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Environmental-Induced Anxiety and Ethnicity as Predictors of Hypertension Among Black Men

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Walden University
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Abstract

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by

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BS, Elizabeth City University, 2000

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Ph.D. in Public Health – Community Health

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Abstract

Black men in the United States have the highest prevalence rate of hypertension compared to men and women of other ethnicities. Despite numerous health promotion and education programs tailored toward reducing hypertension among Black men, a gap exists in research regarding how environmental-induced anxiety and ethnicity may be associated with the occurrence or presence of hypertension among Black men. Using the reasoned action theory as a theoretical guide, this quantitative cross-sectional study incorporated four research questions to investigate if there was an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status were considered. Secondary data from the National Longitudinal Study of Adolescent to Adults Health 1994-2018 survey from men ages 33-43 were analyzed using binomial logistic regression. The findings indicated that environmental anxieties, such as community violence, low income, and ethnicity, were not associated with hypertension prevalence among men (n = 1,337). However, the covariate unemployment was significantly associated with hypertension prevalence among Black men. The findings in this study have potential implications for positive social change by bringing awareness about environmental-induced anxieties and the need to change unhealthy behaviors based on ethnic traditions, which may lower the prevalence rate of hypertension among Black men.

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Dedication

This is dedicated to my wife, Crystal, who encouraged and challenged me to pursue my lifetime dream of obtaining a doctorate. She is a true trailblazer. She proved that with determination, anything is possible, especially after witnessing her complete graduate school while still being a full-time wife, mother, and employee. Thanks to her for proving to me that through Christ, all things are possible. Without being encouraged by her lead, I do not know if the fire and desire to follow my childhood dreams would have been accomplished.

I want to give special thanks to my three children, Liliyana, Malon, and Kyndall, for their encouragement and understanding. They have proven to be mature enough to understand that hard work and sacrifice results in success. Their support, love, and humor made it easier for me to keep thriving.

I am grateful to my mother, Sandra, for planting the childhood seed that I could become a doctor and instilling in me to follow my dreams. Her “little professor” made it. To my dad, Charlie Bo, who taught me to chase my dreams through education and to stay out of the streets. “Quan is doing his lessons,” was his favorite line.

Lastly, this project is dedicated to Black men who live with hypertension that develops from environmental induced anxieties such as community violence, low income, and factors related to ethnicity. My prayer is that these factors will be observed closely as contributors to hypertension among Black men and learning more about these factors will help decrease hypertension.

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Finally, I would like to thank the principal investigators and researchers from the National Longitudinal Study of Adolescent to Adults Health, 1994–2018, for allowing public access to the data. This secondary data allowed me to investigate my hypotheses.

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Chapter 1: Introduction to the Study

Introduction

Hypertension is a medical condition that occurs when long-term force of blood against artery walls causes health problems, such as heart disease, heart strokes, sexual dysfunction, and loss of vision (Mayo Clinic, 2020). Hypertension has been researched among Black men previously as a concern of overall health; however, there has been minimal research to investigate if environmental-based anxieties such as community violence, low income, and ethnicity increase the prevalence of hypertension among Black men (Schmeer & Tarrence, 2019). Focusing on these factors could provide an explanation that clarifies why Black men are more susceptible to hypertension than White men. Identifying these possible underlying causes of hypertension could be critical to decreasing risk associated with hypertension and could also be essential in developing strategies to prevent future injuries (Whelton et al., 2017). Environmental anxieties, such as community violence, low income, and ethnicity, were observed to determine if they are associated with the prevalence of hypertension among Black men.

Background of the Study

In this study, I explored environmental-induced anxieties and behaviors associated with ethnicity as possible factors that increase the susceptibility to high blood pressures among Black men (Gill et al., 2017). Hypertension and high blood pressure occurs when the heart requires substantial effort to pump blood to critical body parts such as the brain, extremities, and organs (Mayo Clinic, 2020). Several factors cause the heart to work harder to distribute blood throughout the body, such as plaque buildup in the

arteries, which causes the heart to pump blood harder to bypass the clog (Mayo Clinic, 2020). Hypertension is developed from a host of reasons that range from a lack of exercise, smoking, alcohol consumption, drug use, poor diets, high salt intake, and in many cases, genetics (Schoenthaler et al., 2017). Although some of these equivalent factors are known to be present among every ethnic group, it is essential to research what other contributing factors are associated with Black men. To further this research, environmental anxieties and ethnic practices unique to Black men were observed that may contribute to increased hypertension prevalence (Whelton et al., 2017). According to Whelton et al. (2017), hypertension is prevalent in 59% of Black men, 47% of White men, and 44% of Hispanic men. These statistics provide foundational evidence that indicate Black men are at higher risk for hypertension compared to White men and Hispanic men. Therefore, investigation into possible risk factors associated with the increased rates of high blood pressure among Black men is warranted.

Black men are more likely to live with hypertension based on environmental anxieties, such as community violence, low income, and ethnicity (Schmeer & Tarrence, 2019). Previous research has referenced anxiety and ethnicity as contributing factors leading to the prevalence of hypertension regardless of gender or ethnic background; however, these elements seem to affect Black men differently (Blakemore, 2020). According to Schoenthaler et al. (2017), factors that may contribute to the susceptibility of hypertension in Black men compared to other ethnicities could be living conditions, levels of education, job experience, social determinants, disparities, and demographics.

These factors could lead to increased blood pressures especially when anxiety derives from these living conditions.

According to Assari et al. (2017), environmental influences differ among Black men to the extent that their blood pressures are higher when compared to other ethnicities such as Caribbean Black men and White men. The reported association between depression and environmental-induced anxiety has been identified as a potential contributing factor to explain the prevalence of hypertension being greater among Black men than Caribbean Black men and White men. The findings from this study will help in identifying the risk factors leading to environmental-induced anxiety and hypertension. More specifically, the findings from this study will help determine if environmental factors contribute to the higher prevalence rate of hypertension among Blacks compared to men in other ethnic groups.

To address the gap in research relating to environmental-induced anxiety and hypertension I investigated if Black men were exposed to different levels of depression and anxiety within their social environments (Assari et al., 2017). In addition to environmental-induced anxiety and ethnicity, age, education, employment status, and marital status were controlled for when observing hypertension prevalence (Mahmood et al., 2017). Observing these additional factors could reveal contributions to the prevalence of hypertension among Black men as previous research has iterated these elements as hypertension predictors, which may lead to anxiety (Caucutt et. al, 2019).

Racial factors and associated stressors may be associated with increased hypertension among Black men. According to Colgrove et al. (2017), there may be an

association between anxiety from racial profiling and hypertension among Black men when compared to White men and Hispanic men. Researchers focused on negative profiling among Black men as a contributing factor that could be a cause of consistent anxiety resulting in increased blood pressures (Colgrove et al., 2017). Black men cope with anxiety that other cultures, races, and ethnic groups may not experience, resulting in constant fluctuation in blood pressure (Colgrove et al., 2017).

Researchers have long examined the connection between racism and anxiety and health-related issues for Black people. Experiences of racism and anxiety are well-documented, including in the early 20th century and the formation of the Civil Rights Act in 1964, making Jim Crow laws illegal (U.S. Department of Interior, 2016). Greer and Spalding (2017) investigated the association between racism and anxiety as contributors to hypertension among Black people. The researchers established a possible association between racism and anxiety, leading to the prevalence of hypertension among Black men (Greer & Spalding, 2017). These factors were controlled for as underlying reasons for the prevalence of hypertension among Black men considering present-day injustices in the workforce, public, and often by law enforcement.

Previous research has indicated there is an association between anxiety and hypertension due to anticipated racial profiling among Black men in comparison to White men and Hispanic men (Hicken et al., 2014). These researchers hoped to establish an association between increased blood pressures among Black men and environmental-induced anxieties derived from ethnicity. Hicken et al. (2014) proposed that depression,

low income, and social stature caused abnormal stress among Black men, especially when Black men must reestablish authority in home, work, and politics.

Black men may struggle to reduce stress and deal with anxiety in healthy ways because their external stressors are beyond their control. A reduction in stress lowers cortisol, which can lead to decreased blood pressure (Mayo Clinic, 2020). Thus, reducing stress could lead to health improvements, but overcoming influences of stress is not always possible. This is especially true when there are minimal actions that can be taken to change a person's environmental surroundings (Whelton et al., 2017).

Black men experience a higher prevalence of hypertension compared to other ethnicities due to environmental anxieties (Whelton et al., 2017). Researchers assessed demographic data that suggested that people in low-income communities with fewer resources are more prone to hypertension. Anxiety generated from environmental factors, such as community violence, low income, and ethnicity, is often higher among Black people compared to other ethnicities; focus on these stress-producing areas may lead to a decrease in hypertension prevalence (Vasquez-Vera et al., 2017). According to Vasquez-Vera et al. (2017), an association exists between anxiety and hypertension generated from the threat of housing eviction. The researchers measured uncertainty of having shelter by comparing levels of stress accumulated from this social determinant among Blacks, Asians, and Latinos. Blacks were noted to face the greatest threat of not being able to provide the basic necessities to family members and others who depended on them (Vasquez-Vera et al., 2017). Jones et al. (2019) found that individuals who reside in low-income neighborhoods often have additional stress because of living conditions, inability

to provide food for the family, and lack of a safety net for their children. These factors could play a significant role in high blood pressure among Black men. According to Lopez and Moore (2019), Black men experience higher rates of hypertension due to depression. Anxiety generated from a lack of self-motivation or self-confidence can be associated with the prevalence of hypertension among Black men (Lopez & Moore, 2019).

According to Ogle et al. (2018), there may be an association between environmental-induced anxieties and hypertension among South African Blacks, White men, and mixed races due to social determinants. The researchers wanted to establish the theory that African Blacks have higher cases of developed hypertension due to social inequities, inequalities, and injustices (Ogle et al., 2018). According to Hirschfeld et al. (2016), Black men who have sex with other men experience higher rates of hypertension due to stigmatism and social pressures that may be experienced because of their sexual orientation. The researchers focused on environmental anxieties generated from men having sex with men, such as sexual orientation discrimination, health care inequities, and violence in addition to being Black (Hirschfeld et al., 2016).

Problem Statement

Black men are more likely to live with hypertension based on environmental anxieties, such as community violence and low income, in conjunction with ethnic practices compared to men of other ethnicities (Schmeer & Tarrence, 2019). Previous researchers have referenced anxiety and ethnicity as contributing factors of hypertension regardless of gender and ethnic background; however, these elements seem to affect

Black men differently (Blakemore, 2020). According to Blakemore (2020), there may be an association between risk factors, such as environmental anxieties, and hypertension that are unique to Black men, which may be responsible for increased prevalence rates of hypertension among this population.

Among Black men, environmental anxieties such as community violence, low income, and ethnicity could contribute to the prevalence of hypertension when compared to other ethnic groups (Schmeer & Tarrence, 2019). More research is needed to observe how these environmental risk factors influence hypertension among Black men to the extent that their blood pressure is higher than White men. According to Kung and Xu (2015), from 2000–2013, the age-adjusted hypertension-related death rate was 509.9 deaths per 100,000 for Black men, 296.5 deaths per 100,000 for White men, and 277.9 deaths per 100,000 for Hispanic men. The mortality rate of Black men in comparison to White men and Hispanic men is nearly two-fold, indicating an issue exists with controlling hypertension among this group.

Another factor contributing to hypertension among Black men is cultural practices based on ethnic traditions (CDC, 2020). According to Blakemore (2020), an ethnic group or ethnicity can be described as a group of people with similar values, such as language, ancestry, history, society, culture, nation, or social treatment according to where they live. Focusing on environmental-induced anxiety and traditions that formulate behaviors as a variable could help to explore determinants that contribute to the prevalence of hypertension among Black men at a higher rate than White men. Previous researchers have focused attention on behaviors that lead to the development of hypertension, such as

poor diet, risky practices like overconsumption of alcohol and tobacco usage, and lack of exercise (Jones et al., 2019). Nonetheless, little research has been conducted that was focused on environmental-induced anxiety and ethnicity among Black men (Zimbini et al., 2018). Furthermore, age, education, employment status, and marital status could contribute to the prevalence of hypertension among Black men; these factors are known hypertension predictors that could lead to anxiety (Caucutt et. al, 2019). Black men are prone to encounter disparities more often men of other ethnicities based on health determinants, inequity, and inequalities in their environments (Zimbini et al., 2018). Environmental-induced anxiety and ethnicity coupled with the reduction of educational and social incomprehension, the ability to afford desired lifestyles, and the decline of family structure may contribute to the prevalence of hypertension among Black men (Caucutt et. al, 2019)

Purpose of the Study

The purpose of this study was to determine if an association exists between environmental-induced anxieties, such as community violence, low income, and ethnicity as independent variables, and hypertension as the dependent outcome variable when controlling for age, education, employment status, and marital among Black men ages 33 to 43. This study was conducted using secondary data from the National Longitudinal Study of Adolescent to Adults Health (Add Health) 1994–2018 study (Harris & Udry, 2021). Despite numerous health promotion/education programs tailored toward reducing hypertension among Black men, there seems to be a gap in research that needs exploring to determine how environmental-induced anxieties and ethnicity are associated with the

prevalence of hypertension among Black men (Chan et al., 2016). This research may contribute information to support other studies focusing on lowering blood pressure among Black men by presenting the need to observe environmental-induced anxieties and ethnic factors unique to Black men (Busse & Miranda, 2018).

In addition to environmental-induced anxieties and ethnicity, I focused on education, employment status, and marital status to determine if these factors contribute to increased hypertension among Black men; this group is more likely to face problems with these determinants (Assari, 2019). Decreasing environmental-induced anxieties and changing ethnic traditions may be essential in lowering the prevalence of hypertension among Black men (Centers for Disease Control and Prevention [CDC], 2016). The promotion of social change to reduce environmental-induced anxiety and changing unhealthy behaviors based on ethnicity among Black men was the aim of this study in effort to reduce the prevalence of hypertension (Harris & Udry, 2021).

Research Questions and Hypotheses

This study was guided by the following four research questions and hypotheses:

RQ1: Is there an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$1: There is no association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a1: There is an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ2: Is there an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0 2$: There is no association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered.

$H_a 2$: There is an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ3: Is there an association between ethnicity and risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0 3$: There is no association between ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered.

$H_a 3$: There is an association between ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ4: Is there an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0 4$: There is no association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a4: There is an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered.

