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Relationship Between Trust, Race, and Health Care Information Sources Among African American Men

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This is to certify that the doctoral study by

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Walden University
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Abstract

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MA, St. Joseph’s University, 2013

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Doctoral Study Submitted in Partial Fulfillment
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Doctor of Public Health

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Abstract

African American men have not been sufficiently at the center of research studies, especially when it comes to health. Most researchers have explored African Americans as a whole, and few have looked at African American men specifically, especially when it comes to their perceptions and ability to trust sources of health information. The purpose of this quantitative cross-sectional study was to examine the relationship between race and trust in health information sources, including the relationship between prostate cancer health outreach done through the internet and the acceptance of such information outreach among African American men. The theory of planned behavior provided the framework for the study. Data were collected from the National Cancer Institute’s Health Information National Trends Survey Cycle 2 2018 data set. Results from multiple regression analyses showed that the internet is not the most trusted source of health information for African American men. Non-profit organizations and health care professionals are more trusted than the internet. Results may be used to improve health care providers’ communication with African American men by spending more time with them, addressing verbal and nonverbal questions that need thorough responses, and providing needed answers. This approach may add to the effort to improve the health of African American men leading to positive social change.

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Dedication

This study is dedicated to the Lord Jesus Christ. He made everything possible. I also dedicate this work to my wife who has been my rock and support throughout these years at Walden. I also dedicate this to my children who have had no idea what I have been going through by reason of their age. I dedicate this to my family (Dad, Mom, brothers, and sisters). They were patient with me. Finally, I dedicate this work to all men who have been diagnosed with prostate cancer, who have recovered from it or are currently receiving treatment. I wish you nothing but triumph over prostate cancer and hope this study will encourage more men of all demographics to maintain routine PSA testing to facilitate early detection.

Acknowledgement

I would like to thank my Lord and Savior Jesus Christ. He is real, He is alive, and He has been my ever-present help in times of need. I would like to thank my wife for her unwavering support, keeping me focused and on track; thank you for being a real rock in my life. I would like to thank my children who have been patient when I needed time to work on my research. I would like to thank my dad and mom who have been very supportive by kind words and in prayer. I would also like to thank my siblings who gave me space to pace myself and quit bothering me about when I would be done with my program. I would like to thank my chair, Dr. Jennifer Edwards, and committee member, Dr. Gwendolyn Francacillo. Your scholarly knowledge and guidance were helpful in many ways. Thank you for being there when needed, making the time to encourage me and move my research forward in a timely fashion. I hope I made you proud.

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Section 1: Foundation of the Study and Literature Review

Prostate cancer is common and is one of the leading causes of death among men in the United States and worldwide (Yang et al., 2018) Prostate cancer develops in the gland in the male reproductive system. The prostate is walnut size and is just below the bladder (Toivanen & Shen, 2017). The prostate secretes the fluids that aid in ejaculation. When cells in the prostate begin to multiply in a manner that is uncontrolled, the development of prostate cancer is likely. Generally, the uncontrolled multiplication of cells in the prostate happens slowly and usually occurs in men over 40 years of age (Pandey et al., 2017). Prostate cancer is the second leading cause of death in men, second only to lung cancer.

Problem Statement

Health screening and health care participation has been found to be crucial to adequately and appropriately determine the risks and benefits of treatments among African American men. The current study focused on sources of health-related information and prostate cancer because of its prevalence among African American men. Prostate cancer has a high mortality rate in African American men. Studies showed that African American men have a 60% greater chance of developing prostate cancer than White men and men of other races (Watson et al., 2019). The mortality rate is also higher among African American men compared to men of other racial groups. The focus of the current study, therefore, was an exploration of factors of resistance for African American men, including trust in sources of health information and social influences. Current literature indicated a knowledge gap linked to health and information delivery and how this gap contributes to health disparities among African Americans (Somera et al., 2016).

This gap is both a knowledge and information gap in the African American male population compared to their White male counterparts, especially regarding how trust in health information sources can affect participation in needed health care such as health screenings for prostate cancer. Based on current literature addressing the history of health care in the United States, the way African American men receive, and process information has largely dictated whether this population trusts a source of health information (Walsh-Childers et al., 2018). There is a gap in the literature regarding the relationship between trust, race, and health care information sources among African American men.

Purpose of the Study

The purpose of this quantitative study was to examine the relationship between trust, race, and health care information sources among African American men. This study addressed health information processing among African American men. Health information is the data related to a person's medical history, which consists of the individual's symptoms, diagnoses, procedures, and outcomes (Flanagin, Bauchner, & Fontanarosa, 2020). A person's health information may be assessed independently to see how the individual's health has changed; however, health information can also be viewed as a data set on a large scale to understand how a population's health has changed and how medical interventions can alter health outcomes (American Health Information Management Association, 2019). Systems containing health information (i.e., health information systems) are the foundations of public health, and researchers utilize health information from a large data set to understand aspects of a population's health. Health information is one of the most frequently sought-after topics on the web and other sources in this age of advanced technology, where all types of information can be retrieved with a few clicks on most computerized devices. Numerous published studies have addressed the impact of patients obtaining health information, through various sources, on the patient-health professional relationship.

It is unclear what the preference of African American men in the United States is when it comes to sources of health care information despite the fact that African American men are less likely to seek out health information from certain health information sources such as the government or even a physician, compared to their White counterparts (Parker et al., 2017). This population is therefore at risk of not being reached with necessary health information. Given the mortality and morbidity rate of prostate cancer in the African American community, which is highest in the United States (Kaninjing et al., 2019), I sought to understand how African American men process health information to understand which health information sources are and are not trusted by African American men.

Trust must be established before participation is secured, and for participation to be secured there must be a clear communication of information through channels that the target population can understand and identify with. For example, some people may not believe information from the government, but when this information is shared by their doctor, they tend to believe them. Others may not believe information from the internet, but when this information is delivered by a family member, then they will believe. The source of health-related information is important to the level of trust for the information from that source. Therefore, by exploring the trust factors of African American men dealing with health concerns, specifically prostate cancer and the prospect of participating in prostate cancer screenings, treatments, and clinical trials, I sought to provide an improved understanding of the sources of resistance and mistrust to such participation.

Research Questions and Hypotheses

RQ1: Is there a relationship between race (African American men and White men) and trust in health information sources?

H_o1: There is no relationship between race (African American men and White men) and trust in health information sources.

H_a1: There is a relationship between race (African American men and White men) and trust in health information sources.

RQ2: What is the relationship between prostate cancer health outreach done through the internet and trust among African American men?

H_o2: There is no relationship between prostate cancer health outreach done through the internet and trust among African American men.

H_a2: There is a relationship between prostate cancer health outreach done through the internet and trust among African American men.

I also looked at the social influence within the African American community and how it affects their trust in health information sources. African American men's participation in their health care decisions was an important factor analyzed in this study. For the research questions, the independent variables were race (African American/White) and the internet as a social influence. The dependent variable was African American men's trust in health information sources and possible increased participation in their health care, based on the information sources.

Theoretical Foundation

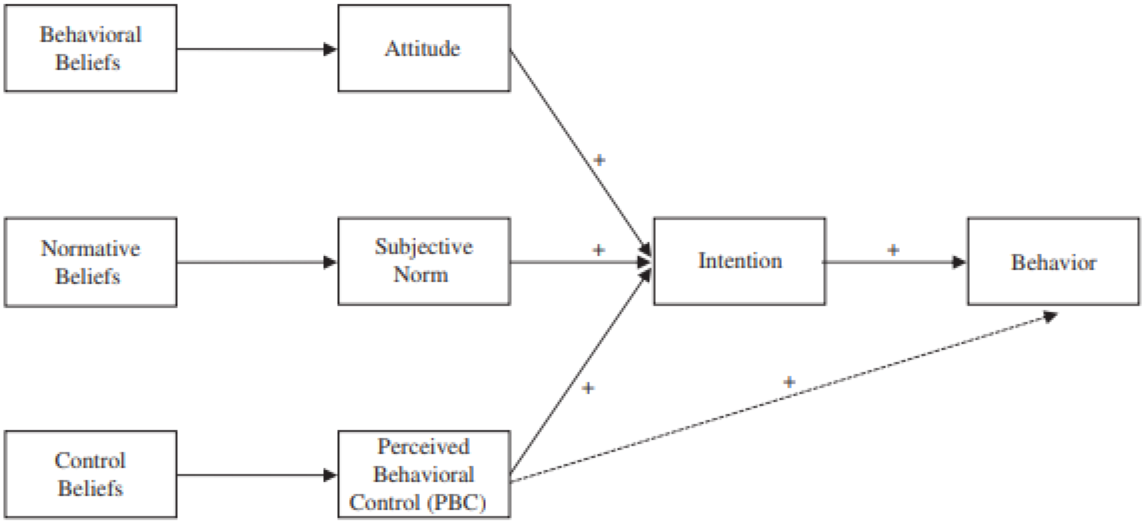
The theoretical framework for this study was the theory of planned behavior (TPB; Ajzen, 1985). The TPB connects behaviors and actions with perceptions and beliefs (Montaño & Kasprzyk, 2015; Sutter & Paulson, 2017). The chosen behaviors and actions of individual actors and groups are grounded in an interpretation of reality and the environmental conditions of the actor or group. For example, if a group exhibits behavior that reflects distrust, then the TPB assumes that such distrust is rooted in previous experiences and beliefs that connect such distrust with the decisions of others. The TPB explores the behaviors of groups and individuals based on the desires, plans, and likelihood of an action that is informed by perspectives and beliefs. The TPB was first presented by Ajzen and Fishbien in the 1980s and has since been developed and applied across various research fields and subjects (Sayogo et al., 2018). The TPB can be viewed as an extension of the theory of reasoned action, and Ajzen and Fishbien's presentation of this theory was to provide a theoretical outline for simplifying the complexities of human social behavior.

