
Religiosity	-0.134	-0.172
edu + rel	?????	???
<i>Doctor Treatment Views</i>	<i>B</i>	<i>Beta</i>
Education	-0.004	-0.019-
Religiosity	-0.241	-0.231
edu + rel	-0.028	-0.192
<i>Advice from magazine/newspaper</i>	<i>B</i>	<i>Beta</i>
Age	.004*	0.288*
Religiosity	-0.072	-0.141
age + rel	0.005	0.652
<i>Time as a barrier to treatment</i>	<i>B</i>	<i>Beta</i>
Age	0.008	0.268
Religiosity	0.014	0.012

age + rel	-0.007	-0.398
<i>Medical advice from internet</i>	<i>B</i>	<i>Beta</i>
Age	.007	.239
Religiosity	0.191	0.167
age + rel	0.006	0.324
<i>Cost as a barrier to treatment</i>	<i>B</i>	<i>Beta</i>
Age	0.007	0.212
Religiosity	0.280	0.208
age + rel	0.008	0.355
<i>Coefficients in a study of 53 African American men. An asterisk signifies a p value of less than .05</i>		

Summary

Using the data collected, we failed to reject both of the null hypotheses. The Pearson Correlation showed a relationship, not a cause and effect. A Regression Model was used to establish a predicative value. So, both of the null hypotheses were not rejected. Even though many correlations were made, only a few significant predictive values were calculated.

In terms of religion, non-religious individuals were more likely to seek medical advice/information from their wife/partner, family members, and SIH nurses than religious individuals. However, non-religious individuals were less likely to drink milk (skim, 1%, 2%, and whole milk) than religious individuals.

Individuals with higher education levels were less likely to use prayer to treat their conditions. Individuals with a higher education level were also more likely to think they can go to the doctor and rate going to the doctor more positively than those with lower educations.

Concerning age, younger individuals were less likely to seek medical advice from magazines/newspapers than older individuals. Younger individuals were more likely to seek medical advice from the internet than older individuals. Younger individuals were more likely to avoid going to the doctor due to lack of time and cost than older individuals. A more in-depth discussion of the results can be found in chapter five.

CHAPTER 5

CONCLUSION, DISCUSSION, IMPLICATION

In this chapter you will find the discussion of the topics mentioned in chapter four. This section includes personal opinions, unlike the previous chapters, which exclude personal opinions. Future areas of research are also explained in this chapter. Comparisons were made to the literate review.

Literature Review/National Comparisons

In our study, 81% of the participants were religious and 98% of the participants identified with at least one religion. Studies show that 87% of African Americans identify with a religious group. Nearly all (86%) of the participants in this study identified with a religion. Previous research showed that 78% of African Americans that identify with a religion identity as Protestant. Our study showed that 77.6% of our participants identified as Protestant. There was also a Muslim, Jehovah's Witness, and a Christian in the study. Close to half (47.2%) of participants believed that the Bible is the literal word of god. This was lower than the national average of 53% (Pew Research Center, 2009). Research shows that 47% of African Americans attend religious services weekly. However, only 39.6% of our study participants attend religious services weekly. Studies also indicate that 73% of African Americans pray daily, while 54.7% of our study participants pray daily (Pew Research Center, 2014).

One of the study participants reported that he had anxiety. This individual did not go to the doctor due to the cost of medical care and because he thought god would heal him if it is His will. Research shows that 30% of African Americans have a mental health

condition and were less likely to seek medical attention for it. Overall, the trends expressed on the study were similar to national averages.

Health Status

The first number represents the results of our study and the second represents the national statistic. Results indicate that the individuals in our study were below the national average for smoking (11.3% - 17.7%) and hypertension (22.6% - 65.5%). However, they were above the national average for high cholesterol (39.6% - 24.2) and obesity (86.8%-28.4%). National reports show that 29% of adults have high blood pressure, while 22.6% of the participants on this study had high blood pressure. Other health conditions listed by the participants include multiple sclerosis, anxiety, and cancer (CDC, 2018). These findings may be related to other data gathered from the study, beginning with exercise.