Theoretical Foundation

The theoretical foundation for this study was grounded using Fishbein and Ajzen's (1975) reasoned action theory (RAT). According to Fishbein and Ajzen (1975), RAT was created to explain behavior and expected outcomes of behavior among an observed population. This principle can be used to explore behaviors and understand why a stimulus is perceived as safe or a threat and why decisions are made based on belief (Fishbein & Ajzen 1975). Using the RAT model could assist in understanding how Black men interact with a multitude of stimuli unique to them, such as environmental-induced anxieties and ethnicity, based on perceptions or beliefs (Glanz et al., 2015). Additionally, using RAT as a theoretical framework could help display how Blacks perceive hypertension, how environmental influences increase blood pressure, and how their attitudes and behaviors contribute to the prevalence of this chronic illness (Glanz et al., 2015). Perceptions, attitudes, and adherence to health promotion and education can be controlled for to further knowledge about hypertension among Black men (Glanz et al., 2015). Table 1 illustrates the association between constructs and variables that may contribute to the prevalence of hypertension among Black men.

Table 1

Constructs of Hypertension Prevalence

Constructs	Variables
Behavior beliefs	Community violence
Normative beliefs	Low income
Attitudes	Ethnicity

Nature of the Study

This research was a quantitative study in which I used an inferential approach and a cross-sectional design to compare environmental-induced anxiety (community violence, and low income) and ethnicity (Black and White men). A cross-sectional design was used to collect survey responses using data collected from the Add Health 1994-2018 survey from Black and White men ages 33–43 who answered *yes* to having been diagnosed with hypertension. The aim of the study was to investigate other factors that support the indication that Black men are most susceptible to the prevalence of hypertension (Glanz et al., 2015). Secondary data collected from the Add Health, 1994-2018, was used to investigate the assumption that environmental-induced anxiety (community violence and low income) and ethnicity (Black and White men) influence the outcome of hypertension among Black men (Harris & Udry, 2021). A binomial logistic regression analysis was used to determine if an association exists between the independent variables, environmental-induced anxiety (community violence, and low income) and ethnicity (Black and White men) and hypertension as the dependent outcome variable using the Statistical Package for the Social Sciences (SPSS) Version 27.

Definitions

The aim of this study was to display how environmental-induced anxieties and ethnicity contribute to the prevalence of hypertension among Black men (Schmeer & Tarrence, 2019). The following terms are defined as they were associated with this study:

Age: The length of time a person has lived on earth.

Black: According to the U.S. Department of Health & Human Services (2017), *Black* is an ethnic group with total or partial ancestry from any of the Black racial groups of Africa, which includes *African American* used interchangeably. This minority group accounts for 41.4 million people living in the United States (U.S. Department of Health & Human Services, 2017).

Black men: Used interchangeably with *African American men,* individuals of African ancestry who are mainly comprised of descendants of enslaved people within the boundaries of the present United States.

Blood pressure: The force required for the heart to pump blood throughout the body through the walls of arteries (American Heart Association [AHA], 2017).

Bullying: Repeated intentional danger or embarrassment inflicted on individuals who may be incapable of protecting themselves (Psychology Today, 2020).

Community violence: A disruption in harmony among citizens of a public area by individuals who are not directly related to the municipality.

Diastolic blood pressure: Measured by observing the time the heart fills with blood and gets oxygen for the lungs (Gu et al., 2017).

Drive-by shootings: Assault on the public using a combination of vehicles and weapons to pose a threat, harm, or danger (Schmeer & Tarrence, 2019).

Education: The process of receiving or giving systematic instruction, especially at school, home, or university.

Employment status: A relationship between two parties, usually based on contract, where work is paid for, where one party, which may be a corporation, for profit, or not-for-profit organization.

Environmental-induced anxiety: Stress caused by external occurrences within a specific environment by community violence and low income (Schmeer & Tarrence, 2019).

Ethnicity: Belonging to a group based on culture or national tradition (Gill et al., 2017).

Intimate partner violence: Physical violence, sexual violence, stalking, or psychological harm exerted by a spouse or partner (CDC, 2020).

Law enforcement misconduct: Illegal or unethical actions or the violation of citizens' constitutional rights based on age, religion, race, creed, gender, color, or occupation (California Innocence Project, 2020).

Low income: When assets generated do not cover the cost of living.

Marital status: A person's state of being single, married, separated, divorced, or widowed.

Normal blood pressure: According to the AHA (2017), normal blood pressure for a healthy adult is less than 120 systolic and less than 80 diastolic.

Prehypertension: According to the AHA (2017), prehypertension occurs when blood pressure is 120-129 systolic and less than 80 diastolic.

Sexual abuse: Unwanted sexual activity, using force or without the ability to consent (American Psychological Association [APA], 2020).

Stage 1 hypertension: According to the AHA (2017), Stage 1 hypertension occurs when the blood pressure is 130-139 systolic and 80-90 diastolic.

Stage 2 hypertension: According to the AHA (2017), Stage 2 hypertension occurs when the blood pressure is 140 or higher systolic and 90 or higher diastolic.

Stage 3 hypertension: According to the AHA (2017), Stage 3 hypertension occurs when the blood pressure is 180 systolic and 120 or higher diastolic.

Systolic blood pressure: The force of pressure created within the blood vessels when blood is distributed from the heart (Gu et al., 2017).

White men: American men of European descendants who are comprised mainly of German, Irish, Scottish, and English ancestry.

Assumptions

In this study, secondary data used were assumed to have been collected in a manner that was acceptable by all research regulations. The participants were assumed to be honest and willing to share information regarding living conditions, economics, social determinants, and health status to further the causes of the research. The blood pressure readings collected during interviews were assumed to be correct based on recall from physician visits or other healthcare professionals' clinical visits. There is also an assumption that no personal biases influenced the way this study was conducted or how

answers were given during the interviews given in 1994, 1995–1996, 2001–2002, 2008, and 2016–2018. I further assume that increased education, employment status, and being married may diminish hypertension prevalence among Black men.

Scope and Delimitations

This study focused on possible factors that may contribute to the prevalence of hypertension among Black men ages 33–43. Secondary data collected from the Add Health 1994-2018 survey, were used to support this theory (Harris & Udry, 2021). These data were used to validate the possibility that Black men are more prone to live with hypertension using environmental-induced anxiety, such as community violence, low income, and ethnicity as independent variables to predict the prevalence rate of hypertension when compared to other ethnicities. To narrow the research and to validate this theory, White men were used as the referent group for current health statistics that suggest that hypertension is most prevalent among Black men ages 33 to 43. Data from the Add Health 1994-2018 survey from individuals outside this age group were excluded from the data examined in the study.

Limitations

Several limitations may have affected the validity of the findings of this study, such as relying on the entries and interpretation of data collected by the primary researchers who conducted the National Longitudinal Study of Adolescent to Adults Health. Using secondary data sets does not guarantee accurate representation of the total population of Black or White men who experience hypertension and could have omitted some of the participants for various reasons (Glanz et al., 2015). The use of secondary

data also did not allow for follow-up questions to be posed if there was skepticism concerning answers giving during the interviews.

In some cases, there could have been biases present, especially when compensation or promises could have been presented during the interviews for answers. Additionally, according to Thakur et al. (2014), many secondary data sets used in health disparity research fail to account for the occurrences of persuaded answers to interview questions that may be influenced based on compensation. To address these limitations, intense research was conducted to ensure there were minimal biases and conflicts of interest and that proper consent was obtained before the data were collected. These limitations can be researched by reading the disclosures of the study; however, the user of the secondary data is at the mercy of the data collector for validity, robustness, and trustworthiness.

Significance of the Study

The results of this study could help to identify significant variables associated with hypertension in Black men. The study results may also provide insight and could be used to decrease risk associated with hypertension, such as environmental-induced anxieties and ethnicity, to decrease the prevalence rate among Black men (Holland, 2018).

Significance to Theory

Research such as this could indicate why Black men are more prone to hypertension due to the association with environmental-induced anxiety, such as community violence, low income, and ethnicity. RAT was selected as the theoretical

framework for this study because guidance was provided through key constructs such as behavior beliefs, normative beliefs, motivation to comply, and attitudes of Black men regarding hypertension (Fishbein & Ajzen, 1975). Using these constructs could reveal predicaments unique to Black men that could influence the prevalence of high blood pressure among this group.

Significance to Practice

The results of this study could lead to the formation of strategies that eliminate determinants related to environmental-induced anxieties such as community violence, low income, and ethnicity in conjunction with age, education, employment status, and marital status that could contribute to the prevalence of hypertension among Black men; these factors are known hypertension predicators, which could lead to anxiety (Caucutt et. al, 2019). Gaining extensive knowledge in these areas can be useful in understanding instabilities among Black men that could influence blood pressure (Howard et al., 2018). A focus on ethnicity may help create an understanding of why Black men are more susceptible to living with hypertension compared to White men (Schmeer & Tarrence, 2019). This study may bring forth innovative health awareness and prevention strategies that address the association of the variables of interest, which may contribute to elevated blood pressure among Black men relating to environmental-induced anxiety and ethnicity (Harris & Udry, 2021). Decreasing environmental-induced anxiety such as community violence, and low income in conjunction with improving practices (and attitudes) associated with ethnicity may lower the prevalence of hypertension among Black men.

However, results from this study could imply the need to investigate other factors that may contribute to the prevalence of hypertension (Glanz et al., 2015).

Significance to Social Change

To reduce hypertension among Black men, social change could be implemented through the decrease of community violence, income improvements, and enhancing ethnic practices. Social change can be described as actions taken to enhance the living conditions of individuals within a target area but also can be gauged by the impact observed from surrounding constituents (Ravitch & Carl, 2016). Social change could derive from the development of programs that educate Black men on the dangers of hypertension and strategies to reduce situations that may influence the prevalence of hypertension (Glanz et al., 2015). Using education/promotion structured by theories such as RAT could aid in changing perceptions and behaviors regarding exercising, diet, and alcohol/tobacco use (Frankfort-Nachmias & Leon-Guerrero, 2018).

Hypertension is a chronic disease observed in every community regardless of ethnicity. However, the incidence and prevalence rates tend to be higher in the African American community compared to other communities (CDC, 2016). Focusing on environmental-induced anxieties and ethnicity in conjunction with education, employment status, and marital status may assist in determining why hypertension prevalence in most common among Black men (Assari, 2019).

Summary

Focusing on risks associated with hypertension is critical in reducing the prevalence rate of hypertension among Black men and requires more extensive strategies

and research to explain why this chronic disease remains highest among this population (Hines et al., 2018). Researching factors that contribute to hypertension prevalence could lead to improvements in health statutes with an interest in decreasing the number of cases among a targeted population (Sessoms et al., 2015). Lifestyle improvements and health education are two factors essential to decreasing the number of blood pressure-related injuries that occur (Whelton et al., 2017). To assist with reducing the prevalence rate of hypertension, the focus of how to prevent this health issue must be controlled for.

There is a need for more research to recognize if an association exists between environmental-induced anxiety, such as community violence, low income, and ethnicity, and hypertension among Black men, which could help low the prevalence rate (Hines et al., 2018). However, improving these factors to decrease the prevalence of hypertension is not enough; change must also be implemented among Black men (Hines et al., 2018). Physician visits, diet, exercise, medication usage, and meditation can all be used to decrease anxiety and reduce unwanted stress (Sessoms et al., 2015). The change of perspective toward traditional practices may lead to the prevalence of hypertension. This includes a willingness to change cooking habits, avoid overconsumption of alcohol, and stop smoking tobacco (Liu et al., 2017). Also, increasing levels of education, gaining employment status, and being married could decrease undesirable burdens associated with the lack thereof, such as access to better paying jobs, having a steady income, and the reduction of loneliness due to having a companion.

RAT could be used to display how changing perception, attitudes, and behaviors of Black men could decrease the prevalence rate of hypertension (Glanz et al., 2015).

RAT plays a significant role in understanding perception and behavior. This theory could be used to understand how individuals live with high blood pressure and perceive the chronic disease and their likelihood in adhering to health promotion and education tailored toward decreasing the prevalence rate (CDC, 2016).

Chapter 2: Literature Review

Introduction

The purpose of this study was to determine if there is an association between environmental-induced anxieties, such as (a) community violence, (b) low income, and (c) ethnicity, and hypertension among Black men ages 33–43. Other hypertension prevalence risk factors, such as education, employment status, and marital status, were controlled for. This quantitative study was conducted to investigate known and possible new causes for hypertension prevalence among Black men using secondary data collected from the Add Health 1994–2018 study (Harris & Udry, 2021). Despite numerous health promotion/education programs tailored toward reducing hypertension among Black men, there seems to be a gap in research regarding how environmental-induced anxieties and ethnicity could be associated with the prevalence of hypertension among this population (Chan et al., 2016). Schmeer and Tarrence (2019) found that Black men are more likely to live with hypertension based on environmental anxieties.

Literature based on RAT as a theoretical guide was reviewed to understand if the listed variables are associated with prevalence of hypertension among Black men. RAT was used to understand beliefs, attitudes, behaviors, and perceptions of risk factors, such as community violence, low income, and ethnicity, in association with hypertension among Black men. In this chapter, I describe the study's significance by identifying possible risk factors and how investigating these factors may assist in reducing the prevalence rate of hypertension among Black men.

Literature Search Strategy

Pertinent literature was collected using databases, such as PubMed, Embase, Global Health, Agricultural & Environmental Databases, CINAHL Complete, Web of Science, Scopus, National Health Interview Survey, the Add Health 1994–2018 survey, and NHANES. Keywords such as *Black men, hypertension, men, prevalence, physician relationships, patients, high blood pressure, adherence, nonadherence, evaluated blood pressure, anxiety, stress outcomes, Caucasians, Hispanics, Asians, Whites, Blacks, non-Hispanic Whites, non-Hispanic Blacks, African American, community violence, culture, tradition, ethnicity, education, employment status, marital status, age,* and *income* were used to find articles related to the study variables. Research articles and searches were filtered to only those published from 2015–2020 to ensure all relevant data was current and within the acceptable timeframe to use as a reference (Purdue University, 2020). These sources of literature were used to discovery pertinent information regarding the prevalence of hypertension observed among Black men.

Seminal research was used to provide the foundation for work previously performed regarding lifestyle, healthcare accessibility, diet, and exercise as the sources for prevalence of hypertension among Black men. I used these known factors and the success rate of lowering the prevalence of hypertension among men to establish the need for more research among this population. In this study, I sought to research factors such as environmental anxieties (community violence and low income) along with ethnicity as factors that may assist in decreasing the prevalence rate of hypertension among Black men (Holland, 2018). The keyword search produced more than 120 abstracts and full-text

peer-reviewed articles regarding: community violence and hypertension, low income and hypertension, ethnicity and hypertension, age and hypertension, gender and hypertension, levels of education and hypertension, employment status and hypertension, and marital status and hypertension.