The TPB has six major constructs in determining human intentions and behavior (see Figure 1). These components related to my research questions on trust, participation, motive, belief, and experiences for the following reasons: (a) they include attitude to the outcome of a behavior or behavioral intentions that are factors that motivate the display of a behavior, (b) subjective norms include the approval or disapproval of others such as friends and family members, (c) social norms are the standards of a larger society, and (d) perceived power over the performance of the behavior and perceived behavioral control influence a person's determination of the ease or difficulty of carrying out a behavior (see

Kautonen et al., 2015). For this purpose of this study, this theory allowed for an exploration of the beliefs of African American men that may have led to their participation in prostate cancer screenings. For example, lack of culturally appropriate language in health-related information sources can hinder African American men from trusting that source. Similarly, a lack of familiarity and understanding of the experiences of African American men in their involvement with health care organizations and health in general may help explain why there may be insufficient efforts to reach out to African American men. The TPB helped me frame the responses and experiences of African American men and the decisions made by health providers and creators of health-related information. The TPB holds that actions are goal oriented in that individuals recognize needs and wants, form goals, and direct their actions and behaviors toward the fulfillment of the goals (Ajzen, 1985).

Figure 1

Theory of Planned Behavior



Note. Adapted from SpringerLink (2017).

In the TPB, all behavior is explained in terms of motives. Individuals are motivated by specific calls to action, which are dependent on the goals that the individuals have formed. More specifically, the TPB is intended to create connections between the behaviors and actions of individuals with their perceptions and beliefs (Montaño & Kasprzyk, 2015; Sutter & Paulson, 2017). The behaviors and actions of individuals and groups are grounded in intentions. Every action is based on an intention. Without intentions, actions are considered chaotic and unexplainable by theory. Observing actions can be viewed as an act of the interpretation of reality and the environmental conditions of the individual or group.

The TPB is focused on the behaviors and actions of groups and individuals based on their desires, plans, and the perceived likelihood that the action or decision will bring about the intended goals (Ajzen, I. (2020). The TPB can be viewed as an extension of the theory of reasoned action. The TPB provided the means for making sense of the immense complexities and complications of human behavior. If every action and behavior is directly connected to a rational intention, then every action will have an explanation. Similarly, human behavior becomes more predictable, especially given that one can determine those factors that may lead to or contribute to certain actions and decisions.

Under the TPB, certain constructs are relied on for determining the connections between intentions, goals, and behaviors. These six constructs are used to determine human intentions from their behaviors. The attitude to the outcome of a behavior is the first construct (Kautonen et al., 2015). The second construct is the behavioral intentions that are factors that motivate the carrying out of a behavior (Kautonen et al., 2015). The third construct is the subjective norms that include considerations of the approval or disapproval of others in relation to their perceived value to the actor (Kautonen et al., 2015). The fourth construct is the social norms that are the standards of a larger society. The fifth construct is perceived power over the performance of the behavior (Kautonen et al., 2015). The sixth construct is the perceived behavioral control that is an individual’s determination of the ease or difficulty of carrying out a behavior (Kautonen et al., 2015).

Given the nature of the current study, a cultural component was also required for the theoretical framework because a major component of this research involved determining the experience of a particular cross-sectional group based on race and gender. The findings of this analysis would determine whether the PEN-3 cultural model would be used to examine the impact of African American culture in the general response of African American men to sources of health information. The PEN-3 cultural model was developed by Airhihenbuwa in 1989 to examine the connection between culture and health outcomes, which Airhihenbuwa believed was lacking in other behavioral models (Iwelunmor et al., 2014). This model has three main constructs: (a) cultural identity, (b) relationships and expectations, and (c) cultural empowerment. These three constructs include three factors that form the acronym PEN (Iwelunmor et al., 2014). This cultural model allows for the examination of culture as it relates to health beliefs, behaviors, and health outcomes (Iwelunmor et al., 2014). Under this cultural theoretical framework component, I analyzed the individual perceptions and actions of the sample group on prostate cancer trials. The specific effects of trust and distrust were explored from a cultural and cross-cultural perspective.

Nature of the Study

I sought to identify relationships between variables or the impact these variables have on outcomes of interest, which were prostate cancer and health care in general. I used a quantitative cross-sectional research design to examine the effects of sources of health information on trust among African American men and how this demographic responds to health information. I collected data from the Health Information National Trends Survey (HINTS) 5, Cycle 2. HINTS 5 is a collection of nationally representative data about the American public’s use of cancer-related information (National Cancer Institute [NCI], 2003).

The criteria (dependent) variable was trust while the independent variables were race and the internet as a source of health-related information. The 2018 HINTS Cycle 2 data set provided information on demographics, the survey, and responses to the survey that showed the level of trust respondents had on sources of health information and how many respondents identified as prostate cancer patients. I used multiple regression analysis to examine the possible correlation between the independent and dependent variables.

Literature Search Strategy

The literature review features an in-depth exploration of research on issues related to African American men's trust in health information sources and screenings aimed at treating health issues such as prostate cancer. The databases from which all of the literature was drawn included the National Center for Biotechnology Information, U.S. National Library of Medicine, NCI, Google Scholar, PubMed, CINAHL, EMBASE, Cochrane Library, PopLine, and LILACS. All search results were within 5 years of the search date. The following are the key search terms used to conduct the literature review: *Black*, *health information*, *sources of health-related information*, *trust*, *trust in health care*, *trust in health-related information sources*, *cancer, prostate*, *prostate cancer*, *prostate disease*, *black men*, *minority*, *men prostate*, *African American men*, and *prostate disease*. Table 1 provides a breakdown of the number of articles located.

Table 1

Number of Articles Found

Source	Number of articles
NCBI, PubMed, Web of Science, Google Scholar, EMBASE, and Cochrane Library	228
American Cancer Society	198
Total after duplicates removed	382

Gilbert et al. (2016) noted the near invisibility of Black men in America when it comes to research into their health. Gilbert et al. stated that research into the health of Black men has been conducted from a prism of stereotypes making them part of a group or culture rather than identifying them as individuals with personal attributes. This affects the factor of race in health-related information tailoring. Machirori et al. (2018) stated that African American men are largely excluded from media information dissemination. This leads to their lack of interest in the information disseminated as African American men do not view these messages as targeted toward them. The messaging does not affect their participation rate in prostate cancer health screenings. There is therefore a gap that exists because although the distrust of most health information is known, little has been done to pinpoint which source of health information is most beneficial for reaching the African American male population. The mistrust factor goes even deeper.

Factors for Mistrust and Nonparticipation Among African American Men

Campbell et al. (2017) explored many of the factors for African American men not participating in health care. One of the first factors that the researchers discovered was information. In particular, educational levels and the knowledge gained about diseases and their treatments are important factors for individuals being willing to participate in health screenings. The researchers found that there is an agreement in the level of gap that exists between meeting the emotional and informational needs of prostate cancer patients and their actual emotional and informational needs. There is also a gap in research regarding the social influences and their impact on treatment choices and the treatment decision-making process (Reamer et al., 2017).

Socioeconomic status was found by Ahaghotu et al. (2016) to be another significant factor for African Americans choosing not to act on information on cancer. Socioeconomic status includes a number of subfactors such as economic condition, financial stability, social status, and perceived financial well-being. Ahaghotu et al. noted that these factors are important elements that determine trust and the awareness of health care information. The poverty status of African American individuals also determines to some extent how African Americans receive and trust health information.

Being in a state of poverty can may a negative impact on trust in health information. However, there may be a number of other related factors. For example, individuals who are living in poverty may be more reclusive and interact socially with others less often. As a result, such individuals may be less likely to know about the benefits of certain health care information and may be less likely to trust what they hear or be convinced of its efficacy. Poverty may have several correlations with the mistrust of health care information or participation in health care activities as a result of the source of the health information.