Exercise

It is recommended that adults get 150 minutes of moderate aerobic activity combined with two or more days of muscle strengthening. Our study showed that nearly a quarter (24.4%) of the individuals met the requirements for aerobic activity. Half (49.1%) of the participants met the recommendations for muscle strengthening. Results indicate 16.9% achieved both the aerobic and muscle strengthening recommendations, and in doing so, met the 2008 Physical Activity Guidelines. According to the CDC, show that 21% of adults meet this requirement, so our population is under the national average (CDC, 2018). Gym access may have an influence on this. If an individual is facing barriers (time, cost, etc.) in seeking the doctor, they may also face these barriers in working out, which may lead to undesirable health conditions.

BMI

Of the 53 participants, two individuals reported being overweight. However, when their actual BMIs were calculated, 86.8% were overweight or obese according to Body Mass Index (BMI) guidelines. Studies show that African Americans underestimate their weight more than Caucasians (64.1% vs. 32.5%). Also, African Americans were more likely to be overweight than Caucasians. Conversely, they were less likely to describe their bodies as obese (Hendley, Zhao, & Coverson, 2012). African Americans were more likely to feel comfortable with larger body sizes, which might also influence this perception (Satia, 2009).

Health literacy skills are important in shaping the health status of an individual. African Americans were at a higher risk of low health literacy, which may suggest they were unaware of weight classifications and at what point they were overweight or obese (Hoover, et al., 2015). Using an individual's BMI helps to determine the risk for disease. If an individual does not know they were at risk for a condition, the recommended preventative steps might not be taken. This could lead to the development of a disease or condition. Steps should be taken to educate African American males concerning the importance of knowing their BMI classification as well as other chronic disease risk factors.

Risk for Diabetes

Utilizing data from the survey, each individual participant's risk for developing type 2 diabetes was calculated by using a scale from the American Diabetes Association (ADA). If an individual scored a five or higher that classified them as at risk for developing type 2 diabetes (ADA, 2018). Based on the results, 92.5% of the study

participants were at risk for developing type 2 diabetes. Nationally, 13.4% of African American men had diabetes in 2014 (Centers for Disease Control and Prevention, 2017). Research shows that 36.3% of African American males have prediabetes. However, only 10.5% have awareness of this classification (NIDDK, 2017). In the year 2006, African American men were 2.2 times more likely to undergo End Stage Renal Disease (ESRD) treatments, 50% more likely to develop retinopathy, and 1.5 times more likely to become hospitalized due to diabetes complications, when compared to Non-Hispanic Caucasians (ADA, 2012). As mentioned earlier, health literacy is the ability to take health information and make an informed decision. The first step in addressing the issue is through providing education.

Studies show that some health programs are not appealing/trusted by African Americans, partly due to the lack of a pastor and a focus on individual factors. However, there has been success using pastors and the social-ecological model. They do not focus on the individual but rather their social environment. Studies show that many African American pastors see themselves as promoters of mental, spiritual, and physical health and are already involved in health programs. Some of the topics include education, social welfare, and social justice. Health based programs include the Wellness for African Americans Through Churches (WATCH) program. WATCH provides newsletters and videotapes that were effective in increasing fruit/vegetable intake, decreasing fat intake, and increasing physical activity. The healthcare provider has the information, but the pastor has the “neutral”/non-bias opinion and the trust of the members. Both are needed for significant results. For example, the ADA partners with churches, encouraging the “Power to End Stroke” campaign and sermons on the

importance of stroke awareness/prevention during the month of May (Lumpkins, Greiner, Daley, Mabachi, & Kris, 2013). Similar efforts can be made with our target population focusing on diabetes risk, complications, and preventions. If not addressed in this manner, other options are available.

The CDC offers general information about pre/type 1 & 2 diabetes through the research-based prevention program, lifestyle change program, and the national diabetes program. Each program offers a curriculum, handouts, and other resources aimed at reducing pre/type 2 diabetes. Utilizing one of these programs in this population could be beneficial, since most of the participants were at risk for developing type 2 diabetes (cdc.gov, 2018). Organizing local Registered Dietitians, Certified Diabetes Educators, hospitals, and other healthcare professionals would be the next step. Targeting African American churches would be a logical choice. They offer a centralized location with a small to moderate population size within this study's parameters. If successful, these programs can be given to other organizations within the community.