Theoretical Foundation

This study was grounded using Fishbein and Ajzen's (1975) RAT. RAT was created to explain behavior and expected behavior outcomes among an observed population (Fishbein & Ajzen, 1975). This principle was used to explore risk factors, such as environmental anxieties (community violence, and low income) and ethnicity, which may be associated with the prevalence of hypertension among Black men. Understanding how Black men perceive hypertension could help determine what stimuli are perceived as safe or a threat and why decisions are made based on learned behavior (Fishbein & Ajzen, 1975). Incorporating the RAT model could help to understand how Black men interact with a multitude of stimuli unique to them, such as environmental-induced anxieties and ethnicity-based perceptions or beliefs (Glanz et al., 2015). Additionally, using RAT as a theoretical framework could help explain how Black men perceive hypertension, how exposure to consistent negative environmental factors influence high blood pressure, and how attitudes and behaviors contribute to the prevalence of this chronic illness (Glanz et al., 2015).

The RAT model was used as a guide to focus on possible strategies to eliminate risk factors, such as environmental anxieties and community violence and low income, to decrease the prevalence of hypertension among Black men (Glanz et al., 2015). This

model was also used in hopes improve lifestyle practices based in ethnicity, such as how food is prepared, engaging in more exercise, and reducing the consumption of alcohol and tobacco products, among Black men (Glanz et al., 2015). Changing perceptions and attitudes and adhering to health promotion and education could lower the prevalence of hypertension among Black men (Chan et al., 2017).

To change the perception of the prevalence of hypertension among Black men there may need to be an increase in health literacy; revamping of cultural practices such as cooking and exercising; using techniques to minimize stress such as meditation; and obtaining medical coverage (CDC, 2016). According to the CDC (2016), 40.3% of Black men and 39.9% of Black women live with hypertension. The life expectancy for Black men is 69.7 years, and 75.7 years for White men (CDC, 2016). The disparity in average life expectancy could result from environmental-induced anxiety and ethnicity, which could contribute to health behaviors and attitudes toward hypertension (Schoenthaler, 2015).

Following the RAT guidelines may prove essential in reducing environmental anxiety, such as community violence and low income, and factors associated with ethnicity that contribute to the prevalence of hypertension among Black people (Glanz et al., 2015). This belief was formed by observing the prevalence rate of hypertension and possible anxieties unique to Black men. According to Kung and Xu (2015), from 2000–2013, the age-adjusted hypertension-related death rate was 509.9 deaths per 100,000 for Black men, 296.5 deaths per 100,000 for White men, and 277.9 deaths per 100,000 for

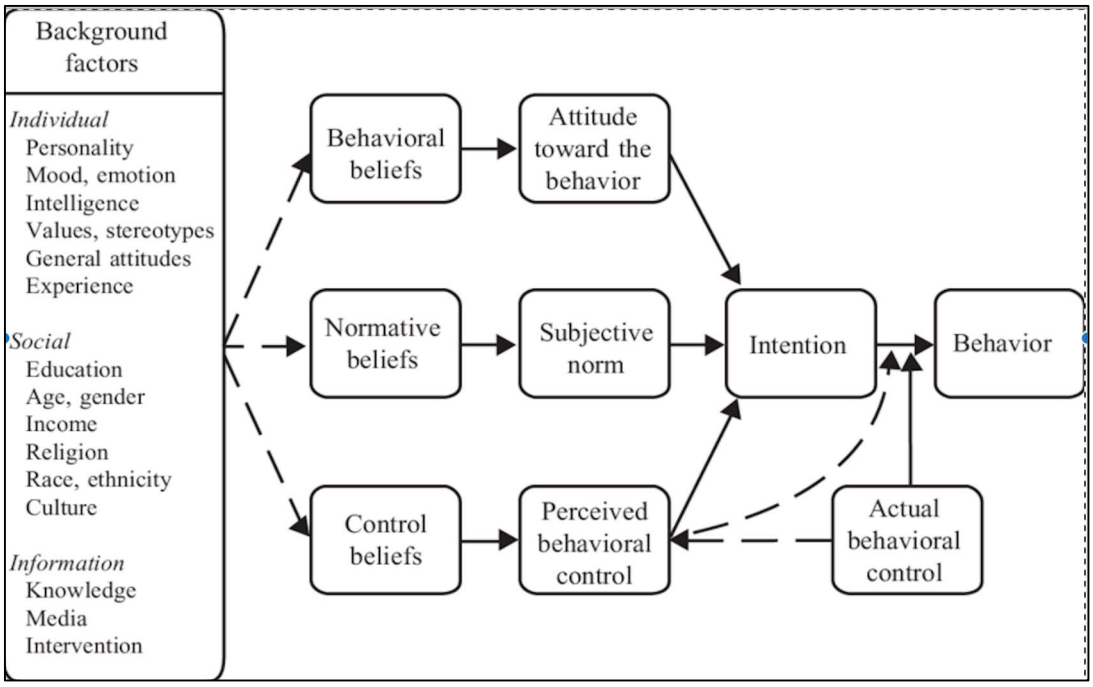
Hispanic men. Reducing environmental-induced anxiety could be critical for decreasing hypertension prevalence among Black men (Busse & Miranda, 2018).

Anxiety can contribute to hypertension; therefore, limiting stress generated from community violence and low income could decrease the prevalence of hypertension among Black men. Previous researchers have indicated that stereotyping, social injustices, inequities, and inequalities are primary sources of stress accumulation, which could be linked to hypertension. However, these discriminatory factors are not always the primary cause for the prevalence of hypertension among Blacks (Hirshfield et al., 2018).

Figure 1 displays an illustration of background factors, under the categories individual, social, and information, that may be vital to understanding the prevalence of hypertension among Black men based on behaviors, attitudes, and perceptions. Using the RAT model may give insight on how to correct behaviors, change perceptions and attitudes, and promote methods to lower the prevalence of hypertension among Black men (Sessoms et al., 2015). Also, the RAT model could help explain how and why environmental anxieties such as community violence and ethnicity contribute to the prevalence of hypertension among Black men still exist despite efforts to eliminate them (Schmeer & Tarrence, 2019).

Figure 1

Influence of Attitudes on Behavior



Additionally, using RAT as a conceptual framework could help understand how African Americans perceive hypertension, how environmental influences increase blood pressure, and how attitudes contribute to the prevalence of this chronic illness (Glanz et al., 2015). From an epistemological standpoint, perceptions, attitudes, and adherence to health promotion and education can be controlled for (Glanz et al., 2015). Table 2 displays the association between constructs and variables that may contribute to the prevalence of hypertension among Black men.

Table 2

Constructs of Hypertension Prevalence

Constructs	Variables
Behavior beliefs	Community violence
Normative beliefs	Low income
Attitudes	Ethnicity

Researchers have found other factors that may influence the lifestyles of Black men and may contribute to the prevalence of hypertension, such as education level, employment status, and marital status (Assari et al., 2019). Lack in any of these elements could promote poor lifestyles and decision making, which contribute to hypertension prevalence. Improvement in any of these areas could reduce hypertension prevalence therefore increase the health status of Black men.

I selected RAT as a framework model to understand if an association exists between environmental anxieties, such as community violence and low income, and ethnicity and the prevalence of hypertension among Black men (Shojaei et al., 2016). According to Glanz et al. (2015), RAT action plays a significant role in Black men's perceptions and behaviors. Although the model is based on the willingness of the participants to achieve, the model is also influenced by perceptions, behaviors, and attitudes toward transformation (Glanz et al., 2015). Using the RAT model could help with understanding why environmental anxieties (community violence and low income) are experienced more among this group of men and how decreasing these factors could help reduce the prevalence hypertension among Black men (Holland, 2018).

Literature Review

Hypertension Prevalence

According to the CDC (2017), individuals ages 18–39 accounted for 7.5% of overall hypertension prevalence, ages 40–59 accounted for 33.2%, and ages 60 and over accounted for 63.1%. The breakdown of hypertension according to ethnicity is as follows: 40.3% Black, 27.8% White, 25.0% Asian, and 27.8% Hispanic (CDC, 2017). Hypertension is most observed in the Black community, with 40.6 % of Black men and 39.9.% of Black women living with hypertension (AHA, 2017). To understand why Black men are at greater risk for the prevalence of hypertension, research has been focused on health risk factors, such as the lack of exercise, low literacy, lack of transportation, and poor diets (Connell et al., 2015). Focusing on these risk factors has decreased the prevalence of hypertension among Black men, but not significantly enough that this chronic disease is not a vital threat to Black men (Marsh, 2019). A gap exists in the literature regarding other health-related factors associated with the prevalence of hypertension (Connell et al., 2015).

In this study, I focused on environmental anxieties, such as community violence and low income, and ethnicity as possible risk factors for hypertension prevalence among Black men (Ha et al., 2018). Observing where hypertension was most prevalent was important to determining if demographics play a role in the prevalence of hypertension. According to Ha et al. (2018), social stigma related to health risks can lead to prevalence of hypertension because other ethnicities may not experience the same situations that could consistently influence blood pressure fluctuation. Disparities and determinants

shared within a community could be the source of consistent anxiety leading to uncontrollable blood pressures, ultimately developing into potentially untreated hypertension (Gooding et al., 2016).

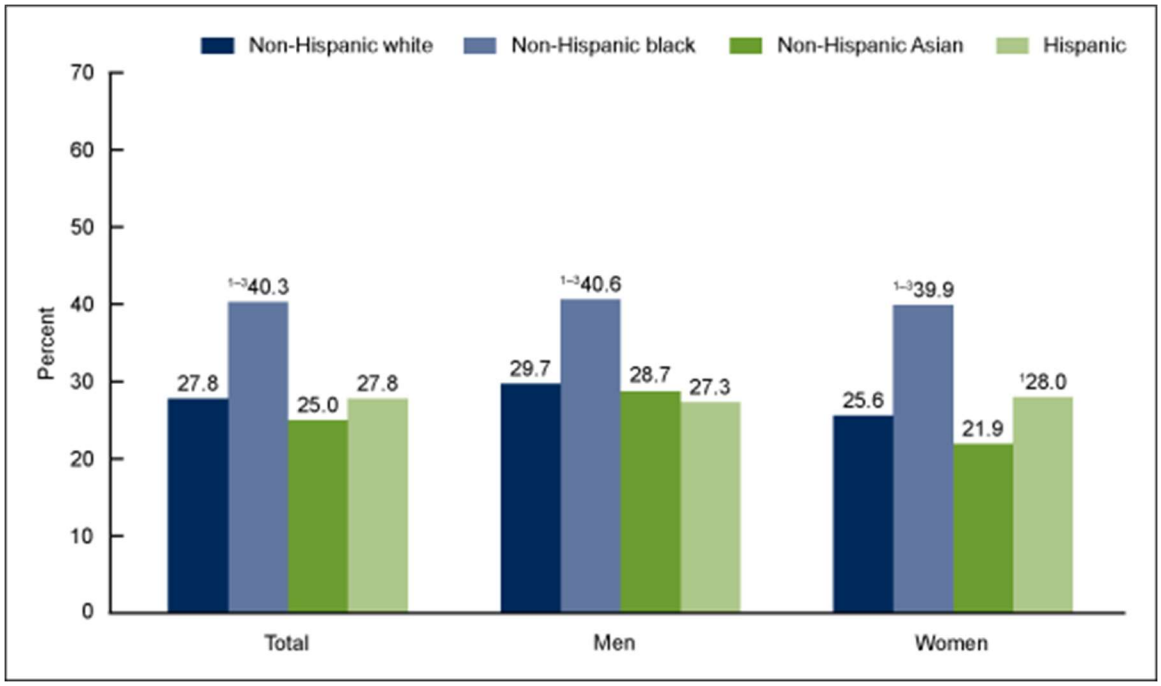
In the United States, 29% of the population were living with hypertension from 2015–2017 (CDC, 2017). Current research has been focused on innovative strategies to decrease the prevalence of hypertension among Black men, concentrating on perceptions, attitudes, and beliefs toward anxiety and how this condition influences the prevalence of hypertension. Environmental anxieties such as community violence and low income, and ethnicity were researched to determine if these risks are associated with the prevalence of hypertension among Black men. Therefore, I aimed to assess the salient beliefs, perceptions, and attitudes of Black men and behaviors that would help lower the prevalence of hypertension by reducing anxieties experienced by Black men.

Reducing risk factors and providing healthy alternative solutions related to coping with environmental anxieties could decrease the prevalence of hypertension among Black men (Peter et al., 2020). Improving practices based on ethnicity, such as food preparation, exercise, and alcohol and tobacco use, could lower hypertension prevalence among Black men (Peter et al., 2020). According to Kwagyan et al. (2015), evidence supports the belief that lifestyle modification, changes of perceptions and behaviors, and change in opinion regarding self-monitoring blood pressure could decrease the prevalence of hypertension among Black men (Mayo Clinic, 2017). To the gap in the research, environmental anxieties and how these factors may contribute to the prevalence of hypertension among Black men need to be researched for potential association. In

addition to these key variables, education, employment status, and marital status were controlled for to determine if these factors could contribute to hypertension prevalence among Black men. Figure 2 displays the age-adjusted prevalence of hypertension among adults broken down by race.

Figure 2

Age-Adjusted Prevalence of Hypertension Among U.S. Adults Aged 18 and Over, 2015–2016



Environmental-Induced Anxiety

Environmental-induced anxiety can be described as any stimuli present within a community that may increase blood pressure above the normal diagnostic range of 120 diastolic over 80 systolic (Gu et al., 2017). The influx of blood pressure over an extended period, known as hypertension prevalence, could lead to other health issues if not controlled (CDC, 2016). Anxiety produces cortisol, which results in the production of

plaque buildup in the arterial walls if the individual endures stress regularly (CDC, 2016). These hormones trigger an increase in heart rate, causing the blood vessels to constrict, making the cardiovascular system work harder to deliver oxygenated blood throughout the body (Chan et al., 2016). Research has indicated that 40% of African Americans live with hypertension or pre-hypertension conditions, and studies are being conducted to understand why Black men are at higher risk for the prevalence of hypertension than other ethnic groups (CDC, 2016).

When anxiety is experienced consistently, the fluctuation of the blood pressure causing the production of cortisol within the arteries' walls makes it challenging to deliver oxygenated blood throughout the circulatory system leading to hypertension (Mayo Clinic, 2017). Environmental-induced anxiety can derive from a host of influences specific to Black men that are unique compared to White men, such as community violence and low income (Pointer et al., 2012). Although living conditions among African Americans vary based on education, job experience, social determinants, disparities, and demographics, there is a need to understand why Black men remain more susceptible to hypertension prevalence (Vilsaint, 2019).