Similar to knowledge and information is awareness. Awareness refers to the development of an understanding of the functions of a piece of health care information and its benefits. Ahaghotu et al. (2016) found that lack of awareness and understanding of health care can lead to a low participation rate. They also found that African Americans were less likely to inquire about information pertaining to their area of health from their physicians when compared to their White counterparts. Ahaghotu et al. found that 34% of African Americans were likely to inquire about medical trials compared to 50% of White patients. When it comes to getting information about clinical trials from the internet, Ahaghotu et al. found that 11% of African American patients were more likely to do that compared to 31% of the White patients. When it comes to asking fellow patients, 25% of the African American patients asked their fellow patients compared to 12% of White patients (Ahaghotu et al., 2016).

One important aspect of history is the story of Henrietta Lacks whose cells were cultured so that they could be reproduced outside of her body (Skloot, 2017). Henrietta Lacks was an African American woman who died at the age of 31. Her cell tissues were taken from her body in 1951 when she presented to John Hopkins Hospital for treatment of cancerous signs and symptoms (Javitt, 2010). These tissues were taken without her or her family's consent. Her cells became the breakthrough needed for cell regeneration called HeLa cells. The Lacks family found out about the breakthrough by chance after two decades of John Hopkins using Henrietta Lacks's cells in multiple treatment regimens. When further tests were needed to ensure Henrietta's cells were not contaminating other cells, John Hopkins needed the children of Henrietta to get blood samples because they had some of her genes. However, the family thought they were being tested to determine whether they were predisposed to cancer. This brought about further feelings of dishonesty and manipulation of the researchers. Most African Americans are aware of the Henrietta Lacks story, which can contribute to a lack of trust in certain sources of health information.

Effects of COVID-19 on African Americans

According to Laurencin and Walker (2020), African Americans have been disproportionately affected by COVID-19 in the United States. Chicago, for example, recorded more cases of COVID-19 and deaths by COVID-19 in the African American community. Specifically, over 50% of COVID-19 cases and close to 70% of COVID-19 deaths were among Black individuals despite the fact that Blacks are about 30% of the population. This disproportionate effect can be traced to the medical mistrust that exists between African Americans and authorities such as the police or the medical research industry. According to Laurencin and Walker, African Americans may not seek the help they need on time, leading to delayed responses to COVID-19 infections. There are also some cultural barriers that need to be discussed as findings from previous research.

Cultural and Religious Barriers

There are several cultural barriers that impact health care participation among African Americans. Cultural barriers stem from a number of sources and discourage individuals, including African Americans, from trusting health information sources. Cultural factors include traditions, values, and beliefs that impact personal decision making and group decision making. Cultural factors also include cultural experiences that are founded on what an individual knows, shares, gives, and gains through relationships with others (te Hau, 2016). Cultural factors are also a combination of social or cultural activities, events, or interactions prominent to the person’s experience (Edwards, 2014).

According to West & Nguyen, 2017; Young, 2018), the U.S. Census (2010) identified an African American is a person having origins in any of the Black racial groups of Africa. Cultural factors may have complex influences on both the willingness of individuals to trust health information and other factors that may influence individuals to participate or not in treatment. Ahaghotu et al. (2016) noted that men were more likely to be part of a prostate cancer treatment if recommended by their physician. Also, African American men were more likely to participate in their health care if they had a cultural or ethnic connection to the health care professional.

In the United States, the incidence and mortality rates of cancer in general and prostate cancer in particular are higher for African American men compared to White men and men in general (Ahaghotu et al., 2016). The estimated mortality rate for men with prostate cancer has declined more quickly in Blacks compared to Whites, though prostate cancer is still considered the most common form of cancer and the second leading cause of cancer-related deaths in African American men in the United States (Ahaghotu et al., 2016). Prostate cancer occurs at a significantly younger age on average among African American men compared to White men. Prostate cancer among African American men is more likely to progress to later stages even after definitive treatments have been administered (Ahaghotu et al., 2016). The reasons for the identified racial discrepancies in prostate cancer are difficult to pinpoint and likely involve socioeconomic, sociocultural, nutritional, financial, and biological elements. A major goal of many cancer researchers is improving access to novel and unique therapies to treat prostate cancer, especially among African American men (Ahaghotu et al., 2016). Clinical trial participation has been found to adequately and appropriately determine the risks and benefits of varied treatments among Black populations including African American men. Given the disproportionately high mortality rates among African American men, the responses to therapies of this population are limited (Ahaghotu et al., 2016).

Definitions

The following operational definitions were used in the current study:

Age: The number of years that a person has been alive (Ayalon et al., 2016). Age can be actual, perceived, or felt.

Belief: An acceptance of a particular statement, expression, or opinion. Sousa-Silva et al. (2016) defined belief as a personal conviction that is not necessarily based on scientific evidence. The authors stated that belief is structured by the general context in which it occurs, including the scientific understanding the individual has of it. In the current study, personal belief was built over time by African American men regarding prostate cancer clinical trials and whether they benefit African American men as they do men of other races.

Gender: A social construct with a set of behavioral prescriptions that are believed to follow from biological sex characteristics (Becker et al., 2017).

Lived trust experience: The features and characteristics of the experiences and reflections of the lives of specific individuals, based primarily on their interpretations of events, actions, intentions, and ideas on particular topics (Sloan & Bowe, 2014). Lived trust experience or lived experience of trust is individual. Lived trust experience is not something onlookers can easily detect within another person's relationship. The lived trust experience can only be known by the person in the trust experience (Strahorn et al., 2017). It also refers to interpretations of events, actions, intentions, and ideas on clinical research. Lived experiences, then, rely heavily on reflections of previous events and the individual interpretation of phenomena.

Motivation: The desire for a particular outcome to be achieved. According to McMillan and Forsyth (1991), as cited by Fırat et al. (2018), motivation is a process that begins and sustains behavior. In the current study, motivation referred to African American men's willingness to participate in a clinical trial based on perceived incentive.

Participation and ownership of health care decision making: The decision to become an active participant in one's own health decision making. Participation in this case includes but is not limited to personal health advocacy, health care literacy, and understanding most if not all health information delivered.

Race: A tribe, nation, a group of people accepted to be of common stock (Britton, 2017).

Response: A reaction to stimuli. In the current study, response referred to the reaction that African American men have to clinical trials for prostate cancer.

Assumptions

I assumed the 2018 HINTS 5 Cycle 2 was done with accuracy and with minimal error in the data output. The survey was equally available to all races, and African American men were accurately reached so that they could respond to provide a strong data set. I assumed the respondents were honest and reported truthfully to the questions of the survey. No data were intentionally omitted, and all missing data in the data set happened randomly. I hypothesized that African American men would trust health information from people more than from the internet. I hypothesized trust would be highest when the health information came from a physician rather than from the internet.

Scope and Delimitations

The HINTS 5 Cycle 2 is a single-mode mail survey that is targeted toward an adult population age 18 years or older in the civilian noninstitutionalized population of the United States. Any respondents under 18 years old are excluded. The Cycle 2 was conducted between January 26 and May 2, 2018, and the trust gap was addressed in the current study. Some of the scope and delimitations were (a) there was a 2-year gap from the time the data were gathered to the time of this study, (b) the total number of questions asked was delimiting, (c) the variables gathered were a delimiting factor, (d) secondary data were used, (e) the sample size of this study was also a delimiting factor, and (f) nonresponse adjustment calls were created from variables obtained from search algorithms.

Significance, Summary, Conclusions, and Social Change

Addressing the identified trust gap may be relevant to public health given that most prostate-cancer-affected groups in the United States and possibly the world still lag in the required participation for the development of breakthrough treatments. This is especially true for African American men in the United States. In addition, the utility of research is based on the importance of effectively treating vulnerable populations based in part on the results of effective and diverse health outreaches. The significance of these goals is grounded in the person-centered approach to care, given the importance of treating vulnerable populations effectively and minimizing differences in treatment outcomes between groups (Ioannidis, 2016). The current study was conducted to benefit patients and a vulnerable population in particular. The effort involved the improvement of health and wellness of African American men, who are particularly impacted by prostate cancer. For equitable health outcomes for the vulnerable population, in this case African American men, this demographic has to be properly targeted to ensure that discoveries, treatments, and prevention methods benefit this demographic.

As previously discussed, the disparities between trust in health information sources and mortality rates for prostate cancer among African American men support a research focus on this identified nexus. The Healthy People 2020 (2017) objectives include objectives related to reducing health disparities. An all-encompassing goal of Healthy People 2020 is to “achieve health equity, eliminate disparities, and improve the health of all groups” (Hall et al., 2018, p. 3). Specifically, the Healthy People 2020 goal is to reducing prostate cancer deaths (Office of Disease Prevention and Health Promotion, 2014). The current study was aligned with the fulfillment of these objectives. Additionally, in alignment with the Robert Wood Johnson Foundation's new culture of health action framework, this study was relevant because it addressed the goal of two specific action areas: Action area 3 is to create healthier, more equitable communities, which aims to "achieve healthier and more equitable communities by addressing head-on the chronic environmental and policy conditions that hold back too many Americans from living in good health" (Hodge & Min, 2017, p. 79-83). The African American male population is an often-overlooked demographic. For equitable health care focus, specific attention should be focused on how this demographic sees and accesses health information.