Medical Cost and Age

This study showed that younger individuals were less likely to go to the doctor for medical treatment due to cost. Studies show that African American males under the age of 65 were more likely to be uninsured than those over the age of 65 (13.7% - 1.3%) (CDC, 2016). Lack of health insurance may make going to the doctor unaffordable. Promoting the use of the "affordable" health resources, offering free screening, and clinics may be a part the solution.

Prayer Reliance, Religion, Medical Attention, and Education

Religion had an impact on whether or not individuals rely on prayer to treat their health condition(s). This makes sense because if an individual is religious, it is assumed that they would use some level of prayer to help with their health improvement, whether it be total or partial. When it comes to seeking medical attention, education was a stronger predictor than religion. This might be because individuals that have a higher education tend to make more money, have insurance, and have more access to health care. This could also be because individuals with a higher education know more about the importance of seeking medical attention. Both showed significant results. Studies show that as education increased, so does insurance coverage. Studies show that 33.6% of those with less than a high school diploma are uninsured, 17.5% of those with a high school diploma or equivalent are uninsured, 10.6% of those with some college are uninsured, and 4.6 of those with a bachelor's degree or higher are uninsured (CDC, 2016). Since education showed the strongest impact on seeking medical care, this might lead to community interventions. In 2015, Asian men (\$24/hour) and Caucasian (\$21/hour) made more on average than African American (\$15/hour) and Hispanic men (\$14/hour). Results indicate that educating the African American male population on the importance of seeking medical care is important. Of those that have an annual income of less than \$35,000, 5% (under the age of 65) and 1% (over the age of 65) are uninsured. For those that make \$100,000, 3.2% (under the age of 65) and 0.4% (of those over 65) are uninsured (CDC, 2016). Since most African Americans identify with a religion and regularly attend religious services, targeting specific churches would be appropriate.

In our study, over half (52.8%) of the individuals made less than \$74,000/year and over half (52.8%) had less than a bachelor's degree. As of 2017, there were 773 Black/African American undergraduates, 117 graduate students, and 18 professional law and medicine students attending Southern Illinois University (SIU, 2018). Increasing the promotion of and opportunities for African American males to seek a higher education could help increase their health outcomes as they age. This may include increased scholarships, targeted recruitment, and many other options.

Cheese, Milk, and Religion

Religious individuals consumed more cheese and milk products than non-religious individuals. Milk was one of the main staples of the African American slave diet. Traditions and views are passed down through the generations. As mentioned earlier, views on who to trust is an example when considering industrialized racism (Dirks & Duran, 2001). Eating patterns can be passed down as well. Remaining religious would be considered to be traditional of African Americans. If an individual was non-religious, this would be non-traditional. So, if an individual is not traditional, they might be less likely to adopt traditional eating patterns. Therefore, it is possible that because of their non-traditional lifestyle, non-religious African American males did not adopt dairy as being a part of their primary diet.

Access to grocery stores would not be the cause of the differences found in dairy consumption within the study parameters. As of 2015, only 27% of the total low income/low residents of Carbondale (without vehicles) live more than one-half mile away from a supermarket. Based on these criteria, Carbondale cannot be labeled as a food desert. In a rural area, more than 33% of the census tract population must be

more than 10 miles from a super market to be labeled as a food desert (American Nutrition Association, 2018).

Sources of Medical Attention

The study showed that younger individuals were more likely to obtain medical advice/information from the internet. Seeking medical attention online includes looking up health information and the use of email and other forms of internet-based communication. Using the internet can positively impact the relationship with a healthcare provider and client. It facilitates collaboration and allows for the correct referrals to be made to evidence-based sources. The downside is that it can make medical professionals defensive if the information brought to their attention is incorrect, or if they are being challenged. The internet serves as a protective barrier. Since they often cannot view what you look like, the felt bias can be diminished and individuals are more likely to ask sensitive questions. The internet is also easily accessible. The internet can be used to assure patients that the information they were given was correct (McMullan, 2006). A person, in general, does not need a high education, high income, or insurance to access the internet. This may be another contributing factor to why some individuals do not go to the doctor. Educating the African American male population on what sites/sources provide evidence-based information would be helpful. Changing the source of their health information may prove to be a challenge. Educating individuals on which sites to trust would be more effective in ensuring they were receiving the correct health information. Our study showed that younger individuals view going to the doctor more positively than older individuals. Education efforts should be geared to older African American males to try to help this perception.