In this section, the depth of environmental-induced anxiety among Black men and if an association exists with the prevalence of hypertension was discussed (Gavidia, 2019). Despite research conducted in the past to identify contributing factors associated anxiety and the prevalence of hypertension among Black men, there appeared to be a lack of depth regarding factors that could explain how anxiety develops among Black men as a result of the community which they live (Chan et al., 2016). This research may

contribute to seminal and current research that have identified known factors such as poor diets, the lack of exercise, and the lack of participating in annual health checks as aiding factors to successfully reduce hypertension prevalence in Black men (Ellis et al., 2015). Conducting research to determine if there was an association between environmental-induced anxieties and ethnicity may be necessary to realize why the prevalence of hypertension is most prevalent among Black men (Busse & Miranda, 2018). The intention for conducting this study was to determine if environmental-induced anxiety such as community violence, low income,e and ethnicity were associated with the prevalence of hypertension among Black men since this population is subjected most to these factors and are more likely to live with hypertension (Whelton et al., 2017). The focus of this was to understand why environmental anxieties (community violence, low income) are experienced more among this group of men and how decreasing these factors could reduce the prevalence rate of hypertension among Black men (Holland, 2018).

Community Violence

Community violence can be defined as intentional acts of harm committed in public areas by individuals who are not intimately related or know the victim (U.S. Department of Veteran Affairs, 2019). Most acts of community violence are observed within municipal with less economic structure and policy resources, such as in low-income neighborhoods (Tully et al., 2015). Most low-income neighborhoods are comprised of 22% Blacks, 19% Hispanics, and 9% Whites in the United States of America (Kaiser Family Foundation [KFF], 2020). Previous research has proven when income is minimal violent behavior could increase supporting the assumption that

communities with less means of survival are more prone to engage in activities that are constituted as unlawful (Leguizamon, 2020).

Community violence could be one underlying reason for the rise in the prevalence of hypertension among Black men due to the accumulation of anxiety from racial profiling by law enforcement, domestic violence, and gun violence within a community (Mayo Clinic, 2017). These forms of violence can be observed in many neighborhoods; however, they are more prevalent in low-income communities (Tully et al., 2015). In these communities, acts of discrimination, lack of guidance, and the threat of dying an untimely death led to violent behaviors and are more suspectable among Black men (U.S. Department of Veteran Affairs, 2019). Previous research has pointed to smoking, alcohol consumption, drug use, poor diets, high salt intake, and genetics as the leading causes for the prevalence of hypertension among Black men; however, there was a need for more research to identify other possible causes such as environment anxieties and ethnicity which could be the root causes for the prevalence of hypertension among Black men (Schoenthaler et al., 2017). Taking a closer look at community violence could help determine why hypertension prevalence is observed more among Black men. Viewing community violence as a contributing factor could expose unique obstacles to Black men, therefore, reinforcing the need to reduce this determinate to improve health status among these men.

Domestic Violence

Domestic violence occurs when there is an intimate relationship between people, and involves verbally and or physical insults, forced actions outside of will, and threats of

harm (Mayo Clinic, 2017). Domestic violence is not restricted based on relationships, and it can be observed in heterosexual, transgender, and same-sex relationships. In most cases, children, family members, and friends are subjected to the abuse inflicted in the relationship; however, in most cases men are reported as the abuser (Lloyd, 2018). According to (NCPC, 2016), domestic violence is reported more by women than by men, however domestic violence also occurs with the woman as the aggressor in many unreported cases. Many people are affected by domestic violence, directly and indirectly, depending on the relationship between the abuser and abused (NCPC, 2016). Often, abuse occurs when the inflictor was previously exposed to some type of domestic violence themselves as children, former victims themselves, or witnessed friends participate in this destructive behavior (Mayo Clinic, 2017). This is a case of learned behavior in which the RAT could be used to illuminate why these actions happen and may aid in shedding light on the dangers and how to decrease exposure to domestic violence (Glanz et al., 2015).

Black men are more likely to experience domestic abuse than men of different ethnicities (Lloyd, 2018). According to Kerr (2019), Black men are more likely to be subjected to domestic violence from intimate partners, especially if they live in the same household. In many cases, the fear of abuse within the home leads to considerable anxiety, which could be controlled for when observing factors that may contribute to hypertension prevalence. According to Eszter et al. (2017), 30% of Black men who experienced some form of domestic violence noticed a decrease in mental stability, alluding to the assumption that anxiety may be associated with the prevalence of

hypertension among Black men. The reduction in mental stability could result in fear of being abused verbally, emotionally, or sexually as a result of not complying with the request of the abuser (Lloyd, 2018). Consistently living under these circumstances may heighten levels of anxiety, which is experienced among Black men (Valandra et al., 2019). Ultimately leading to the prevalence of hypertension, especially when treatment is not controlled for to maintain a healthier relationship based on perspectives, experiences, and socio-demographic backgrounds (Valandra et al., 2019). Reducing domestic violence could decrease anxiety eventually lowering the prevalence of hypertension among Black men.

Gun Violence

Gun violence has been an increasing issue in America since 1970 (Coates, 2013). Reports show the top causes of gun violence were related to acute paranoia, delusions, cultural violence, and the drug trade (Metzl & MacLeish, 2015). Twenty percent of all firearm homicides occur in the 25 largest United States cities (Mitchell & Bromfield, 2019). From the 12,979 gun-related homicides reported in the United States in 2015, 81% occurred among African Americans (Mitchell & Bromfield, 2019). According to Milam et al. (2016), most of these acts of violence are committed by gang activities seeking to gain respect, stature, and control of the drug trade within the African American community (Quimby et al., 2018).

Gun violence could contribute to the prevalence of hypertension among Black community men (Zha et al., 2017). Using the RAT as a model, perception and behavior change of Black men could reduce criminal activities, reducing anxiety, resulting in a

decrease in the prevalence of hypertension (Milam et al., 2016). Changing behaviors, attitudes, and awareness of gun violence associated with gang activity could reduce environmental-induced anxieties such as community violence in effort to reduce stress among Black men (Glanz et al., 2015).

Gang activity could produce anxiety from untimely deaths, loss of possessions, and the threat of incarceration, which may contribute to the prevalence of hypertension among Black men (Zha et al., 2017). Although gangs are observed in communities of all ethnicities, most crimes that are related to gang activities occur mostly in a low-income neighborhood which accounts for 22% of all Blacks according to (KFF, 2020). According to Mattingly (2017), in neighborhoods that are controlled by gang activity, citizens are discouraged from talking to the police or reporting a crime in fear of being reprimanded. Since most Black men are taught as a child to protect their possessions by all means necessary, providing protection for their household, neighborhood, and income-driven businesses are essential for maintaining a productive lifestyle (Mattingly, 2017). When protecting possessions that the public views as commodities in low-income neighborhoods, defending these sources could lead to violence of some sort, resulting in consistent anxiety, which could contribute to the prevalence of hypertension among Black men (White-William, 2013).

Although the prevalence of hypertension has been researched heavily, the literature gap that needs to be addressed is if living in a volatile environment contributes to the prevalence of hypertension among Black men (Sessom et al., 2015). Reducing gun violence could decrease anxiety eventually lowering the prevalence of hypertension

among Black men. Using alternative methods to resolve disputes that does not constitute violence could eliminate unnecessary injuries, death, and anxiety experienced in many of the communities that Black men live (Mattingly, 2017).

Low Income

In many of the predominately Black neighborhoods, the lack of income could be controlled for a factor contributing to the prevalence of hypertension among Black men (Glanz et al., 2015). One possible factor that may contribute to the increased prevalence of hypertension among Black men is income (Riniki et al., 2020). In many of these low-income neighborhoods, anxieties could be a factor that influences hypertension among Black men. A low-income neighborhood forces resident to share resources within other communities, not leaving many resources to invest in one's own community (Jenkins, 2020). Evidence has proven that minimal income within the household limits accesses to better quality foods, healthcare, and other amenities that would influence healthy behaviors (CDC, 2016).

According to Jenkins (2020), the lack of investments within Black communities is significant to why these communities fall below the minimal standards of communities with more income. In many low-income neighborhoods, anxiety may be a lead factor for the prevalence of hypertension among Black men as making ends meet for the family is a priority, and on average most are one paycheck away from eviction, car repossession, or hunger (Jenkins, 2020). Research has identified anxiety as a factor that contributes to hypertension however, anxieties that are specific to low-income neighborhoods, such as

the pressure of maintaining shelter, providing protection of the home and possessions, and to be able to afford healthcare coverage, need more coverage (Jenkins, 2020).

Many factors contribute to low income within a community, such as education levels, disabilities, illicit drug use, and gang activities (Jenkins, 2020). Within the low-income communities, resources are often spent elsewhere due to the lack of variety in commodities, overpricing, and the lack of essentials based on ethnicities (Riniki et al., 2020). According to Getzen et al. (2013), the demand increases when the supply is low, reflecting an increase in prices for necessities. In many cases, behaviors and perceptions are formed from learned conduct among Black men to allocate income to places of praise, pay bills, buy home necessities, and spend the rest of income on pleasures, respectively (Getzen et al., 2013). This type of expenditure could limit options for sustaining a healthy life, as determinants such as high crime, low-quality foods, minimum education, and low-income jobs may increase anxiety leading to the prevalence of hypertension among Black men (Riniki et al., 2020).

The acquisition of job skills could allow an upsurge in income from obtaining a better-paying profession, which could allow more resources for healthcare services to reduce anxiety, therefore, lowering the prevalence of hypertension among Black men (Peleg et al., 2017). In most cases, the threat of not being able to support family or themselves poses a place of discomfort and could lead to unlawful actions to comprise the shortage of income (Riniki et al., 2020) The consistent threat of not providing the necessity of living for oneself or family could cause uncontrollable anxiety, leading to increased blood pressure resulting in hypertension.

Ethnicity

Ethnicity can be defined as belonging to a group of individuals with similar lifestyles based on distinct racial, cultural, religious, linguistic character, and tradition (Census.gov, n.d.). Ethnicity could be controlled for a predicting factor for the prevalence of hypertension among Black men because most behaviors that influence health usually are learned according to association (Assari et al., 2018). According to Assari et al. (2018), ethnicity may contribute to hypertension prevalence among Black men based on household structures, health beliefs, and social norms. These ethnical variables could be associated with hypertension prevalence since ethnicity is typically shaped from learned from traditional and cultural practices (Vaccaro et al., n.d.). Focusing on behaviors directly associated with ethnicities, such as belief and culture, could help understand why the prevalence of hypertension is observed more among Black men (Ellis et al., 2015). Ethnicity could be observed to investigate if specific behaviors are associated with hypertension prevalence among Black men.

Factors such as not participating in annual physician visits, the lack of exercising, smoking tobacco products, alcohol consumption, and ingestion of foods that low-fiber high-fat diets could be observed to understand why hypertension prevalence is most common in Black men (CDC, 2016). These factors may be associated with Black men as leisure time may be limited due to hours worked at a job, environmental influences may impose pressure from peers producing anxiety, and the affordability of higher quality foods may not be accessible due to lower paying jobs (CDC, 2016). Previous research has noted that Black men often do not have relationships with physicians for various reasons

but mainly because of the lack of trust for healthcare providers (Tully et al., 2015). Establishing trust between healthcare professionals and Black men may be vital in adherence to medical advice, therefore lowering hypertension prevalence (Gaddis, 2019). Accepting healthcare professionals' advice could help improve ethnical practices among Black men, such as developing trust for healthcare professionals, increasing health literacy, engaging in exercise, changing how food is prepared, and engaging in annual health visits (Vilsaint et al., 2019).

Ethnicity can be an influencing factor that dictates how food is prepared, cooked, and if the foods selected are high in salt, less desirable cuts of meat containing fats, and if the meal is well-balanced could contribute to the prevalence of hypertension among Black men (Vaccaro et al., n.d.). Of these factors, salt intake may need to be examined a little closer as too much salt is often used to gain good flavor (Hutchison et al., 2014). This is a common practice among Blacks as "Soul Food" is expected to have much flavor, contributing to high salt intake (Tully et al., 2016). The practice of seasoning foods with herbs, baking foods instead of frying, and eating better cuts of meat could decrease hypertension prevalence among Blacks. However, other factors play a role in this happening, such as improving health literacy, reducing the cost of fresh foods, and providing free recipes to eat healthier to families who may struggle to provide meals for their families (Vaccaro et al., n.d.). Improving lifestyles and habits are key to improving the health regardless of ethnicity. Black men were the focus of this study due to behaviors that may be contribute to why they are most suspectable for hypertension prevalence (Vaccaro et al., n.d.). Changing behaviors and perceptions are pivotal to living healthier

and reducing hypertension prevalence as learned behaviors are passed from generation to generation (Gaddis, 2019).

Covariates

Age

Age was used as a covariate to determine if becoming an adult and gaining independence is significant to behavioral practices, which could negatively or positively impact the prevalence of hypertension among Black men (Assari et al., 2018). Since the focus of this study was on individuals 33-43 years old who participated in the Add Health 1994-2018 survey, it is assumed that each participant had reached a level of maturity to answer the survey questions without guidance (Harris & Udry, 2021). Incorporating this age group of individuals to answer survey questions allowed the researchers to consent everyone to participate in the survey without IRB approval for this group of participants (Harris & Udry, 2021). Also, by using subjects 33-43 years old for the survey, the researchers believed the answers given were more truthful and allowed a variant based on the variety of ages included in the study.

Education

Education was used as a covariate to determine if environmental-induced anxiety such as community violence, low income, and ethnicity are associated with the prevalence of hypertension when comparing Black and White men (Whelton et al., 2017). The level of education may contribute to hypertension as most jobs and basic living skills are acquired through training, hands-on experience, and mentorship. Acquiring knowledge within any discipline allows opportunities for enlistment within

that field and qualifies an individual to complete specific duties that may be assigned. Educational advancements may be vital to obtaining higher-paying jobs, fewer duties on the job, fewer hours of work, and may contribute to improved life decisions that all may reduce anxiety (CDC, 2016). The data collected by the Add Health 1994-2018 survey were used to observe if there is any significance between the two groups of men and hypertension prevalence (Harris & Udry, 2021).

Employment Status

Employment status was used as a covariate to determine if environmental-induced anxiety such as 1-) community violence; 2-) low income and 3-) ethnicity are associated with the prevalence of hypertension when comparing Black and White men (Whelton et al., 2017). Employment status may contribute to hypertension as not living a desirable lifestyle, such as paying bills, afford the necessities, and access to employee health benefits may produce stress (Ravitch & Carl, 2016). In addition, not having access to these qualities of life due to unemployment could explain why some crimes are committed, such as drug dealing, fraudulent activities, and theft, increasing anxiety from fear of being incarcerated (Howell et al., 2017). The data collected by the Add Health 1994-2018 survey were used to observe if there is any significance between the two groups of men and hypertension prevalence (Harris & Udry, 2021).