Action area 4 is to strengthen integration of health systems and services, which aims to transform a complex health system into one driven by prevention rather than treatment, and which focuses on amalgamation of health systems (Hodge & Min, 2017). The aim of health care interventions of any kind, or public health research such as the current study, is to save lives in one way or another. The appropriate health information reaching the African American population through a trusted source may lead to increased ability to prevent health issues rather than treatment of preventable health problems.

This study was intended to contribute research evidence regarding why African American men do not trust certain sources of health information and why they trust others. More specifically, I examined the relationship between trust, race, and health care information. This contributed to the current literature on this topic by providing information that provides a basis for suggesting and supporting certain approaches to improving African American health care. This study was necessary because, although there has been research done on the topic of African American men and clinical trials, such studies have not led to greater participation for the sample population (see Oren et al., 2016; Toms et al., 2016). Many studies have focused on bridging barriers such as the trust barrier by increasing awareness (George et al., 2014) and the involvement of other factors such as churches and leaders (Meng et al., 2016). However, the trust gap remains, evidenced by a lack of understanding of which sources of health care dissemination are more trusted than others among African American men.

Section 2: Research Design and Data Collection

The purpose of this study was to examine health information sources and how African American men process health information pertaining to prostate cancer and general health care decisions. In this Section, I present the study research design and the rationale for the design, methodology including the type of data analyzed and how the data were obtained, instrumentation and operationalization of constructs, data analysis plan, and threats to validity.

Research Design and Rationale

The research design was quantitative cross-sectional, which led to a quantitative analysis of survey data. A quantitative cross-sectional design allowed for comparative analysis to examine the effect of source of health-related information on trust and the effect of health-related information on race. The research questions were answered utilizing Pearson’s correlation, multiple linear regression, and two scale variables test. The multiple linear regression analysis was ideal for quantifying the relationship between the dependent and independent variables of the African American population via a represented sample by translating and interpreting correlations between the variables. The theoretical framework was the TPB.

Data from the NCI were analyzed. The NCI has a publicly available data set called HINTS 5 Cycle 2. HINTS 5 survey data were appropriate for this study because according to the NCI, HINTS 5 is a routine collection of nationally representative data about the American public’s use of cancer-related information. For the current study, a secondary data analysis was conducted on the 509 respondents who participated in the HINTS 5 survey stating they are African American and have prostate cancer. Although multiple responses for different cancers were received, there was a focus on data relating to prostate cancer in the current study. Specifically, responses from African American men were analyzed comparatively with responses from White men.

Methodology

The NCI began using HINTS in the early 2000s. The first HINTS survey was between October 2002 and April 2003 (NCI, 2003). Since then, data have been collected in 2005, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2017, 2018, and 2019. The HINTS 5 Cycle 2 is a single-mode mail survey targeted toward the adult population age 18 years or older in the civilian noninstitutionalized population of the United States. The HINTS 5 Cycle 2 data were analyzed using SPSS Version 25. There was a Pearson's correlation, descriptive statistics, ANOVA, and bivariate correlations performed for the analysis.

To meet the inclusion criteria, respondents had to be 18 years or older. The Cycle 2 survey was conducted between January 26 and May 2, 2018, by the NCI, which is part of NCI's Division of Cancer Control and Population Sciences. Cycle 2 is a two-stage survey requiring equal probability sampling of addresses in the first stage and selection of one adult within each sampled household. The sampling was made of addresses used by Marketing Systems Group (MSG) from which random samples of address were pulled, out of which complete data were collected from 3,504 respondents.

Sample

According to the National Cancer Institute, the sample was gathered through a single-mode mail survey that utilized respondents' next birthday to decide who could participate in the survey (Blake & Moser, (2019). All racial/ethnic groups in the United States were included in the survey. All eligible respondents were 18 years and older. The sample design had two stages. The first stage included a sampling of equal probability in which addresses in the United States were sampled within each explicit sampling layer. The addresses were from a target location in the United States focusing on two stratification methods: (a) addresses in areas with high concentrations of minority populations, which included African Americans, Hispanics, and others, and (b) addresses in areas with low concentrations of minority populations. The second stage was the selection of an adult from each sampled household. The sampling was made of addresses used by MSG from which random samples of address were pulled.

For this research on the relationship between trust, race, and health care information sources, the variables from the research questions were extracted from the HINTS data set. The sample stratification was based on the inclusion criterion (race) because African American men were the major focus compared to their White counterparts. A total of 606 eligible respondents were African American. The exclusion criteria were non-Black respondents who do not have prostate cancer or cancer. The HINTS study, which provided secondary data for the current study, was already stratified by race and responses. Therefore, stratification from the HINTS data set was focused on African American men diagnosed with prostate cancer and their interest in cancer information based on the source of the information. The sample population was particularly susceptible to the development of prostate cancer and had a disproportionately high likelihood of developing late-stage prostate cancer and distrusting health information. According to the NCI, the sampling frame for Cycle 2 was acquired from MSG’s database of random nonvacant residential addresses in the United States. These addresses included post office street addresses for which mail was redirected by the U.S. Postal Service to a specified post office box and seasonal addresses. The sampling included all of them. The data set included a detailed survey of African American and White respondents from all over the United States. The survey incorporated both male and female respondents. The information on women was excluded from the sample. The focus was on African American men compared to their White counterparts to examine the level of trust or lack thereof in health information sources and social influences on African American men. The independent and dependent variables were analyzed using multiple linear regression to determine how many African American men identified as having prostate cancer, how many White men identified as having prostate cancer, and how the two groups responded to different sources of health-related information.

Justification for Effect Size, Alpha Level, and Power

SPSS 25 was used to analyze the dependent and independent variables. I selected a .05 alpha level to reduce Type II error. Out of an estimated cumulative unweighted sample size of 2,996, African American men made up 606 respondents. With a .95 confidence level, the sample size was 606. This meant 606 or more surveys were needed for a confidence level of 95%.

Instrumentation and Operationalization of Constructs

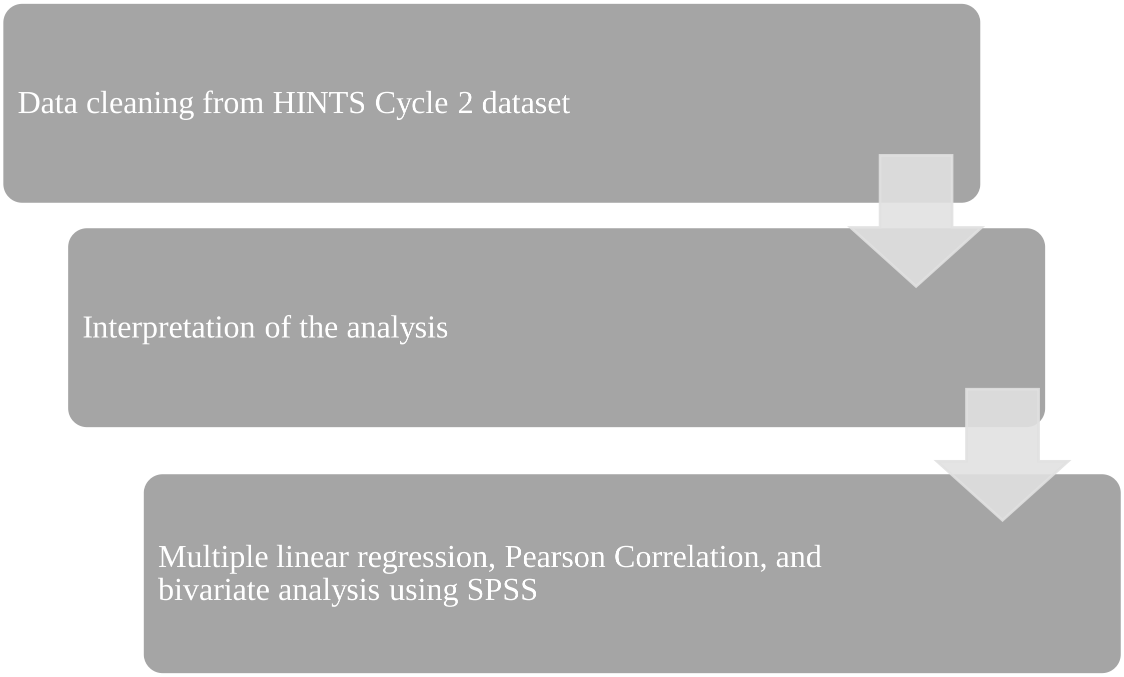
The HINTS 5 Cycle 2 data set was developed by researchers from the NCI in 2018 and was appropriate for the current study because trust is the determinant word in most of the survey data questions and the primary researchers focused on the trust of sources of health-related information, whether media, such as internet, or other sources. Trust was what was addressed in the current study. No permission was needed because this data set is publicly available on the website of the NCI. According to the HINTS, Cycle 2 code book (, (Blake & Moser, (2019)), doctors are health care providers to the patients. Participants are those who went to a doctor, nurse, or other health care professional, not counting times they went to the emergency room in the 12 months preceding the survey, at least once. There was no specific definition for participation. However, the meaning can be gleaned from the definition given for participants taking part in providing responses for data or involvement in cancer information as a result of information received.