Leadership and Guidance

An interesting phenomenon was observed when gathering participants for the study. If approached, there was a low likelihood of the individual taking the survey. Many factors including lack of time, lack of interest, and others could have played a role in this. The most effective forms of gathering participants was contacting the leaders of various organizations. When tabling in high African American male traffic areas, there was low participation. However, if the leader of an organization (Church, group, etc.) encouraged the individual to take part in the survey, there was nearly 100% participation. These individuals were also African American. In forming interventions for African American males, perhaps targeting groups, rather than individuals, would prove to be more effective. Historically, African American males viewed other African American males as leaders and role models. During the slave era, enslaved African American male preachers were role models. They spoke well, had knowledge, and were even allowed to preach to Caucasian churches, due to their exuberance and passion. Due to this, they were looked to as the ideal African American, and many African Americans looked to them for advice/information (Fulop & Raboteau, 1997). Even during the "Black Power" era, African Americans sought leadership from African Americans in high power (Malcom X, Martin Luther King Jr., etc.). This thought process might have been passed down the generations to this day. Again, this is just an observation, and possibly, another area of research that needs to be explored.

Building Blocks for Future Research

Future research exploring which meals dairy products are commonly eaten at would help to understand the trend observed in this study. Further research on the

types of cheese eaten would be beneficial in determining whether or not their ingestion is health promoting. This would evaluate the sodium content, protein content, calcium content, among other nutrients in the cheese. Research on the flavor and brand of dairy product chosen would also be beneficial in determining taste/mouth feel preferences. These factors may influence what kinds/brands of dairy products that are chosen. Studies have explored the influence that the different mouth feel of dairy products has on their overall tolerance (Laaman & Chang, 2015).

Future research exploring which internet sites and magazines/newspapers these individuals are gathering their information from would help guide future interventions. Exploring the age at which the shift from viewing seeking medical attention from the doctor as good to bad begins would be beneficial. That would help increase the effectiveness of the intervention. We should also ask if the participants have health insurance, for this is a key part in overall health.

Connecting with a prominent African American in the community would aid in the success of future studies. Dr. Joseph Brown was used as this prominent African American in this study. He had connections within the community, which was very helpful. Some of these organizations did not post on the internet often, so the only way to know about their whereabouts was via word of mouth.

Other areas of research might include seeing if increasing self-susceptibility increases likelihood of seeking medical attention. Our study showed that increasing education increases the likelihood of seeking medical attention. It would be interesting to see what increasing education on risk factors and susceptibility would have on individual's likelihood to seek medical attention.

Limitations

Generalizations from this study should not be made because of the small sample size ($n=53$). According to Dillman (2007), based on a population of 862, the sample size for a plus or minus 5% sample error was 205.66 for a plus or minus 10% sampling error. Due to the participation of individuals outside of the study parameters, we had to exclude 20 participants.

Study recruitment was through the SIU Black Alumni group, local predominately African American churches, barber shops, and by tabling in areas that typically were high traffic areas for African American males. Study recruitment information was also posted to various websites such as the Black Alumni Webpage and the African American History Museum Facebook page. If an individual, within the criteria, did not have access to the internet (email, websites, etc.) there was a low chance they would know about the study. Handouts were made and distributed, but their effectiveness is unknown. Since tabling in high traffic areas was not effective, if an individual, within the criteria, was not a part of a group or organization, there was a low chance they could be involved in the study. Also, distributing the survey to certain local business and organizations was not allowed, and this withheld part of the target population from being reached. I would expand the criteria to 18 years of age and older in order to gain more participants, and choose an area with both a higher population and a higher density of African American males. This would aid in gathering a larger sample size.