Marital Status

Marital Status was used as a covariate to determine if environmental-induced anxiety such as 1-) community violence; 2-) low income and 3-) ethnicity are associated with the prevalence of hypertension when comparing Black and White men (Whelton et

al., 2017). Marital status may contribute to hypertension as having a companion could constitute accountability when considering risky behaviors such as the amount of alcohol consumption, drug usage, and promiscuous sex (Ramezankhani et al., 2019). Most of these engagements could lead to unwanted anxiety resulting from undesirable health issues, wasteful spending of resources, and the possibility of unwanted pregnancies (Ramezankhani et al., 2019). Maintaining a monogenous relationship as a result of being married could assist with reducing the burden of engaging in these risky behaviors (Ramezankhani et al., 2019). The data collected by the Add Health 1994-2018 survey were used to observe if there is any significance between the two groups of men and hypertension prevalence (Harris & Udry, 2021).

Summary and Conclusions

In summary, hypertension has been researched among all ethnicities as a concern of overall health, however, there has been minimal research to investigate if environmental anxieties such as community violence, low income, and ethnicity are associated with the prevalence of hypertension among Black men (Schmeer & Tarrence, 2019). These factors could explain why Black men are more susceptible to the prevalence of hypertension more than other ethnicities, especially among White men. Observing these variables as risk factors could be critical to decreasing the prevalence rate of hypertension among Black men and could be essential in developing strategies to prevent future injuries (Whelton et al., 2017). According to CDC (2016), the lack of exercise, smoking, alcohol consumption, drug use, diets, high salt intake, and genetics have been associated with increased prevalence of hypertension among Black men however, the

association of environmental anxieties such as community violence, low income, and ethnicity has had minimal attention (CDC, 2016).

Black men develop hypertension more often and at earlier ages than White men, which could derive from environmental anxieties that stem from their community (CDC, 2016). According to AHA (2015), the life expectancy for a Black male is 69.7 years compared to a White male at 75.7 years, with hypertension prevalence at 40.6% and 29.7%, respectively. Statistic such as these urges the need to investigate differences in behavior, attitude, and perception regarding hypertension and what strategies can be adopted to lower the prevalence rate among Black men. The difference in life expectancy and the prevalence of hypertension could be related to community violence, low income, and ethnicity. Researching these possible contributors could decrease the prevalence of hypertension (Glanz et al., 2015).

In this chapter, the RAT was used as the theoretical framework to explain why environmental anxieties such as community violence, low income, and ethnicity should be controlled for to reveal the gap in research. Other hypertension prevalence risk factors such as education, employment status, and marital status were controlled for. In Chapter 3, I will discuss the methodology used to collect and analyze the data to address the research questions and test the hypotheses of this study.

Chapter 3: Research Method

Introduction

The purpose of this study was to determine if there is an association between environmental-induced anxieties, such as community violence and low income, and ethnicity and hypertension among Black men ages 33–43. Other hypertension prevalence risk factors, such as education, employment status, and marital status, were controlled for in this research. This quantitative study was conducted to investigate causes for hypertension prevalence among Black men using secondary data collected from the Add Health 1994-2018 survey (Harris & Udry, 2021). Despite numerous health promotion and education programs tailored toward reducing hypertension among Black men, there remains a gap in the research regarding how environmental-induced anxieties and ethnicity could be associated with the prevalence of hypertension among this population (Chan et al., 2016).

Research Design and Rationale

The Add Health 1994-2018 survey was used to monitor the health of the U.S. population by collecting data using a vast grid of questions that could help identify health topics, health disparities; health determinants; economic, psychological, and physical well-being; and data on family orientation, neighborhood and community safety, school structures, and social relationships (Harris & Udry, 2021). The use of questionnaires allowed the interviewers to collect information pertaining to daily personal conditions, which may assist with understanding health issues based on demographic and socioeconomic characteristics (Harris & Udry, 2021). Secondary data provided by Add

Health 1994-2018 were used to determine if an association exists between the independent variables, environmental-induced anxiety (community violence and low income) and ethnicity (Black and White men), and the dependent variable, hypertension. Other hypertension prevalence risk factors, such as education, employment status, and marital status were observed as well as controls. The data set and data analysis from the Add Health 1994-2018 study were used to aid in rejecting or accepting the null hypotheses in this study.

Table 3

Study Variables

Variable Type	Variable Name	Scaling
Dependent variable	Prevalence of Hypertension	Nominal
Independent variables	Community violence	Nominal
	Low income	Nominal
	Black men	Nominal
	White men	Nominal
Covariates	Gender	Nominal
	Age	Continuous
	Education	Ordinal
	Employment status	Nominal
	Marital status	Nominal

Note. Variables were obtained from the Add Health 1994-2018 data and were coded for this study.

Research Design

Quantitative research can be used to test a hypothesis by observing the association of specific variables and how these variables may be associated in influencing another variable (Creswell, 2009). In this study, I used a quantitative inferential approach with a cross-sectional design to compare environmental-induced anxiety (community violence

and low income) and ethnicity (Black and White men) to the prevalence of hypertension. A cross-sectional design was used to collect in-depth interview and survey responses from the Add Health 1994-2018 data, from Black and White men ages 33-43 who had been diagnosed with hypertension. The theoretical foundation of RAT was used to understand if environmental-induced anxiety (community violence and low income) and ethnicity (Black and White men) were associated with the prevalence of hypertension. Information was evaluated based on perceptions, behaviors, and attitudes toward the prevalence of hypertension among Black men. Black men rank highest for the prevalence of hypertension compared to people of all ethnicities. Thus, factors other than common determinants, such as lack of annual physician visits, lack of exercise, use of tobacco products, alcohol consumption, diet, and genetics, needed to be considered (Sessom et al., 2015).

In this study, I sought to expose whether environmental-induced anxiety (community violence and low income) and ethnicity were contributors to the prevalence of hypertension among Black men. To determine if the null hypotheses were accepted or rejected, I relied on the data collected from Black and White men participants ages 33–43 who participated in the Add Health 1994-2018 survey. The results from this study could provide evidence that supports the belief that hypertension and heart disease should be observed closer among Black men to discover underlying causes for this health condition that have not previously been studied.

Time and resource constraints were present only in combing through multiple journals and reports to discover an appropriate data set that correlated and defined

variables of interest for this study. Upon analyzing the data from another secondary data set, I discovered there were minimal cases of the variable community violence, which rendered that data set not suitable for this study. Other time and resource constraints were minimal for this study as the data retrieved from Add Health 1994-2018 included data from 19,828 U.S. households at different timepoints, which allow variability within the study.

In the Add Health 1994-2018 study, data were collected in five waves beginning with an in-school questionnaire administered to a nationally representative sample of students in Grades 7–12 during the 1994–95 school year at school and at home (Wave I), then continued with in-home interviews of the same participants if they could be located in 1996 (Wave II), 2001–02 (Wave III), 2008 (Wave IV), and 2016–2018 (Wave V). For this study, a cross-section of data from 2016–2018 was used to determine if an association exists between environmental-induced anxieties (community violence and low income) and ethnicity and hypertension, when age, education, employment status, and marital status were controlled for. Specifically, this secondary data analysis was used to explore potential differences in health outcomes among subpopulations with hypertension who have varying indicators for health disparities and addressed the research questions by studying a sample of that population. The population and sample data from the cross-sectional study were collected at one specific point in time, 2016–2017 (Wave V). This cross-section of the data assisted with gathering needed information within a reasonable period and helped to address the research questions.

Methodology

The Add Health 1994-2018 longitudinal study was formulated in 1994 and used as a method to track the health of participants, from childhood into adulthood, from 80 random selected urban, suburban, and rural school districts (Harris & Udry, 2021). The study coordinator contacted school administrations for study recruitment. Consent forms were delivered to the school to be sent home with every student to gain consent from parents or guardians. If parents or guardians consented to their child participating in the study, the student was given a simple questionnaire to fill out and was also interviewed at home in the presence of a parent or guardian. These questionnaires were developed to capture background information about social and economic status, demographics, level of education, occupations, self-esteem, health status, behaviors, and extracurricular activities that may contribute to participants' health. The Add Health study consisted of five groups, known as waves, in which the participants were initially interviewed and later contacted to participate in four additional follow-up surveys between 1995 and 2018.

Wave I of the survey occurred during the 1994–1995 school year; 90,000 students, ages 12–17, in Grades 7 through 12 participated. All students were eligible for the study; consent forms were mailed home based on the school's willingness to cooperate with the Add Health 1994-2018 study organizers. If there was interest in the study, an in-school interview followed by an in-home interview were conducted (Harris & Udry 2021). The interviews were conducted with the child and, preferably, the mother of the household to capture background information on topics such as health status,

access to health facilities, household income, crime within the home or community, employment, social relationships, and substance abuse (Harris & Udry, 2021). According to Harris and Udry 2021, most households consisted of a mother or mother figure within the home. The presence of a guardian allowed more accessible data collection by meeting the requirements of having an adult present for students in Grades 7–12.

Wave II occurred from April to August 1996 and participants were surveyed at their current residence. A decrease in the participants for Wave II was expected because the first wave had involved 12th graders who were likely to relocate after high school. Wave II consisted of a brief study in which information was collected on sun exposure and more detailed questions about weight and height to establish an association with the background information in Wave I. There were over 15,000 participants ages 13 to 18 involved in Wave II, which was a 22% decrease in participants from Wave I.

From August 2001 to April 2002, the Add Health researchers conducted Wave III of the study, which tracked and surveyed participants from Wave I. Wave III data were collected through in-home interviews with 15,170 of the participants who participated in Wave I (now 18 to 26 years old) and included significant others in the survey. In Wave III of the study, information such as family history, religion, mental and physical health, job history, highest education level achieved, health insurance, parental status, substance abuse, involvement with crime, gambling, and sexual experiences. The demographic data collected in Wave III allowed the investigators to compare any changes in lifestyles and behaviors associated with improvements or declinations of health statuses leading to

chronic diseases, incarceration, and deaths of individuals who participated in Wave I of the study.

In 2008 and 2009, the Add Health team conducted Wave IV data collection; original Wave I respondents were 24 to 32 years old. Again social, economic, psychological, and health status of respondents was collected to ascertain if there were any changes in lifestyles and behaviors that may be associated with improvements or declinations of health statuses that may contribute to chronic diseases, incarceration, and deaths of individuals who participated in Wave I of the study. However, in Wave IV, the survey questions were expanded to include educational achievements, residential improvements, income, and anxieties associated with safety, sleep patterns, diets, disease, prescribed medications, physical activities, emotional content, and social/romantic relationships. In addition to these variables, the current and past status of involvement with the criminal justice system, military service, job history, and parenthood were collected. Lastly, each participant was encouraged to compile information regarding their weight, height, waist circumference, blood pressures, glucose, and lipid levels. This additional data would be later compared to the information collected in Wave I to denote substantial and abnormal changes in the expected health outcomes based on the results in the initial interviews.

Wave V data were collected from 2016 to 2018, when the original Wave I respondents were 33 to 43 years old. Once more, the social, economic, psychological, and health information of respondents was collected to ascertain if there were any changes in lifestyles and behaviors that may be associated with improvements or declinations of

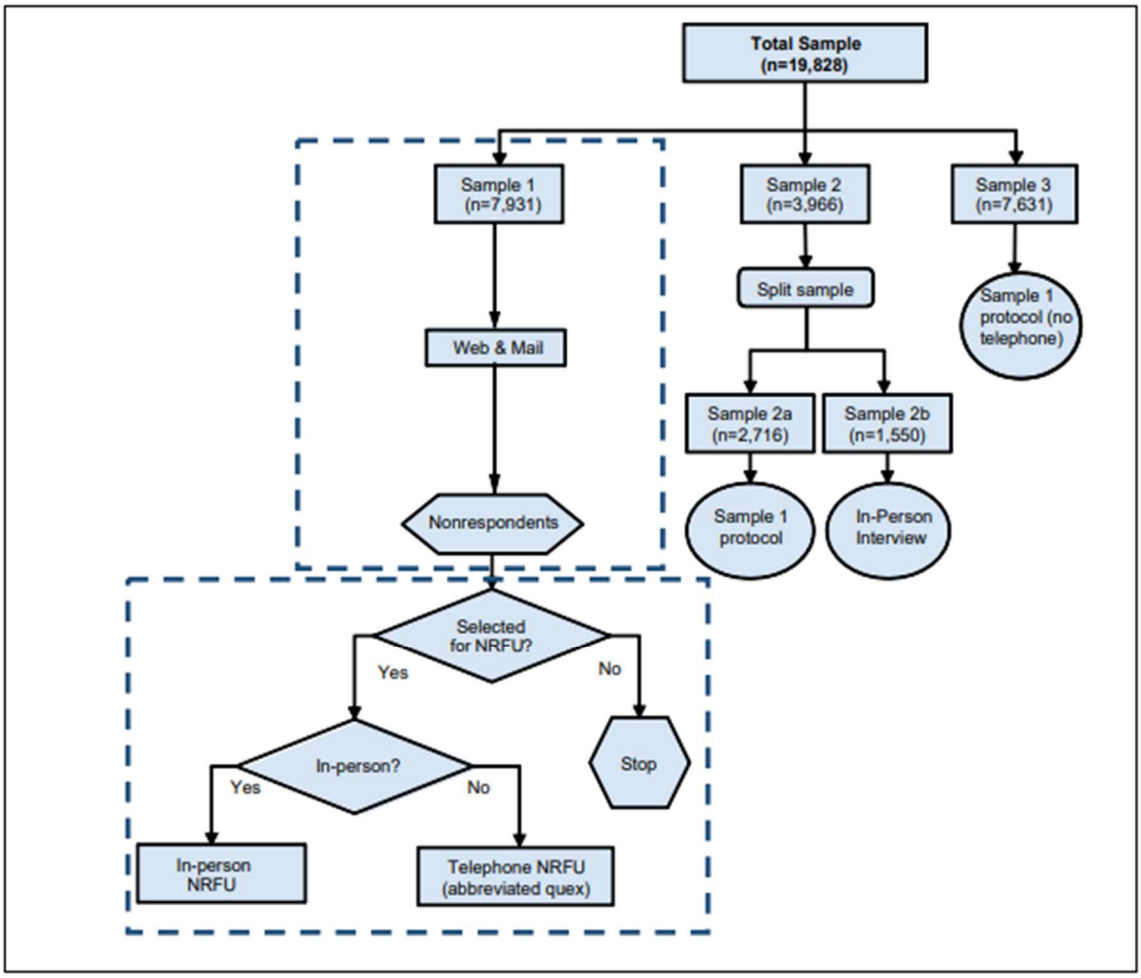
health statuses that may contribute to chronic diseases, incarceration, and deaths of individuals who participated in Wave I of the study.