Data Analysis Plan

The data analysis plan was based on the HINTS Cycle 2 data set. A Pearson correlation test and an independent group *t* test were used to examine the relationship between trust, race, and health care information source. This was followed by an interpretation of the results. Figure 2 provides a depiction of the process that was undertaken.

Figure 2

Data Science Process



Operationalization table and level of measurement property are based on the variables. The African American male population was compared to the White male population to examine correlation between trust and sources of health information, especially the internet. The CDC (October 16, 2020, as cited in Siegel et al., 2020) noted that between 2003 and 2017, White men showed lower percentages of distant (5%) and unknown stage (6%) prostate cancer than any other race/ethnicity. This is the main reason this demography was compared to African American men. In the research questions, the variables were race and trust in health information. The measurement properties were race, trust, and social influences such as media, doctor, and family members (see Table 2). The measurement properties were nominal for Research Question 1 and ordinal for Research Question 2. Trust was operationalized as acceptance and the confidence level of respondents in relation to the variables. Trust is in all of the questions (A7a–A7i). The response choices were *A lot* (1), *A little* (2), *Some* (3), and *Not at all* (4). The variable race was operationalized as African American or Caucasian. Race is in question O11. The measurement property was Yes or No. The variable internet was operationalized as trust in internet. This variable can be found in Question A7e and the response choices were *A lot* (1), *A little* (2), *Some* (3), and *Not at all* (4).

Table 2

Variables and Measurement Property

Variable	Operationalization	Measurement property
Trust	Acceptance	1. A lot 2. A little 3. Some 4. Not at all
Race	African American versus White	Yes or No
Social influences: TV, magazines, or newspapers, internet ads. Doctor, family and friends.	In general, how much would you trust health information from ….	1. A lot 2. A little 3. Some 4. Not at all

Analytic Approach

The data set from HINTS 5 Cycle 2 was from the NCI, and there was no requirement for access approval. The data set is publicly available. The statistical methods used to analyze and interpret the data included Pearson correlation and multiple linear regression. These analysis methods were appropriate to examine the relationship between the independent and dependent variables. African American men’s and White men’s responses to health information sources such as doctors, television, internet, and family members were analyzed to determine trust levels based on the independent variables of race and social influences. Health information sources were captured in Questions A7a–A7i of the HINTS survey. Statistical analysis provided indicators such as the number of African American respondents in the data set, and these were compared on a variable-by-variable basis with a view toward understanding how trust in health information sources related to each independent variable (see Mertler & Reinhart, 2016). Willingness to participate in health screenings and cancer treatment fell under the trust variable, which was dependent on the source of the information on cancer. These results were then compared between one another and against the entire African American and White sample population. Specifically, the number of each dependent variable (internet, family, magazines, and trust) was analyzed using multiple linear regression to compare them to their White counterparts, and from the results trust could be measured and barriers to trust could be measured. Additionally, the analysis included descriptive statistics and bivariate correlations. The descriptive statistics quantitatively defined the sample (see Akboğa & Baradan, 2015) while the bivariate correlations indicated the significance of the relationship between variables as well as the directional relationship on the Pearson method (see Pinaringan et al., 2018).

Threats to Validity

Some validity threats may have existed because this was a secondary data analysis. Such limitations included construct validity, missing data, and unaccounted errors in data collection. Other validity threats included potential researcher bias, confounding factors, and an unrepresentative sample. An internal validity threat for this study can be found in generalizing the findings of the analysis. Inferences can be drawn from study findings to prove or disprove trust and understand barriers to clinical research and health information assimilation among the African American male population. Finally, the sampling method was convenience. All participants in the study were African American men, yet it was not guaranteed that they would comprise a representative sample that reflects the intended population.

Ethical Procedures

The HINTS 5 Cycle 2 data set is publicly available; therefore, its use does not require approval from United States National Institute of Health Office of Human Subjects Research Protections. No personal identifiers were present, and the respondents gave their approval to the NCI to be part of the HINTS survey through written consent. The current study was approved on June 25, 2020, by Walden University’s Institutional Review Board with an approval number of 06-25-20-0602629.

Summary

Measuring distrust and likelihood of participation among African American men can be accomplished in numerous ways. This study featured an investigation of prostate cancer research participation, trust experiences of African American men, and willingness to participate in health care for African American men based on the source of their health information. To achieve this, I analyzed the HINTS 5 Cycle 2 data using Pearson correlation and multiple regression. The first step was to isolate from the survey the responses of African American men and White men. Then I analyzed the responses to determine what percentage of the different demographics responded, what their responses were, and what their trust in sources of health information was, especially the internet. Specifically, I investigated the responses to prostate cancer research and all research of the sample population. The responses provided by the sample were intended to aid in developing a better understanding of the experiences of African American men and the reasons why this population tends to be less willing to participate in trials.

Research questions were designed to guide the study and set the aims of the questions featured in the survey. The research questions were aimed at the identified research objectives in addition to practical considerations. The current study was intended to provide quantitative results that may lead to further development of the understanding of why there are low participation rates and high mistrust among African American men and their underrepresentation in clinical studies. The following research questions were developed for the study:

1. Is there a relationship between race (African American men compared to White men) and trust in health information sources?
2. What is the relationship between prostate cancer health outreach done through the internet and trust among African American men?

The participation of African American men in clinical trials will improve the quality of such trials and provide additional information on prostate cancer (American Cancer Society, n.d.). Trust must be established before participation is secured, and mistrust is a significant factor for African Americans not participating in such trials. By examining the data on African American men, I expected to improve the understanding of the sources of resistance and distrust to participating in clinical trials on prostate cancer.

Section 3: Presentation of the Results and Findings

The purpose of this study was to examine the effects of sources of health information on the acceptance of African American men of such information. To examine these effects, I analyzed the trust factors of African American men when it comes to sources of health information. To guide this study, the following focused research questions and hypotheses were developed:

RQ1: Is there a relationship between race (African American men compared to White men) and trust in health information sources?

H_o1: There is no relationship between race (African American men compared to White men) and trust in health information sources.

H_a1: There is a relationship between race (African American men compared to White men) and trust in health information sources.

RQ2: What is the relationship between prostate cancer health outreach done through the internet and trust among African American men?

H_o2: There is no relationship between prostate cancer health outreach done through the internet and trust among African American men.

H_a2: There is a relationship between prostate cancer health outreach done through the internet and trust among African American men.

The null hypotheses were that there is no relationship between the dependent variable of trust and the independent variables of race and sources of health information. Alternative hypotheses were that there is a relationship between the dependent variable of trust and the independent variables of race and sources of health information.

Data Collection of Secondary Data Set

The data set allowed for inclusion of more respondents if they fit the following criteria: African American, male, and adult 18 years or older. These criteria allowed for the sample size to not only be about African American men who have prostate cancer but also about African American men, period. This was the demographic of focus and most at risk for prostate cancer. Because I looked at the health information outreach and trust gap, the sample size encompassed the number of African American men in the data set who fell under the scope of the research questions, which was 606. This allowed for a more representative analysis of African American men. Additionally, responses from White men were sampled to create a contrast in answering Research Question 1.

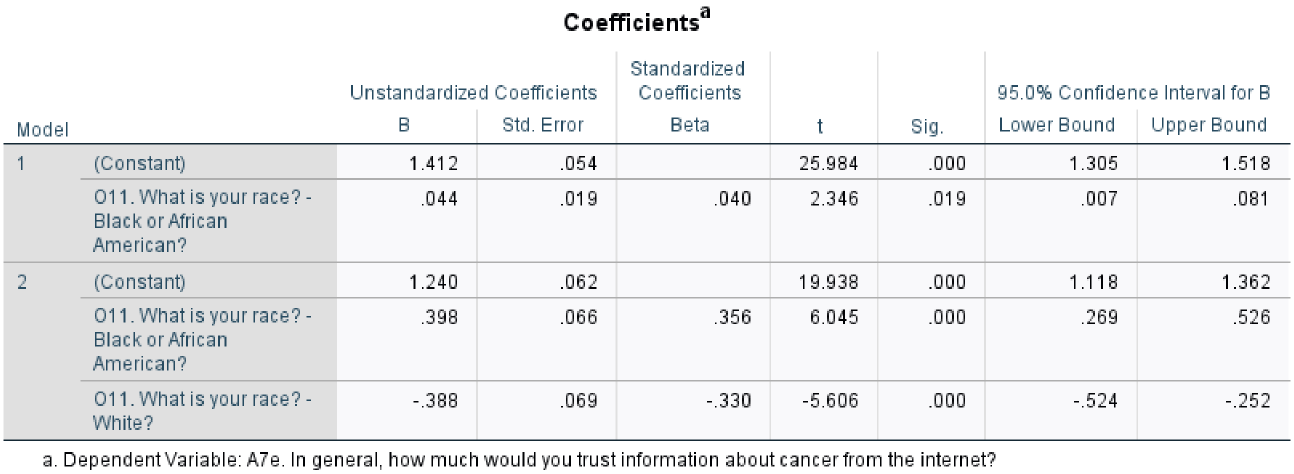
The variables used for analysis were not changed or altered in any manner from what was contained in the data set because of the secondary analysis of this study. For instance, the sample of White men was 2,518, and that of Back men was 606. This was a large sample that allowed for a more precise estimation of the relationship between race, trust, and health care information sources. These numbers also ensured better external validity and improved outcomes concerning generalization of the study findings. That meant the results of this study could be safely applied to the general population of African American men and to understand the difference between African American men and White men when it comes to trust in health care sources and health outreach methods.