Suggested Changes

In the future, it would be useful to confirm an adequate sample size before beginning the study. Are there enough African American males above the age of 30

within 10 miles of Carbondale to have a sufficient sample size? The answer is yes. There were roughly 862 African American males over the age of 30 in Carbondale, IL (US Census bureau , 2017). It should not have been assumed that enough of these individuals would take the survey. Rather, going to a location with a higher density of individuals within the demographic would help to gather more participants. Also, getting confirmation that individuals would take the survey, opposed to assuming, and would help to gather larger numbers. The prizes offered were not effective in incentivizing participation. Other studies have seen success using cash prizes or vouchers for medical care (Torres, 2018). This might bring more success. For this, I would need to seek a grant, sponsorship, or other form of financial assistance.

Our current survey was two pages front and back. We wanted to keep it short to encourage more participation. Some questions I would have liked to include were general. Do you salt your food before you eat it (Yes/No)? Who purchases/cooks the majority of the food in your house (spouse, yourself, and other)? Where do you eat the majority of your meals (table, in front of the T.V., in the car, other)? Others would focus on health literacy. What nutrients contribute to hypertension, diabetes, heart disease, and other conditions? The food frequency test only looked at how often they ate foods and not the quantity. There was not a, "I go to the doctor," option in question 4. It was assumed that if not response was listed, the individual went to the doctor.

Regardless of the questions, limiting the survey to one-page front and back may encourage greater participation as well as narrow the focus. Paper and electronic survey options both worked, however there were more responses with the paper survey. This is likely due to the researcher personally requesting study participation.

Summary

Religion showed to have many correlations, but only a few predications could be made. The impacts of education and income showed to have a stronger influence than religion. It was concluded that there is not enough evidence to say religious African American men will have on average more risk factors for diet-related diseases than non-religious African American men. That being said, 86.8% of the study participants were classified as obese based on BMI, and 92.6% were at increased risk of prediabetes or Type 2 Diabetes based on survey responses. There is also insufficient data that says Protestant African American men scored on average higher on the "God Locus" of Health Control scale than non-religious African American men. Though, the majority of respondents identified as religious even if they did not attend religious services. If future research is conducted, education and income should be evaluated, since they had the biggest influence on seeking healthcare. The results of this study can be used to guide future research targeting African American men. I owe a great deal the community, my committee, and those that volunteered their help for their involvement in this study.

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APPENDIX A

1. <i>If you were diagnosed with a disease,</i>	<i>Very unlikely</i>	<i>Unlikely</i>	<i>Likely</i>	<i>Very likely</i>
a) How likely are you to use prayer to treat your condition?				
b) How likely are you to go to a doctor to treat your condition?				
c) How likely are you to use only prayer to treat your condition, and not go to a doctor?				
d) How likely are you to use both prayer and a doctor for treatment of a disease?				

2. For the next four questions, check the circle next to the word you agree with.

a) Do you think going to the doctor for treatment is . . . ?

- good
- neutral
- bad

b) Do you believe using prayer alone, without seeing a doctor, to treat a disease is . . . ?

- good
- neutral
- bad

c) Do you think using both prayer and going to the doctor for treatment is . . . ?

- good
- neutral
- bad?

3. I can go to the doctor if I want to.

- yes
- sometimes
- no

4. If you do not go to a doctor, why? (check all that apply)

- cost
- not sick, do not need a doctor
- do not have a doctor
- no time
- no transportation
- God will heal me if it is his will
- prayer will heal
- don't trust doctors
- racial discrimination
- doctor does not care
- no insurance
- other: _____

5. If you do not go to a doctor, who do you get medical advice from? (check all that apply)

- wife or partner
- family member
- church friends
- Jackson County Health Dept.
- Internet
- SIH nurse
- magazines/newspapers
- other: _____

6. If a family member or close friend was diagnosed with a disease,	<i>Very unlikely</i>	<i>Unlikely</i>	<i>Likely</i>	<i>Very likely</i>
a) How likely is it that they would go to a doctor for treatment?				
b) How likely is it that they would only rely on prayer for health improvement?				
c) How likely is it that they will use both prayer and a doctor for health improvement?				