Population

The Add Health 1994-2018 survey target population was initially 12-17 years of age, attending elementary and high school, and living in households in the United States. These students were contacted four additional times over 24 years to learn about changes in health, social and economic status, involvement with the judicial system, and family status. Using a cross-sectional design, data collected from (2016-2017) of Wave V, which occurred during the fiscal years 2016-2018, were used for this study. Based on a power analysis using G* Power, a sample size calculation of 137 was needed to perform a binomial logistic regression analysis. Men who were 33-43 years old from the civilian, noninstitutionalized population residing in the United States during the Wave V interview, from January 1, 2016 to December 31, 2018, were used for this study (Harris & Udry, 2021). Participants excluded from the survey were persons in long-term care institutions, prisons, and U.S. nationals living in foreign countries (Harris & Udry, 2021).

Figure 3

National Longitudinal Study of Adolescent to Adult Health, 1994-2018, Structure of Waves I-V



Sampling and Sampling Procedures

To obtain household samples for the Add Health Wave V conducted in 2016-2018, Add Health Wave I respondents was contacted if the information on file was still valid, yielding a pool of 19,828 people. The respondents were then divided into three random sample groups known as Sample 1, which consisted of n = 7,931, Sample 2 consisted of n = 3,966, and Sample 3 consisted of n = 7,631 (Harris & Udry, 2021).

Assigning samples to either of these groups was achieved by starting at the top of a concatenated participant list and labeling each participant with a 1, 2, 3, then 1,3 at the end of the participant identification number until the end of the list was reached (Harris & Udry, 2021). The assignment of participants to a group resulted in Sample 1 having 40%, Sample 2 having 20%, and Sample 3 having 40% of the 19,828 participants. Sample 2 had fewer assigned participants as the number two was assigned to a participant identification number every other round of sample grouping.

Participants from Sample 1 were asked to complete either a web-based or paper questionnaire and send it back via email or mail service to recruiters. After several months, recruits who had not returned an electronic or mail survey were grouped as Non-Responders Form Unit (NRFU) (Harris & Udry, 2021). During the NRFU phase of the study 50% web and 50% of the mail non-responders of each group were randomly selected and were contacted again by telephone and mail to participate in the research and if the recruiter succeeded with recruitment, an option to be interviewed in-person or via the phone was given (Harris & Udry, 2021). For individuals who preferred the telephone method, a 5–10-minute interview begins immediately or when it was convenient for the participant. For individuals who agreed to the in-person questionnaire, a time and date were scheduled. The interview was conducted with the complete web questionnaire on a laptop provided by the interviewer at their homes (Harris & Udry, 2021).

Participants for Sample 2 (n = 3,966) were randomly split into two subgroups and named 2a and 2b in which the methods for collecting data differed. Participants for Sample 2a (n = 2,716) followed the same protocol as Sample 1. All respondents were

asked to complete a web-based or paper questionnaire and send it back via email or mail service to recruiters (Harris & Udry, 2021). Recruits who had not returned an electronic or mail survey after several months were grouped as non-responders. A random sampling of approximately 50% of the web and 50% of mail non-respondents was conducted and these participants. During the NRFU phase of the study, non-responders were contacted again by telephone and mail to participate in the research. If the recruiter succeeded with recruitment, an option to be interviewed in person or via the phone was given (Harris & Udry, 2021). For individuals who preferred the telephone method for questioning, a 5–10-minute interview began immediately or was convenient for the participant. For individuals who agreed to the in-person questionnaire, a time and date were scheduled. The interview was conducted with the entire web questionnaire on a laptop provided by the interviewer at their homes. Participants for Sample 2b (1,550) differed from Sample 2a as they were contacted and only asked to complete a computer-assisted personal interview (CAPI) with a field recruiter to capture answers for sensitive questions. Sample 2b participants did not follow the NRFU phase of the study of the Sample 1 protocol (Harris & Udry, 2021).

Participants for Sample 3 (7,631) were asked to complete either a web-based or paper questionnaire and send it back via email or mail to recruiters like Sample 1 participants. After several months, recruits who had not returned an electronic or mail survey were grouped as non-responders (Harris & Udry, 2021). A random sampling of approximately 50% of the web and 50% of mail non-respondents was conducted, and these participants were entered into the Non-Response Follow-Up (NRFU) phase. During

the NRFU phase of the study, non-responders were contacted again by telephone and mail to participate in the research and if the recruiter succeeded with recruitment and asked to be interviewed in-person only (Harris & Udry, 2021). For individuals who agreed to take the in-person questionnaire, a time and date were scheduled. The interview was conducted with the entire web questionnaire on a laptop provided by the interviewer at their homes. The option to be interviewed via telephone was removed, and only the Computer-Assisted Personal Interviews (CAPI) was used to allow variations within the data collected during the CAPI questionnaire (Harris & Udry, 2021).

Strengths and Weaknesses

A major strength of using surveys is the ability to sample at a vast pace which could help categorize health characteristics based on demographic and socioeconomic in a short period (CDC, 2017). Since data from the Add Health 1994-2018 study, was collected initially during the 1994-1995 school year for Wave I, then followed up with surveys in 1996 for Wave II, 2001-2002 for Wave III, 2008-2009 for Wave IV, and 2016-2018 for Wave V, the researchers were able to access changes in behaviors, household dynamics, health status, employment status, social relationships, and involvement with crime. Another strength of using questionnaire surveys as the sampling method is the availability of samples and inexpensive standardized manner of data collection in which web, mail, and telephone interviews were used with minimal face-to-face interviews unless it was at the discretion of the study coordinators.

One weakness of using this questionnaire sampling method was that duplication might be challenging to determine because the sampling relied on all participants being

grouped randomly based on coding the patient identification number with 1, 2, 3, then 1,3 until the end of the list was reached (Harris & Udry, 2021). If there was an error with the labeling scheme, a sample could have been incorrectly grouped, causing the group to have fewer participants than intended. Another weakness for sampling the targeted community in this manner is based on the availability of the respondents as work hours varied among the participants and may have posed a challenge with collecting data. Lastly, all data was self-reported, so the incorrect data may have been entered intentionally and unintentionally.

Sampling Frame

The Add Health 1994-2018 survey created five groups known as Waves in with Wave I of survey occurring in the 1994-1995 school year including 90,000 students grades 7 through 12 in the study. All students were eligible for the study as consent forms were mailed home based on the adolescent's school and the school's willingness to cooperate with the organizers of the Add Health study. Participants who responded to the information provided on the consent form were contacted and enrolled in the Add Health Study 1994-2018 (Harris & Udry, 2021). During each interview, household information such as family health status, access to health facilities, income, subjection to crime within the home or community, employment, social relationships, and substance abuse were collected (Harris & Udry, 2021).

The Add Health 1994-2018 dataset was used to sample Black and White men participants to determine if there is an association between environmental-induced anxiety that stems from community violence and low income, in addition to ethnicity

factors and the prevalence of hypertension among Black men (Assari et al., 2018). Using these data inputs, a cross-sectional study design was used to address these research questions (Assari et al., 2018).

Data generated from Add Health 1994-2018 are public records. Accessibility to the data files is granted to a person who may need to use the secondary data for research purposes. Public use allows researchers to use these data points without permission but requires acknowledgment of data use. The cross-sectional study design was used to gather information from adult samples that participated during the Wave V 2016-2018 year of the Add Health 1994-2018 study, which may support the belief that environmental-induced anxiety that stems from community violence and low income, in addition to ethnic factors contribute to the prevalence of hypertension among Black men (Assari et al., 2018).

Inclusion and Exclusion Criteria

The Add health 1994-2018 study participants were selected based on these inclusion and exclusion criteria set for this study, such as age, gender, ethnicity, education, employment status, marital status, income, health status, and English comprehension. All participants were expected to comprehend English and answer survey questions to the best of their ability without needing a liaison. A brief demographic questionnaire was covered with the participant to see if they had ever been diagnosed with hypertension, and their age, gender, education, employment, ethnicity, health status, relationship status, involvement with crime, and income level.

Inclusion Criteria. Participants who met the inclusion criteria were expected to comprehend English, were Black or White men between the ages of 33-43 years and diagnosed with hypertension or high BP. Other information that contributed to the inclusion criteria for the study included survey data collected in 2016-2017 from the Wave V (2016-2018) survey.

Exclusion Criteria. The exclusion criteria for these samples included were not Black or White men, were women, were not between the age of 33-43 years, data collected during 2018, or resided outside the United States.

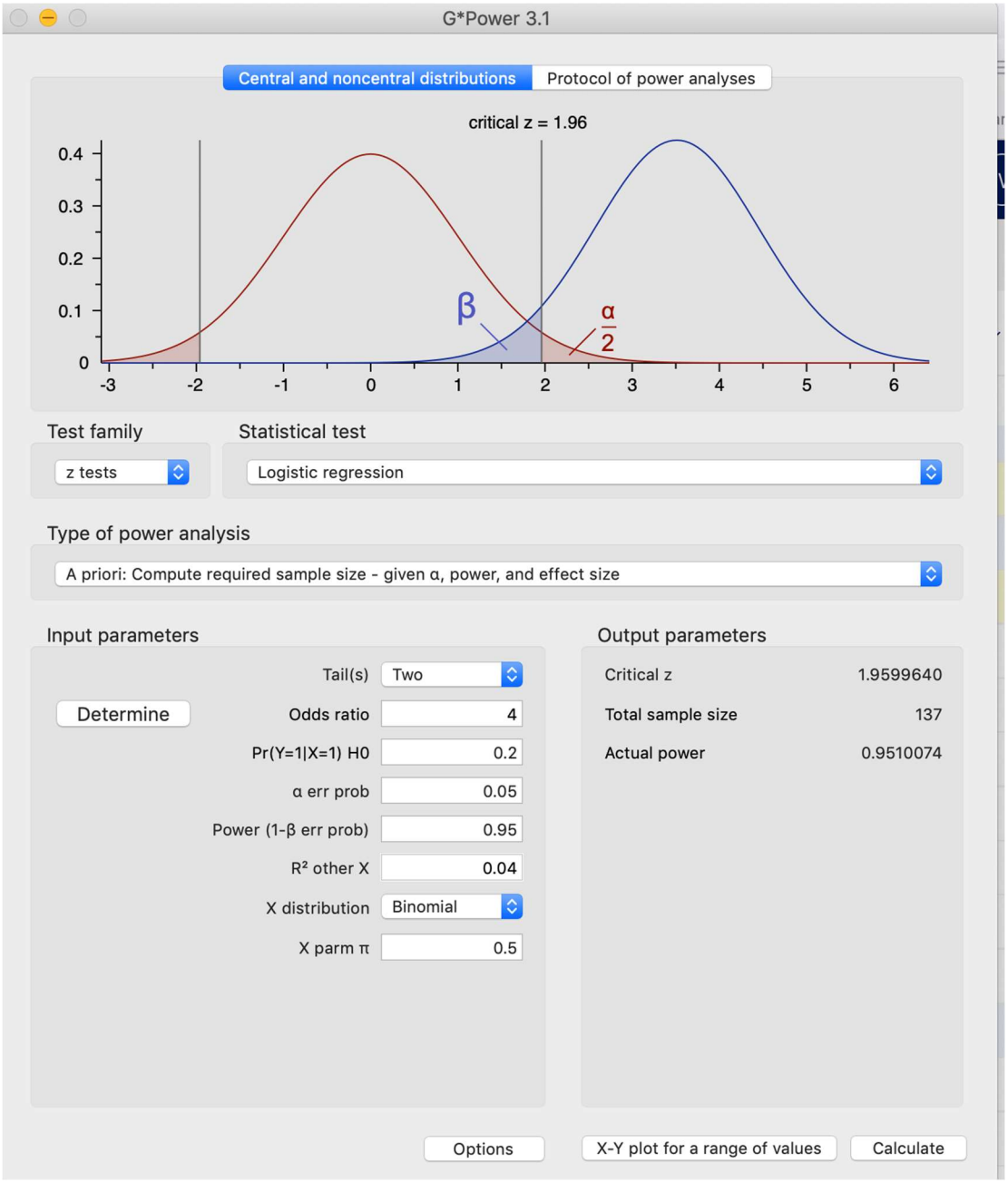
Power Analysis

To calculate an appropriate sample size, three elements were controlled for: effect size, alpha level, and the desired power for the statistical analysis. Using a binomial logistic regression design, independent variables were coded as follows: Environmental-Induced Anxiety (Community violence = 1, Low income = 2), Ethnicity (Black me 0, White me 1), the dependent variable Hypertension (Yes = 1, No = 0). Age, education, employment status, and marital status were coded as follows: (Age = 1), (No High School Diploma = 1), (Not Employed = 1), and (Not Married = 1). To determine the power analysis, G*Power Version 3.1.9.7 was utilized at a 95% confidence level and a 5% margin of error. Using the statistical calculation from G*power, the sample size needed for this study is 137 participants (G*Power 3.1.9.7, 2021). The study conducted by Add Health 1994-2018 consisted of a total population of 90,000 participants in which 19,828 met the criterium to be added to Wave V of the Add Health 1994-2018 study. However, only 4,615 participants from Wave V were included for public use, as the

remaining data was restricted. Using the statistical calculation from G*power, the sample size needed for this study is 137 participants based on a 95% confidence level, 0.20 effect size, and a 5% margin of error (G*Power 3.1.9.7, 2021). To draw the 137 samples needed to conduct the cross-sectional design, data collected in 2016-2017 of Wave V (n = 3,335) was controlled for the analysis in SPSS. Next, the 3,335 samples were used to select participants who have experienced Community Violence = 1, Low income = 2, are Black = 1 or White = 0, Male = 1, No High School Diploma = 1, Not Employed = 1, Not Married = 1, and have hypertension. This extraction was accomplished after recoding the variables in the questionnaire to coincide with the variable listing of this study.

Figure 4

Sample Size



Source: G*Power 3.1.9.7, 2021

To sample 137 men from Add Health 1994-2018, the dataset was downloaded in SPSS and a cross sectional analysis was performed to gather data from participates that had experienced anxiety, been exposed to violence, had a household income of less $14,999, were Black or White men, and had hypertension. To complete the power analysis for this study using G*Power version 3.1.9.7., an effect size of 0.20 was used for the required sample size (Trusiak, 2017). An alpha level of 0.05, an R2 = 0.04, and a total sample size of 137, the power analysis equated to 0.95 with a critical F-value of 1.96 (G*Power 3.1.9.7, 2021). A statistical output of 0.95 indicates there is a strong likelihood an effect was detected, reducing the probability of making a Type II error.

When using SPSS v.27, the relationships of the variables can be determined by viewing the p-value for significant, R-value, and measuring the effect size of the data which measures the associations between the observed group and referent group(s) (Laureate Education, 2016g). Because r covers the whole range of relationship strengths, from no relationship whatsoever (zero) to a perfect relationship (1, or -1), it tells us exactly how large the relationship is between the variables we have studied and is independent of how many people were tested. Kelley and Preacher (2012), defined effect size as a quantitative reflection to address a question of interest related to a study. Binomial logistic regression was used to generate output variations of the independent variables, which predicted variation in the dependent bivariate independent variable (Sage, 2010). When interpreting data, we should know the effect size is measured by d = 0.20 weak differential between the means of two groups, d = 0.50 medium differential

between the means of two groups, and d = 0.80 strong differentials between the means of two groups (Sage, 2010).