The linear regression (see Table 3) captured the relationship between the independent variable and the dependent variable. In this case, the coefficient in the regression included the independent variable of race and the dependent variable of trust in information about cancer from the internet. The t-statistic for race (Black or African American) was 6.045, and the significance was .000, which was also the *p* value. This was the same as saying that the independent variable did not help in predicting the dependent variable. Race (African American) was significant because the *p* value was .000, which was less than .05. For the independent variable race (White), the t-statistic was -5.606, and the significance was .000, which was less than .01. The two races were significant, which means they each had predictive ability for the dependent variable.

In general, the coefficients for the independent variable in multiple regression showed that for a one unit increase in the independent variable, the model predicted that the dependent variable would increase by .398 units, holding independent variable of race (White) fixed. The model predicted that unstandardized coefficients of race (White) would decrease by -.388, holding race (African American) fixed. In the standardized coefficients column, for one standard deviation increase in African American, the model predicted that trust would increase by .356 standard deviations.

Table 3

Relationship Between the Independent and Dependent Variable



Coefficients^{a}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.412	.054		25.984	.000	1.305	1.518
	O11. What is your race? - Black or African American?	.044	.019	.040	2.346	.019	.007	.081
2	(Constant)	1.240	.062		19.938	.000	1.118	1.362
	O11. What is your race? - Black or African American?	.398	.066	.356	6.045	.000	.269	.526
	O11. What is your race? - White?	-.388	.069	-.330	-5.606	.000	-.524	-.252

a. Dependent Variable: A7e. In general, how much would you trust information about cancer from the internet?

Table 4 is a description of the secondary data on White men to determine the number of participants identifying as White men. The purpose was to show the rate at which White men were selected or not selected, and the total number of White men in the data set, including the valid percentage. Table 4 shows for White men, 2,518 were selected and represented 71.9%. The valid percentage was the same as the actual percentage because there were no missing data excluded from the analysis. The cumulative percentage was greater at 78.1 because White men were a majority in the data set questionnaire. This sample was selected to be representative of the White men as captured in the data set. There were 767 not selected because of missing information, unanswered questionnaires, and non-White men’s responses.

Table 5 is a description of the secondary data on African American men to determine the number of participants identifying as African American men. According to Babbie (2007), univariate analysis includes one variable at a time, in this case African American men. Univariate analysis describes and summarizes the data (Sebakwiye, 2020). The purpose was to show the rate at which African American men were selected or not selected, and the total number of African American men in the data, including the valid percentage. According to Table 5, 606 African American men represented 17.3% of men who responded to the survey. The valid percentage was 17.3% showing the number of valid responses to the survey. Data indicated that 2,679 were not selected, which represents 76.5% of respondents who did not fall into the demographic of African American men. The cumulative percentage was lower at 23.5% because 606 respondents participated in the survey.

Table 4

Descriptive (Univariate Analysis) of the Secondary Data: White Men

	Frequency	Percentage	Valid percentage	Cumulative percentage
Selected	2,518	71.9	71.9	78.1
Not Selected	767	21.9	21.9	100
Total	3,504	100	100	

Table 5

Descriptive (Univariate Analysis) of the Secondary Data: African American Men

	Frequency	Percentage	Valid percentage	Cumulative percentage
Selected	606	17.3	17.3	23.5
Not Selected	2,679	76.5	76.5	100
Total	3,504	100	100	

As shown in Table 4, the secondary study had 2,518 White men. Also, the secondary data had 606 African American men. The sample size was large to promote the external validity of the results.

Results

Only the observations corresponding to African Americans were selected by splitting the file using the survey variable “if a person is African American.” This was captured in survey Question O11. However, the “White men” category of the race variable, which was also captured in Question O11 of the survey, was also analyzed to provide a contrast to that of African American men. The file was further segmented by gender. Only responses from African American men and White men remained in the set.

One statistical assumption made in this study was the linear relationship of the independent variables to the dependent variable. I assumed there would be a straight line between trust and health information from a physician and a straight line between distrust of information from the internet. This was further explored by looking at the following analysis performed in this study.

RQ1: Is there a relationship between race (African American men and White men) and trust in health information sources?

For the analysis of HINTS survey Questions O11 and A7e, trust of information sources was measured based on race. With correlation coefficients, the Pearson correlation will always be between -1 and +1. Significance level can be found below the Pearson correlation. The correlation is significant at the .01 level and at the .05 level. The *N* or sample size shows the number of respondents whose responses were analyzed, which was 3,504.

A7a asked “in general, how much would you trust information about cancer from a doctor?” The Pearson correlation was .000 for both African American male respondents and White male respondents. Significance was .01 for African American men and .021 for White men. This meant there was no statistically significant relationship between trust in information about cancer from a doctor and White and African American men.

A7b asked “in general, how much would you trust information about cancer from family or friends?” The Pearson correlation was .57 for African American male respondents and -.244 for White male respondents. Significance was .058 for African American men and .024 for White men. This meant that there was a statistical relationship between African American men and cancer information provided by family members. For White men, there was no statistical relationship between cancer information received from family members and White men.

A7c asked “in general, how much would you trust information about cancer from newspapers or magazines?” The Pearson correlation was .001 for African American men and .149 for White men. Significance was .055 for African American men and .018 for White men. There was a statistically significant correlation between African American men and trust in cancer information obtained from newspapers or magazines. For White men, there was no statistical significance.

A7d asked “in general, how much would you trust information about cancer from the radio?” The Pearson correlation was .001 for African American male respondents and .297 for White male respondents. Significance was .072 for African American male respondents and .035 for White male respondents. This meant that there was a statistically significant relationship between African American men’s trust in information about cancer from the radio. There was also a statistically significant relationship between White men and trust in information about cancer from the radio.

A7e asked “in general, how much would you trust information about cancer from the internet?” The Pearson correlation was .000 for African American male respondents and .038 for White male respondents. Significance was .04 for African American men and .011 for White men. There was a statistically significant relationship between African American men and trust in cancer information obtained from the internet. There was no statistically significant relationship between White men and trust in cancer information from the internet.

A7f asked “in general, how much would you trust information about cancer from television?” The Pearson correlation was .019 for African American male respondents and .514 for White male respondents. Significance was .072 for African American men and .034 for White men. For this question, there was a statistically significant relationship between the two demographics and trust in cancer information from television.

A7g asked “in general, how much would you trust information about cancer from government health agencies?” The Pearson correlation was .000 for African American male respondents and .046 for White male respondents. Significance was .044 for African American men and .012 for White men. There was a statistically significant relationship between African American men and trust in information on cancer from the government, but there was no statistically significant relationship between White men and cancer information from government.

A7h asked “in general, how much would you trust information about cancer from charitable organizations?” The Pearson correlation was .009 for African American men and .479 for White men. Significance was .054 for African American men and .019 for White men. There was a statistically significant relationship between African American men and trust in information about cancer from charitable organizations. There was no statistically significant relationship between trust in cancer information from charitable organizations and White men.

A7i asked “in general, how much would you trust information about cancer from religious organizations and leaders?” The Pearson correlation was .001 for African American men and .270 for White men. Significance was .079 for African American men and .038 for White men. There was a statistically significant relationship between African American men and trust in information about cancer from religious organizations and leaders. There was also a statistically significant relationship between White men and trust in information about cancer from religious organizations and leaders.