7. How would you describe your overall health?

- excellent
- good
- fair
- poor

8. *How much of your health do you think is in God's hands?*

	Strongly disagree	Disagree	Agree	Strongly agree
a) If my health gets worse, it is up to God to determine whether I will feel better again.				
b) Most things that affect my health happen because of God.				
c) God is directly responsible for my health getting better or worse.				
d) Whatever happens to my health is God's will.				
e) Whether or not my health improves is up to God.				
f) God is in control of my health.				

9. How active are you?

- a) How many days a week do you break a sweat exercising for 30 minutes or more at a time? ____ days
- b) How many days a week do you do muscle-strengthening exercises such as weight lifting? ____ days
- c) Do you take the stairs or the elevator? stairs elevator
- d) How many hours per day do you watch TV or videos? _____ hours
- e) How many hours per day do you sit at a computer? _____ hours

10. Nutrition quiz – True or False

	True	False
a) There is more fiber in breads, rice, and vegetables than there is in meat, poultry, and eggs		
b) Meat, fish, chicken, milk, legumes, and grains contain protein		
c) Prepackaged processed foods are a major source of salt in the typical American diet		
d) An apple contains more fiber than apple juice		
e) Sugar contains many vitamins and minerals		
f) The largest source of fat in the typical American diet comes from animal foods		
g) Milk, vegetables, grains, and fruits contain carbohydrates		
h) If a food is labeled “cholesterol free,” it must also be low in saturated fat		
i) Cholesterol is found only in animal products		

11. How often do you eat or drink* . . . ? (“x” the box indicating how often you eat each item)

	Never/rarely	1-2 times a week	3-4 times a week	5-6 times a week	Daily
a. Cheese					
b. Fruits					
c. Skim, 1% or 2% milk					
d. Whole milk					
e. Vegetables					
f. Ice cream					
g. Hamburger					
h. Chicken, pork chops					
i. Cold-cuts, hotdogs					
j. Fried foods					
k. Bacon or sausage					
l. Fast food					
m. Whole grains					
n. Desserts/candy					
o. Sweetened beverages					
p. Alcoholic drinks					

**Adapted from the Dietary CAGE Questions for Assessment of Intakes of Saturated Fat and Cholesterol.*

Tell me about yourself!

- a) Age: _____ years
- b) Marital status:
- Single
 - Married/living with someone
 - Divorced
 - Widowed
 - Other: _____
- c) Highest level of education:
- Junior high
 - High school diploma or equivalent
 - Some college
 - Associate's degree
 - Bachelor's degree
 - Master's degree
 - Doctoral or Professional degree
- d) What is your annual family income?
- Under \$30,000
 - \$30,000 – \$49,999
 - \$50,000 - \$74,999
 - \$75,000 – \$100,000
 - Over \$100,000
- e) How often do you pray?
- Never
 - Once in a while
 - Once a week
 - Few times a week
 - Daily
- f) How often do you attend religious services?
- Never
 - Once a year
 - Several times a year
 - Once a month
 - 2-3 times a month
 - Nearly every week
 - Every week
 - More than once a week
- g) Do you consider yourself to be:
- Religious
 - Non-religious
- h) If religious, what age did you start attending church? _____ years old
- i) If religious, what religion do you identify with?
- Baptist
 - Catholic
 - Church of God/Pentecostal
 - Non-denominational
 - Methodist
 - Other _____
- j) Which of these statements comes closest to describing your feelings about the Bible?
- The Bible is the actual word of God and is to be taken literally, word for word.
 - The Bible is the inspired word of God but not everything in it should be taken literally, word for word.
 - The Bible is an ancient book of fables, legends, history, and moral precepts recorded by men.
- k) Have you been diagnosed with any of the following health conditions? (check all that apply)
- None
 - High blood pressure
 - High cholesterol
 - Diabetes
 - Heart disease
 - Stroke
 - Obesity
 - Other: _____
- l) Do you have a Mother, Father, or sibling who has been diagnosed with diabetes?
- Yes
 - No
- m) How tall are you?
_____ feet _____ inches
- n) How much do you weigh?
_____ pounds

o) How much sleep do you get each night on average?

_____ hours _____ min

p) Do you smoke? Yes No

q) What city in Illinois do you live in?

-

r) What is your ethnicity?

s) Do you identify yourself as male?

Yes No

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