While the alpha levels can range from 0 to +1, the default alpha level in social science research is .05, indicating that researchers are willing to accept that the statistical analysis results were by chance 5% of the time (Sage, 2010). Alpha levels are set lower in more rigorous statistical analyses, such as those in medicine. The probability of failing to reject the null hypothesis when it is false is beta (Das et al., 2016). Power is the probability of rejecting a false null hypothesis and is estimated as 1.00 –β (Das et al., 2016). The following input parameters was used for this study: statistical test = binary logistic regression to include participants that answered "Yes" to having hypertension; a p-value of 0.05; power = 0.20.

Procedures for Recruitment, Participation, and Data Collection

The Add Health 1994-2018 survey provides information from adolescents into adulthood to observe changes in health based on social and environmental changes (Harris & Udry, 2021).

This data was chosen to accept or reject the null hypothesis that indicated there may be an association between environmental-induced anxiety (community violence and low income) and ethnicity (Black and White men) and the prevalence of hypertension. Since the survey answers were self-reported, the data is only as reliable as the participants' trustworthiness but otherwise is non-biased (Harris & Udry, 2021). To increase response rates measures such as conducting in-person interviews, scheduling, and sending reminders regarding interview dates and times via email, mail, and

telephone, and adequately training interviewers to conduct the surveys to do interviews as short as possible were used. The data collected from the Add Health 1994-2018 study is archived and available for public use, which does not require special permission unless restricted data is requested (Harris & Udry, 2021).

Instrumentation and Operationalization of Constructs

Instrumentation refers to the tools or means by which the investigators attempt to measure variables or items of interest in the data-collection process to credit or discredit the null hypothesis (Kelley & Preacher, 2012). To collect data for the Add Health 1994-2018 study, web surveys, mail surveys, telephone interviews, and face-to-face interviews using CAPI were used to interview the 19,828 participants.

Previous research has proven that anxiety can be linked to hypertension and Black men have a higher prevalence of hypertension in the United States (Glanz et al., 2015). Since this is a known factor, observing the underlying causes of anxiety is warranted to understand if Black men are subjected to unhealthier stimuli than other ethnicities, leading to a higher prevalence of hypertension. Using the data from Add Health 1994-2018, there may be a detection if there is an association between the independent variables environmental-induced anxiety (community violence and low income) and ethnicity and the dependent variable, prevalence of hypertension among Black men (Assari et al., 2018).

Since the dataset is secondary, the time taken to perform data analysis was minimal. This version of data is available to the public free of charge, with restrictions on the versions that contain de-identified participant information. In addition to making data

open to the public free of charge, Add Health 1994-2018 allows data accessibility through secured data hubs such as The Odum Institute at UNC, The Inter-university Consortium for Political and Social Research (ICPSR), The Association of Religion Data Archives, an Ancillary Study collaboration in which data is stored under multiple levels of cybersecurity software (ICPSR, 2021). To access public-use data, researchers must first create a MyData account. MyData is used to register potential researchers and gain insight into public usage of the data. Registration and authentication for the ICPSR and DSDR websites are required to access the data. Once registration is completed using an email address and password, researchers can access all public-use data within the databases (ICPSR, 2021).

The Add Health 1994-2018 dataset was retrieved from the ICPSR's data hub for this study. As an international consortium for more than 750 academic institutions and research organizations, ICPSR maintains a data archive of more than 250,000 files of research in the social and behavioral sciences that have been safely stored and accessed by multiple continents (ICPSR, 2021). This database has been validated as a secured instrument for data storage. The moderators have used numerous security methods to ensure data safety, such as allowing access to restricted-use data only when potential identifying information is removed from the dataset. Another security method is that access is granted through controlled conditions to ensure data is released to individuals who would like to use the information for the sole purpose of research (ICPSR, 2021).

To ensure data provided by Add Health 1994-2018 is reliable and valid, several tests are performed for accuracy and robustness. The Add Health research team has

undertaken several measures to ensure the data provided for reporting and secondary usage is of quality, reliability, accuracy, and consistency. To achieve these standards, researchers gathered samples nationally from adolescents and adults from 80 urban, suburban, and rural school districts (Harris & Udry 2021. To perform quality control on some of the answers given by the participants, some of them were measured for weight and height by the interviewer to later compare against the answers given during the interview. Another method to test the validity of the data collecting instrument was to compare answers given during the surveys against other validated studies based on demographics to ensure the answers given followed the same pattern (Harris & Udry 2021). Next, the development of the Add Health 1994-2018 survey was guided by peer-reviewed, empirical studies to ensure and also were generated by partner agencies and revised based on the findings during the pilot study in 1994 (Harris & Udry, 2021). Therefore, the results generated from using the Add Health data may assist with creating interventions in urban communities and school districts across the United States to improve the population's overall health.

Using survey answers given during the questionnaires from Add Health 1994-2018, the values from this study were consolidated and analyzed the data to determine if Environmental Anxiety (community violence and low income) and ethnicity contribute to hypertension among Black men (Harris & Udry, 2021).

Dependent Variable

Hypertension is the dependent (outcome) variable (DV) in this proposed study. Hypertension was treated as a nominal dichotomous variable and was coded as (Yes = 1,

No = 0). Hypertension is described as a medical condition that occurs when there is a long-term force of the blood against the walls of the arteries causing health problems such as heart disease, heart strokes, sexual dysfunction, and loss of vision (Mayo Clinic, 2020). According to CDC (2017), the criteria for blood pressures are normal blood pressure for a healthy adult is less than 120 and less than 80 diastolic, prehypertension at 120-129 systolic and less than 80 diastolic, stage 1 hypertension at 130-139 systolic and 80-90 diastolic, stage 2 hypertension at 140 or higher systolic and 90 or higher diastolic, and stage 3 hypertension at 180 systolic and 120 or higher diastolic.

The significance of hypertension prevalence among Black men was determined by using data collected from the Add Health 1994-2018 study which included questions concerning health statuses and diagnosed chronic illnesses (Harris & Udry, 2021). During the analyses, the dependent variable, hypertension, was treated as a dichotomous variable. To retrieve data for this study researchers asked each eligible participant if they had been diagnosed with hypertension by a health care professional. Participants answering "Yes" of "No" to having high blood pressure or hypertension as a chronic disease or health condition was incorporated in the study. To analyze and interpret the statistical data generated by SPSS, the answers for the hypertension variable H5ID6C was used Yes =1 and No = 0 as coded in the questionnaire.

Independent Variables

One of the primary independent variables in this study is Environmental-Induced Anxiety. The component conditions of this independent variable (Community violence = 1 and Low income = 2) were treated as nominal variables based on the self-reported

survey. The third independent variable, Ethnicity (Black men = 1) and (White men = 0), was treated as a nominal dichotomous variable. Other independent variables such as age were not coded as all participants from Wave V were between 33-43 years old and treated as a nominal variable. Lastly, gender (Male = 1) was treated as a nominal variable.

Environmental-Induced Anxiety

Environmental-Induced Anxiety can be described as stimuli present within a community that leads to overwhelming nervousness such as community violence and low income (CDC, 2017).

Community Violence

Community violence is a disruption in harmony among citizens that could lead to bodily harm. Participants who supplied answers that indicated they had experienced community violence through physical or gun violence by indicating if "Someone slapped, hit, choked, or kicked you" or if "Someone pulled a knife or gun on you" was used in this study. To analyze and interpret the statistical data generated by SPSS, the answers given for Community Violence variables H5CJ2C for physical violence were recoded from 1 to 1, and H5TR21for knife or gun violence was recoded from 2-7 to 1. Next, both recoded variables were combined into one variable using the transform compute option in SPSS to form the variable Community Violence.

The researcher asked each eligible participant about their community violence to collect data that may be pertinent to present and future studies that suggest community violence may contribute to a change in health status.

Low Income

Having a low income is when assets generated at a period do not cover the cost of living. Participants who provide answers that indicate they have Low Income earning less than $14,499 a year was used in this study. To analyze and interpret the statistical data generated by SPSS, the answers for the Low income variable H5EC1 was recoded from 1, 2, 3 to 1.

The researcher asked each eligible participant about their income to collect data that may be pertinent to present and future studies that suggest income may contribute to a change in health status.

Ethnicity

Ethnicity can be described as is belonging to a group based on culture or national tradition (Gill et al., 2017). Participants who provided answers that indicated their Ethnicity was Black or White were used in this study. To analyze and interpret the statistical data generated by SPSS, the responses for the Ethnicity variables H5OD4A single-race White were recoded from “marked” to 0, and H5OD4B for single-race Black was recoded from “marked” to 1. Next, both recoded variables were combined into one variable using the transform compute option in SPSS to form the variable Ethnicity.

The researcher asked each eligible participant about their ethnicity to collect data that may be pertinent to present and future studies that may suggest ethnicity may contribute to a change in health status.

Covariates

Age

The ages of the participates were determined during the Wave V interview and ranged from 33-43 years of age. Since all participants were within the same age criteria recoding was not needed for this covariate.

The researcher asked each eligible participant their age to collect data that may be pertinent to present and future studies that suggest that age may contribute to a change in health status.

Gender

The gender of participates was determined from answers given on the questionnaires, which was self-reported coded as female or male. Participants who identified themselves as being a male was used in this study. To analyze and interpret the statistical data generated by SPSS, answers for the Gender variable H5OD2A used 1 for males as coded in the questionnaire.

The researcher asked each eligible participant about their gender to collect data that may be pertinent to present and future studies that suggest gender may contribute to a change in health status.

Education

Education was used as a covariate to determine if environmental-induced anxiety such as 1-) community violence; 2-) low income and 3-) ethnicity are associated with the prevalence of hypertension when comparing Black and White men (Whelton et al., 2017). The data collected by the Add Health 1994-2018, was used to observe if there is

any significance between the two groups of men and hypertension prevalence (Harris & Udry, 2021).

The researcher asked each eligible participant about their education status to collect data that may be pertinent to present and future studies that suggest education status may contribute to a change in health status.

Employment Status

Employment status was used as a covariate to determine if environmental-induced anxiety such as 1-) community violence; 2-) low income and 3-) ethnicity are associated with the prevalence of hypertension when comparing Black and White men (Whelton et al., 2017). The data collected by the Add Health 1994-2018, was used to observe if there is any significance between the two groups of men and hypertension prevalence (Harris & Udry, 2021).

The researcher asked each eligible participant about their employment status to collect data that may be pertinent to present and future studies that suggest employment status may contribute to a change in health status.

Marital Status

Marital Status was used as a covariate to determine if environmental-induced anxiety such as 1-) community violence; 2-) low income and 3-) ethnicity are associated with the prevalence of hypertension when comparing Black and White men (Whelton et al., 2017). The data collected by the Add Health 1994-2018, was used to observe if there is any significance between the two groups of men and hypertension prevalence (Harris & Udry, 2021).

The researcher asked each eligible participant about their marital status to collect data that may be pertinent to present and future studies that suggest marital status may contribute to a change in health status.

Table 4

Questions Assigned to Variables and Measurements

Variable	Question	Responses	Number/Code	Data type
Hypertension Dependent variable	Has a doctor, nurse, or other health care provider ever told you have or had blood pressure or hypertension [female: When you were not pregnant?]	0 = No 1 = Yes	H5ID6C	Dichotomous
Community violence Independent variable	In the last year if this relationship, how often did your partner push or shove you, or throw something at you that could hurt?	1 = Never; 2 = Did not happen in the last year; 3 = Once; 4 = Twice; 5 = Three to five times; 6 = Six to 10 times; 7 = 11 times and more	H5TR21	Nominal
Income Independent variable	Household income	01 = Less than $5,000; 02 = $5,000 to $9,499; 03 = $10,000 to $14,999; 04 = $15,000 to $19,999; 05 = $20,000 to $24,999; 06 = $25,000 to $29,999; 07 = $30,000 to $39,999; 08 = $40,000 to $49,999; 09 = $50,000 to $74,499; 10 = $75,000 to $99,999; 11 = $100,000 to $149,999; 12 = $150,000 to $199,999; 13 = $200,000 or More	H5EC1	Ordinal
Ethnicity Independent variable	What is your race or ethnic origin? White	01 = not marked 02 = marked	H5OD4A	Nominal
Ethnicity Independent variable	What is your race or ethnic origin? Black	01 = not marked 02 = marked	H5OD4B	Nominal
Gender Covariate variable	What sex were you assigned at birth, on your birth certificate?	1 = male 2 = female	H5OD2A	Nominal
Employment status Covariate variable	Are you currently working for pay?	1 = Yes 2 = No, but have worked for pay in the past 3 = No, have never worked for pay	H5LM5	Nominal
Education level Covariate variable	What is the highest level of education that you have achieved to date?	2 = Some high school or lower; 3 = High school diploma; 4 = GED; 5 = Some vocational/technical training; 6 = Some community college; 7 = Completed vocational/technical training; 8 = Associate degree; 9 = Some college; 10 = Bachelor's degree; 11 = Some graduate school; 12 = Master's degree; 13 = Beyond a master's degree; 14 = Doctoral degree; 15 = Some postbaccalaureate professional education (such as law school, medical school, nursing); 16 = Completed postbaccalaureate professional degree (such as law, medicine, nursing)	H5OD11	Nominal
Marital status Covariate variable	Are you currently married?	0 = No 1 = Yes	H5TR4	Nominal

Data Analysis Plan

A descriptive, frequency, binomial logistic analysis, and modeling regression analysis were performed to identify participants with hypertension and to determine what variables contributed to hypertension prevalence using SPSS, v.27 (IBM Corp, 2020). The robust software was utilized to depict epidemiological trends using the Add Health 1994-2018 data set (Harris & Udry, 2021). This tool was used to visualize and analyze spatial relationships by importing and aggregating data. In this study, the goal is to investigate an association between environmental-induced anxiety (Community Violence and Low income) and Ethnicity (Black and White men) and the prevalence of hypertension. The statistical output from the referent groups using binomial logistic and modeling regression may aid in addressing if there is an association between the four research questions.