Table 6

Pearson Correlation

Question	Tests	White	African American
A7a. In general, how much would you trust information about cancer from a doctor?	Pearson correlation	.000	.000
	Sig. (2-tailed)	-. 210	-.010
	N	3504	3504
A7b. In general, how much would you trust information about cancer from family or friends?	Pearson correlation	.244	.570
	Sig. (2-tailed)	.024	.058**
	N	3504	3504
A7c. In general, how much would you trust information about cancer from newspapers or magazines?	Pearson correlation	.149	.001
	Sig. (2-tailed)	.018	.055**
	N	3504	3504
A7d. In general, how much would you trust information about cancer from the radio?	Pearson correlation	.297	.001
	Sig. (2-tailed)	.035*	.072**
	N	3504	3504
A7e. In general, how much would you trust information about cancer from the Internet?	Pearson correlation	.038	.000
	Sig. (2-tailed)	.011	.040*
	N	3504	3504
A7f. In general, how much would you trust information about cancer from television?	Pearson correlation	.514	.019
	Sig. (2-tailed)	.034*	.072**
	N	3504	3504
A7g. In general, how much would you trust information about cancer from government health agencies?	Pearson correlation	.046	.000
	Sig. (2-tailed)	.012	.044**
	N	3504	3504
A7h. In general, how much would you trust information about cancer from charitable organizations?	Pearson correlation	.479	.009
	Sig. (2-tailed)	.019	.054**
	N	3504	3504
A7i. In general, how much would you trust information about cancer from religious organizations and leaders?	Pearson correlation	.270	.001
	Sig. (2-tailed)	.038*	.079**
	N	3504	3504

Note. ** Correlation is significant at the .01 level (2-tailed).
* Correlation is significant at the .05 level (2-tailed).

White men have a moderate positive correlation with how much they trust information from radio, television and religious organizations and leaders. These are all statistically significant correlations at the .05 level. Also, they have a weak correlation with how much they trust information from a doctor, family or friends and government health agencies, which are not significant.

African American men have a moderate positive correlation with how much they trust information from family and friends, newspapers and magazines, radio, television, government health agencies, charitable organizations, and religious organizations and leaders. These are all statistically significant at the .01 level.

Below in table 7 are the listings of all the survey questions which are statistically significant and the related research questions based on the Pearson Correlation analysis. The middle section shows relevant research questions. This section identifies which of the survey questions were relevant to which research question.

Table 7

Statistically Significant Survey Questions and Related Research Questions

Survey questions with significant correlation	Relevant research question	Race with significant correlation
A7c “In general, how much would you trust information about cancer from newspapers or magazines?”	RQ 1 and 2	African American men
A7d “In general, how much would you trust information about cancer from the radio?”	RQ 1 and 2	African American and White men
A7e “In general, how much would you trust information about cancer from the Internet?	RQ 2	African American
A7f “In general, how much would you trust information about cancer from television?	RQ 1 and 2	African American and White men
A7g “In general, how much would you trust information about cancer from government health agencies?	RQ 1 and 2	African American men
A7h “In general, how much would you trust information about cancer from charitable organizations?”	RQ 1 and 2	African American men
A7i “In general, how much would you trust information about cancer from religious organizations and leaders?”	RQ 1 and 2	African American and White men

For all the survey questions, Table 7 explains them and the results of the Pearson Correlation analysis.

RQ1: In terms of significance, African American men would easily trust information about cancer from family or friends (.58**) more than White men would (.24). Also, compared to Black men (.055**), White men would be less likely to trust information about cancer from newspapers or magazines (0.18) (significant at .01).

On a cumulative basis, White men would easily trust information from various but fewer sources (radio, television, and religious organizations and leaders). African American men would easily trust information related to cancer from family and friends, newspapers and magazines, radio, television, government health agencies, charitable organizations, and religious organizations and leaders (significant .01).

RQ2: What is the relationship between prostate cancer-health outreach done through the Internet and trust among African American men?

The following table (Table 8) lists all the findings that were statistically significant based on the Pearson Correlation.

Table 8

Statistically Significant Findings

	African American men	White men
Statistically Significant	Trust Cancer/Health information from government health agencies	
Statistically Significant	Trust information about cancer	

	from family or friends	
Statistically Significant	Trust in information about cancer from the radio	Trust Cancer/Health information from radio
Statistically Significant	Trust in cancer information gotten from the Internet.	
Statistically Significant	Trust in cancer information from television	Trust information about cancer from television trust in cancer information from television
Statistically Significant	Trust in cancer information gotten from newspapers and magazines	
Statistically Significant	Trust in information about cancer from charitable organizations.	
Statistically Significant	Trust in information about cancer from religious organizations and leaders	Trust in cancer information gotten from religious organizations and leaders

Table 9 below is the ANOVA analysis. It is the model summary that shows the strength of the relationship between the model and the dependent variable.

Table 9

ANOVA Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.04^a	.002	.001	2.954

From the ANOVA analysis, the model summary shows the strength of the relationship between the model and the dependent variable. The R, which is the multiple correlation coefficient is .04. This indicated the strength of correlation. The coefficient of determination, which is the R Square shows .002, the Adjusted R Square is .001 and the Std. Error of the Estimate is 2.954. These show that there is a weak positive correlation (.04) between prostate cancer-health outreach done through the Internet and trust among African American population. However, we can confirm if this relationship is statistically significant using One-Way-Analysis of variance (ANOVA).

H_o: There is no statistically significant relationship between prostate cancer-health outreach done through the Internet and trust among African American men.

To determine statistically significant differences between the means of two or more samples, the one-way ANOVA analysis was performed in Table 10 below:

Table 10

ANOVA (One Way ANOVA)

Model		Sum of squares	df	Mean square	F	*p*
1	Regression	48.022	1	48.022	5.504	.019^b
	Residual	30557.005	3502	8.726		
	Total	30605.027	3503			

To determine statistical significance, the study used ANOVA (one-way ANOVA). For this analysis, at (*p* = .05), the *p* value is .019 which is less than .05 (*p* =.019; *p*<.05), thus there is a statistically significant relationship between prostate cancer-health outreach done through the Internet and trust among African American men. With this information, it can be seen how the analysis has provided a link between the variables race and Internet prostate cancer outreach.

Summary

For RQ1, is there a relationship between race (African American men and White men) and trust in health information sources, the correlation performed was the simple Pearson correlation, 2-tailed to look at significance. The correlation looked at the various data questions from the dataset which looked at trust in health information from the Internet and other sources. Given the analysis conducted, the following is a summary of the answers to the research questions: There are multiple health information sources that were included in the dataset and multiple races they were administered to. Please see Table 7. Descriptive statistics and correlation analyses were performed to understand the relationship between race and trust in the health information sources. The relationship is varied. For example, African American men would easily trust information related to cancer from radio, television, and religious organizations and leaders (significant .01).

For RQ2, the relationship between prostate cancer-health outreach done through the Internet and the acceptance of such information outreach among African American men helped to understand the acceptance of information on the Internet. There was need to identify if there is any relationship between trust in Internet information and African American men. In summary, the findings show that African American men will likely trust information from the Internet aimed at providing awareness on prostate cancer. The regression output provided that information.

Section 4: Application to Professional Practice and Implications for Social Change

The internet has advanced the ability of individuals to access information pertaining to their health. The internet is an accessible go-to area for various kinds of information. The focus of the current study was whether African American men trust health information gathered through the internet because very little research had been done with a focus on African American men.

Results indicated that African American men and White men slightly trust information from their doctor but not as much as some other sources. The implication is that doctors remain important to any cancer health outreach to African Americans and can be effective in passing on vital information that could save the lives of African American men, especially when it comes to prostate cancer. African American men also value the opinions of their family and friends. As a result, any attempt to reach this important demographic should involve family and friends.

The internet remains a go-to place for information. African American men, by implication, browse the internet for health information that pertains to their specific health condition. Internet outreach aimed at informing African American men should be tailored to African Americans using relatable pictures, African American actors, and contributors to drive the information home.

Like the internet, African American men pay attention to health information passed on through television. This should encourage relatable factors such as individuals passing the message on, environment, and so on. African American men are also interested in the activities of charitable and nonprofit organizations, especially when it comes to passing on health information. More study can be done as to why. Perhaps the lack of profit motive of the organizations is the driving force. However, what is clear is that African American men can be involved more in these organizations. African American-owned and community charitable organizations can be harnessed to pass on important health information to African American men.

The implication for the field of public health is that more effort can be made in reaching African American men with these potentially effective outreach methods. From private health institutions to government parastatals, there is more in-depth understanding of the paths to reaching a key demographic in the American population. According to the study, many African American men trust health care information obtained from their primary care providers: physicians. However, the results also showed that individuals are sourcing data from other sources, including the internet, family and friends, television, and radioEven when trust for the internet as a source of information decreased across various demographics from previous studies, the use of the internet as a first step for finding information among the current study respondents increased.

Interpretation of Findings

As stated in the summary in Section 3, multiple health information sources were included in the HINTS survey, and these surveys were administered to multiple races. For RQ1, a bivariate correlation was done to understand the relationship between race and trust in the health information sources. The findings showed that when it comes to trusting information from television and charitable organizations, African Americans are more likely to be somewhat trusting of health information received from families and friends. However, when it comes to trusting information from the government, health agencies, and religious organizations and leaders, African American men and White men are very similar. They can trust these sources, but the probability is weaker. As mentioned in the variable discussion, according to the CDC (October 16, 2020, Siegel et al., 2020), in the years spanning 2003 to 2017, White men showed lower percentages of distant (5%) and unknown stage (6%) prostate cancer than did any other race/ethnicity. This was the main reason this demography was compared to African American men in the current study. The findings showed that there is no difference as to whether African American men trust information from the internet more or less. The finding was statistically significant, and there is no difference in trust and health outreach done through the internet by African American men.

This study extended the knowledge on the subject of trust and the internet by clarifying what sources of health information African American men trust more. African American men trust some health information sources more than others. Of all the sources of information analyzed, African American men were most likely to trust their physicians. In the future, helpful health tips and health information can be passed on to the African American male population via the analysis done in this study regarding the best way to reach African American men. Furthermore, the theoretical framework was the TPB, which has six constructs. The outcome in this case is the acquisition of freely accessible health information that speaks to the specific need or concern of the African American man. In the case of prostate cancer, there are different reasons an African American man will go to the internet, which can include a search for morbidity, mortality, and survivability, as well as stages of prostate cancer in comparison to the stage the African American patient is diagnosed with comorbidities, treatment, and medications (Bender et al., 2019). The current findings showed that although African

American men will go to the internet for health information, they will equally trust information from a physician or other health care professional.

The motivation is usually about health and determines the number of African American men that find health answers from the internet. In this case, a Pearson correlation analysis of survey number A7e showed that less than half of the sample went to the internet. The third TPB construct, which includes the subjective norms that include considerations of the approval or disapproval of others in relation to their perceived value to the actor (Kautonen et al., 2015), did not apply in the current study because an Internet search can be a private activity in the comfort of one’s home. However, the findings of the analysis of survey questions A7a (trust in information from doctor) and A7e (trust in information from the internet) showed that although this population would go to the internet, they would also value the approval or disapproval information of a physician, but not as much as what they would learn from their personal search on the internet.

The TPB has an important construct, which is perceived behavioral control. This is an individual’s determination of the ease or difficulty of carrying out a behavior (Kautonen et al., 2015). The current finding that more African American men trust information from their physician than from the internet expands the understanding of the availability of the internet in the United States and the complexity of the information that can be gathered from it. African American men can exercise the fifth construct, for example, of the TPB by having some form of control of their behavior. The analysis of the HINTS survey showed that the reason for African American men going to their doctors or internet is to get health information. This construct, which is the perception of control, is based on factors personal to individuals in decision making. The findings showed that there is no one way that is unique to African American men. Trust of source of information comes down to the availability of the source, the credibility of the source, and the personal importance or need for that information.

The PEN-3 cultural model was applicable based on the findings. This model looks at the connection between culture and health outcomes (Lofton, 2019). Trusting or not trusting the internet for health information has a cultural connection to a community, but African American men have a belief in family and respect for elders. Information gathered from the internet may be believed more if family members attest to the health information’s validity, but this is an area that will require more studies. This finding is based on the Pearson correlation analysis of survey Question A7e.

The PEN-3 model has three aspects of focus that shed light on health behaviors. These three aspects are cultural identity, relationships and expectations, and cultural empowerment (Airhihenbuwac, 1995; Lofton, 2019). The relationship and expectation part are very important based on the findings of the current analysis. African American men have a higher likelihood of believing information from their physicians than information from the internet or any other source. African American men develop relationships with physicians as they do with other health professionals. The expectation that a physician is trained and experienced in the information passed on can create the kind of trust needed in the source (the physician) and therefore the information from the physician. According to the PEN-3 model, African American men can build trust through relationships and the expectation of expertise in disseminated health information. Therefore, to reach African American men, it is important that any targeted health outreach first incorporates the benefits of building a relationship with the African

American male population and ensuring that health experts working with African American men develop trust through relationships.

Limitations of the Study

One limitation of this study is that although the findings are reasonably applicable to day-to-day life, a generalization cannot be made that the findings apply to the entire African American male population. Another limitation is that the data set used was a secondary data set gathered by the NCI. The data were thorough, but I was not able to phrase the survey questions in ways that would give the clearest answer. For example, the responses had to be gathered from African American men after the African American men and women were segmented. Then there was further analysis to isolate the various responses from African American men to understand which source of health information they trusted more.

Future Opportunities

Heath outreach is one of the ways of increasing accessibility to care. According to the study findings, African American men trust health-related outreach information from the internet less than they do from physicians. There is a need for alternative measures of outreach such as physician visits and community mobilization programs. An earlier study by Woods et al. (2004) indicated that knowledge of prostate cancer among African American prostate men was comparatively low with respondents indicating that physicians and health care providers did not discuss prostate cancer information with them in a way that they understood.

Additionally, the current study showed that a significant portion of the respondents accessed the internet through mobile devices such as mobile phones and personal digital devices. Increasing internet access can be integral for people to access health care related information. However, a regulation of the sources of information is necessary due to the increasing use of internet sources to find health-related information. The following recommendations are based on the analysis:

1. Increase internet access because it is used as a valid source of information by the various groups.
2. Increase access to physicians because African American men trust health care information from their physicians more than alternative sources.

Implications for Professional Practice and Social Change

Researchers have examined the African American population in various health-related topics, but few have focused on African American men to evaluate their choices in health. This current study addressed African American men and their likelihood of trust in general health information based on the source of the health information. The focus of this study was the internet as a ubiquitous tool for access to information.

Heath outreach is one way of increasing access to care. The internet is used as a source of information related to prostate cancer among African American men. The latter can be an indicator of reduced health equity such as reduced access to primary care physicians. Due to a high prevalence of the condition in the community, there is need for alternative measures of outreach such as physician visits and community mobilization programs. Woods et al. (2004) indicated that knowledge about prostate cancer among African American men was comparatively low with respondents indicating that physicians and health care providers did not discuss prostate cancer information with them in a way that they understood.

Additionally, the current study results showed that a significant portion of the respondents accessed the internet through mobile devices such as mobile phones and personal digital devices. Increasing internet access can be integral for people to access health-related information. However, a regulation of the sources of information is necessary due to the increasing use of internet sources to find health-related information.

The social change implication is the increase in trust, awareness, and real-life progress toward health information dissemination. There is a need to make continuous education and awareness a major part of the effort of bridging the trust gap established in African American men by years of medical and research insincerity against this demographic. The implication of social change is that this current study provides further information regarding how to better connect important health information to African American men using the Internet and, by extension, the health care professional to understand the likely impact of such health information on the family and social support of African American men. For example, in the last few years, the world has gone through Ebola and now the coronavirus. These viruses required contact tracing. Contact tracing is an essential health practice that helps curb the spread of diseases in a population (Keeling et al., 2020). Contact tracing is the ability to list, follow up, and determine the health statuses of people who encountered an infected person. How to professionally engage African American men to trust the request to list all contacts for a specified amount of time in their life will depend on the source of this request. The current study showed that passing on that request through a physician or health care professional will likely work better than using other sources, even the internet.

A community-focused approach to health information dissemination will go a long way in mitigating perceived mistrust. As discussed in Section 1, the history of medical malpractice against African Americans is well documented in the United States. Therefore, building a relationship with this population is vital to the establishment of trust with African American men. To build trust, African American physicians should be utilized in reaching this population. In cases in which the physician is not African American, familiarity with African American men and African American culture is vital to building trust. A core focus on trust building through community-focused relationship building will make the dissemination of health information to African American men easier and the health information better received.

The government, institutions of learning, pharmaceutical companies, and research organizations all seek to find a way to reach their target populations. The current study showed that although the internet is very useful for disseminating information, African American men are more likely to trust that information if it comes from a health professional. Therefore, it is worth understanding that for African American men, health information delivered through a person who has a qualification in the field of health is more likely to get a response than the use of the internet. This finding can make education and outreach more impactful. Further research on trust in health care of African American men can be facilitated by the findings from the current study, promoting a broader understanding of African American men and their health choices and participation.

Conclusion

From the study, the knowledge of cancer and prevalence varies across the United States is based on various indicators, including demographics and race. Additionally, trust of information from various sources depends on demographics and race. Many respondents access health related information through the Internet. For African Americans, health outreach programs should be increased to meet health equity.

According to the Centers for Disease Control and Prevention (CDC), Illnesses like diabetes. Strokes and high blood pressure are predominant among African Americans and this demographic is more likely to die from them (CDC, 2017). These health concerns should ensure that all health outreaches to African American men are well targeted to benefit this population. This should take away every bias or assumption as to how African American men should be outreached.

From the study, the knowledge of cancer and prevalence varies across the United States based on various indicators, including demographics and race. Additionally, trust of information from various sources depends on demographics and race; however, both racial groups trust health care information from their primary physician as compared to other sources. Many respondents access health related information through the Internet. For African American, health outreach programs should be increased to meet health equity.

African American men who are active information seekers, will need to have confidence in information from the Internet for informed health decisions. Conclusion from this Internet usage points to the fact that there is unmet information needs leading to health-related Internet use. Targeted Internet outreach to African American men, in addition to effective us of physicians can boost men’s confidence in information received and might even reduce Internet usage for health information. Intentional creation and offer of prostate cancer information and features that help African American men make that prostate cancer journey would be beneficial not only for this demographic, but for the field as a whole.

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