Binomial Logistic Regression Analyses

A binomial logistic regression analysis was performed using one independent variable, the outcome variable, and covariates as controls to assess any associations between Environmental-Induced Anxieties (Community Violence and Low income) and Ethnicity (Black and White men) and the prevalence of hypertension. A binomial logistic regression analysis model was used because there were three independent variables (community violence, low income, and ethnicity) and one outcome variable (hypertension) which was dichotomous in nature. Since there were more than two nominal independent variables in this study, all assumptions were met to conduct a binomial logistic regression (Laerd, 2018)

The model was used to investigate the associations between one independent variable and the outcome variable at a time to interpret the prevalence rate of hypertension using the self-reported data of participants from the Add Health 1994-2018 study. Next, a binomial logistic regression analysis was performed using one independent variable, all covariates, and the outcome variable to assess any associations between Environmental-Induced Anxieties (Community Violence and Low income) and Ethnicity (Black and White men) and the prevalence of hypertension when age, education, employment status, and marital status were controlled for. Lastly, a binomial logistic regression analysis was performed using all independent variables, all covariates, and the outcome variable to assess any associations between Environmental-Induced Anxieties (Community Violence and Low income) and Ethnicity (Black and White men) and the prevalence of hypertension when age, education, employment status, and marital status were controlled for.

Modeling Logistic Regression Analyses

A modeling logistic regression analysis was also performed to assess any associations between Environmental-Induced Anxieties (Community Violence and Low income) and Ethnicity (Black and White men) and the prevalence of hypertension. The modeling logistic regression analysis was used because the study premise was based on using the independent variables to predict the outcome variable (hypertension). All independent variables, the outcome variable, and covariates variables were incorporated into one analysis. This multivariable analysis underwent a backward stepwise elimination of insignificant variables resulting in the most parsimonious model predicting the

prevalence rate of hypertension using the self-reported data of participants from the Add Health 1994-2018, living with hypertension.

Research Questions and Hypotheses

The following four research questions and hypothesis were used to guide this study:

RQ1: Is there an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$1: There is no association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a1: There is an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ2: Is there an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$2: There is no association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a2: There is an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ3: Is there an association between ethnicity and risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$3: There is no association between ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a3: There is an association between ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ4: Is there an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$4: There is no association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a4: There is an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered.

Table 5

Statistical Analyses

Research questions	Variable(s)	Methods
RQ1: Is there an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered?	Demographics: Age, gender, community violence, education, employment status, marital status, and hypertension	Binary logistic regression Unadjusted RR was used to evaluate the association between community violence, age, education, employment status, marital status, and hypertension
RQ2: Is there an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered?	Demographics: Age, gender, low income, education, employment status, marital status, and hypertension	Binary logistic regression Unadjusted RR was used to evaluate the association between low income, age, education, employment status, marital status, and hypertension
RQ3: Is there an association between ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered?	Demographics: Age, gender, race/ethnicity, education, employment status, marital status, and hypertension	Binary logistic regression Unadjusted RR was used to evaluate the association between race/ethnicity, age, education, employment status, marital status, and hypertension
RQ4: Is there an association between environmental-induced anxiety (community violence, low income) and ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered?	Demographics: Environmental-induced anxiety (community violence, low income), ethnicity, age, gender, race/ethnicity, education, employment status, marital status, and hypertension	Binary logistic regression Unadjusted RR was used to evaluate the association between race/ethnicity, age, education, employment status, marital status, and hypertension

To answer these questions, a binomial logistic analysis and modeling regression analysis were used to identify if there was an association between the independent variables, using the covariates to control the outcome of the dependent variable which is dichotomous. SPSS v.27 was used, to conduct all statistical testing. Before the binomial logistic regression analysis was applied to this study, tested all assumptions to determine if outliers are present and whether these outliers are errors. A linear relationship was accessed between the RR among the independent variables. Linearity was checked using SPSS v.27, and 1.00 –β. The β-coefficient measured the degree of change in the outcome variable for every one-unit change in the predictor variable. This measurement of change in the outcome variable was needed to observe the slope of the line and should be linear between the log odds for logistic regression.

For RQ1, I performed a binary logistic regression analysis environmental-induced anxiety (Community Violence, Low income), Ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered for the RR. An RR of 1 means that the independent variable causes a greater risk for the dependent variable, and a RR of less than 1 means less risk.

For RQ2, I compared the independent variable Community Violence as the predictor variable considering age, education, employment status, and marital status for the prevalence of hypertension among Black men for the RR. An RR of 1 means that the independent variable causes a greater risk for the dependent variable, and a RR of less than 1 means less risk.

For RQ3, I compared the independent variable Low income as the predictor variable considering age, education, employment status, and marital status for the prevalence of hypertension among Black men for the RR. An RR of 1 means that the independent variable causes a greater risk for the dependent variable, and a RR of less than 1 means less risk.

For RQ4, I compared the independent variable Ethnicity as the predictor variable considering age, education, employment status, and marital status for the prevalence of hypertension among Black men for the RR. An RR of 1 means that the independent variable causes a greater risk for the dependent variable, and a RR of less than 1 means less risk.

Threats to Validity

The primary threat to the design's external validity was if too many participants failed to complete the surveys, resulting in misclassification of the study's results. Another threat to the validity was response bias, as individuals that may not experience health disparities or determinants may have time to complete the survey or were ungraceful. While others may not have time to complete the surveys based on their need in the community, others may hesitate to answer questions that reflects their true feelings, beliefs, or occurrences. Instead, their responses reflected what they thought the researcher was expecting them to say. These responses could cause findings to basis and result in the underrepresentation of the community and health outcomes. By oversampling multiple ethnicities including Black, White, Hispanics, and Asians, the study coordinators were able to collect enough data to compensate for unreliable, inconsistent data. For example,

missing values and typographical errors often occur when data is merged or transcribed (Lord, 2017). The reliability of a dataset could also be questioned if there is perceived information bias, selection bias, and dishonesty within the study which could affect the study's validity (Health Knowledge, 2017).

Ethical Procedures

After receiving approval from the Walden University Institutional Review Board, (IRB approval number 08-10-21-0666277), to use the anonymous data collected from the Add Health 1994-2018, a cross-sectional binomial logistic regression analysis was performed. Those who met the criteria for inclusion from the sample collection were used to credit or discredit the null hypothesis. According to (Harris & Udry, 2021), informed consent was collected before all surveys presuming all collected data is safe for public use.

Each participant was informed of the study's purpose and was assured the study met all ethical guidelines as listed by Add Health 1994-2018. When the survey was conducted, the participants were assured that the collected information would be confidential and would not be identified in the study (Harris & Udry, 2021). The privacy and restriction of the Add Health 1994-2018 data can be found within the entities of The Odum Institute at UNC, The Inter-university Consortium for Political and Social Research (ICPSR), The Association of Religion Data Archives, an Ancillary Study collaboration. Since the platforms used to collect and store data are under the jurisdiction of accreditable entities, there were no concerns about recruitment or data collection from participants. For this study, the dataset was accessed through the ICPSR database, which

required the user to be affiliated as official users or a member of the ICPSR. According to ICPSR (2020), data uploaded to the sharing data site is archived for 50 years.

To validate the data collected during the Add Health 1994-2018, data was collected at random from multiple adolescents from 80 urban, suburban, and rural school districts. Secondly, according to (Harris & Udry 2021), the Add Health data such as demographics, height and weight, and interviewing measures were compared to other national surveys. Next, the Add Health questionnaire development was guided by peer-reviewed, empirical studies. The Add Health survey questions were generated by partner agencies and revised based on the findings during the pilot study in 1994 (Harris & Udry, 2021). Therefore, the results generated from using the Add Health 1994-2018 data may assist with creating interventions in urban communities and school districts across the United States to improve the overall health of the population based on the quality of the data.

For this study, the data was downloaded, stored, and maintained on a password-protected computer. All forms of the data used to complete this study will be held for at least five years, then destroyed. Access to this dataset is limited to my Dissertation Committee, Walden's Advisory Committee, and myself as the researcher. Human participation is not a factor because secondary data was used to complete this study, minimizing the time, effort, and possible breaches of confidentiality. The data used in this study was anonymous and confidential to lower the chances of violations of participants' information. All guidelines were followed that were relevant and set forth by Walden

IRB regarding the treatment of human subjects and how data is treated once in possession.

Summary

The aim of this study was to understand if environmental-induced anxieties such as (community violence, low income), and ethnicity are risk factors that contribute to the prevalence of hypertension among Black men. By using a quantitative design, this survey instrument was be used to determine participants' exposure to environmental anxiety by observing health indicators such as community violence, low income, and unhealthy practices related to ethnicity considering age, education, employment status, and marital status. The Add Health 1994-2018 survey was used because it is governed and operated by the federal government and is assumed to have followed all ethical protocols to retrieve data. The participant's responses were gathered and analyzed using binomial logistic regression to address research questions and test the associated hypotheses. The data analysis results are presented in Chapter 4, with the discussion of the findings, implications for eliminating health disparities and determinants, and recommendations for the future study presented in Chapter 5.

Chapter 4: Results

Introduction

Black men in the United States have the highest prevalence rate of hypertension compared to people of other ethnicities. The purpose of this quantitative cross-sectional study was to determine if an association exists between environmental-induced anxiety (community violence and low income) and ethnicity as independent variables and hypertension as the outcome variable. In this chapter, I present presumed reasons and findings regarding how these variables may influence the prevalence of hypertension among Black men. To reject or accept the null hypotheses, data collected from the Add Health 1994-2018 survey were used to sample Black and White men participants to determine if there is an association between environmental-induced anxiety that stems from community violence and low income and ethnicity factors and the prevalence of hypertension among Black men (Assari et al., 2018).

Using the data set, a cross-sectional study design was used to address and summarize the data to identify findings. In the first section of this chapter, I discuss the study population and participant demographics. In the second section of the chapter, I explain how the data were collected and validate the reliability of the data set. In the third section, I detail the results of the research, and in the last section, I provide a summary of findings and conclusion.

The following research questions and hypotheses were used for this study:

RQ1: Is there an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$1: There is no association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a1: There is an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ2: Is there an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$2: There is no association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a2: There is an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ3: Is there an association between ethnicity and risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$3: There is no association between ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a3: There is an association between ethnicity and the risk of hypertension in men when age, education, employment status, and marital status are considered.

RQ4: Is there an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered?

$H_0$4: There is no association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered.

H_a4: There is an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered.

Demographics

Data collected for the Add Health 1994-2018 study were extracted from 80 urban, suburban, and rural school districts selected randomly across the United States (Harris & Udry, 2021). Questionnaires were generated to capture background information about social demographics, education, occupations, self-esteem, health status, behaviors, and extracurricular activities that may contribute to the participants' current health. Data were collected across five different periods, called waves. The participants were initially interviewed with a parent's consent and involvement. Later, participants were contacted for follow-up surveys from 1995-2018 and could consent on their own if they were 18 or older. If a participant was under 18, the consent of a parent or guardian was required. Demographic information was collected during telephone, web, or face-to-face interviews to learn if changes in the dynamics of the household, income, education, age,

marital status, social relationships, and encounters with the judicial system in any compacity could influence the health status of the participants from adolescence to adulthood.

Data Collection

A quantitative inferential approach with a cross-sectional design was used to compare environmental-induced anxiety (community violence and low income) and ethnicity (Black and White men) and the prevalence of hypertension. A cross-sectional design was used to incorporate in-depth interviews and survey responses from the Add Health 1994-2018 study from Black and White men ages 33-43 who answered yes or no for having hypertension in Wave V of the study. The cross-sectional analysis indicated that 1,379 Black and White men were valid for this study to accept or reject the null hypotheses. Of this number, 164 participants were reported to have missing values for ethnicity when a frequency analysis was performed, resulting in a total of 1,215 eligible participants for this study. A missing values analysis was completed for variables environmental-induced anxiety (community violence, low income), ethnicity, hypertension, gender, education status, employment, and marital status, as shown in Table 6. A missing values analysis was not needed for *age* as all participants were between the age 33 and 43 in Wave V of the Add Health 1994-2018 survey.

Table 6

Missing Values Analysis

Variables	Missing values	Percent missing
Hypertension	13	.9
Community violence	39	2.8

Low income	19	1.4
Ethnicity	164	11.9
Gender	0	0. 0
Education	1112	80.6
Employment status	4	.3
Marital status	4	.3

Description of the Sample

To provide demographic and background information for participants included in this study from January 1, 2016 to December 31, 2017, a descriptive and frequency analysis was performed using SPSS Version 27 and is displayed in Table 7. Based on the descriptive data analysis output, there were 1,379 Black and White men who answered the survey question pertaining to hypertension; therefore, these participants were eligible for use in this study. The frequency distribution indicates there were 1,379 men included in study for the dependent variable; 77.1% answered *yes* and 22.9% answered *no* to being diagnosed with hypertension for more than 30 days. Also, the frequency distribution of 1,379 men included in study for the independent variables indicated that 15.1% answered *yes* and 84.9% answered *no* for exposure to community violence; 13.4% answered *yes* and 86.6% answered *no* to low income; 86.6% were White and 13.4% were Black; 100% were men; 14.1% answered *yes* and 5.3% answered *no* about obtaining a high school diploma; 88.2% answered *yes* and 11.8% answered *no* to being employed; and 61.9% answered *yes* and 38.1% answered *no* to being married. The frequencies and percentages associated with these variables are shown in Table 8.

Table 7

Descriptive Distributions (n = 1,379)

Variables	N	Mean	Maximum	Mean	SD
Hypertension	1,336	.00	1.00	.2291	.42043
Community violence	1,340	.00	1.00	.1515	.35866
Low income	1,360	.00	1.00	.1338	.34059
Ethnicity	1,215	.00	1.00	.1844	.38794
Gender	1,379	1.00	1.00	1.00	.00000
Education status	267	.00	1.00	.2734	.44655
Employment status	1,375	.00	1.00	.1178	.32251
Marital status	1,375	.00	1.00	.3811	.48583
Valid N (listwise)	208				

Table 8

Frequency Distributions: Personal Characteristics (n = 1,379)

Personal characteristics	N	%
Hypertension		
No	1,053	77.1
Yes	313	22.9
Missing	13	.9
Community violence		
No	1,137	84.9
Yes	203	15.1
Missing	39	2.8
Low income		
No	1,178	86.6
Yes	182	13.4
Missing	19	1.4
Ethnicity		
White	991	86.6
Black	224	13.4
Missing	164	11.9
Gender		
Male	1,379	100.0
Education status		
Yes	194	14.1
No	73	5.3
Missing	1,112	80.6
Employment status		
Yes	1,213	88.2
No	162	11.8
Missing	4	.3
Marital status		
Yes	851	61.9
No	524	38.1
Missing	4	.3

Participants for Wave V of the Add Health 1994-2018 study were all 33–43 years of age so no frequency analysis is seen in Table 8 for age. Although the covariate education status had a missing value score of 1,112 (80.6%) participants, as shown in Table 8, the missing values did not have a large effect on the outcomes of the analyses used to address the research questions.

Results

Four research questions were developed for this study to determine if Environmental-Induced Anxiety, such as (community violence and low income) and Ethnicity, increased the risk for hypertension prevalence among Black men when age, education, employment status, and marital status are controlled for. Where statistical analyses were used to answer the research questions, a 95% confidence level and a 5% margin of error were used to determine statistical analyses. The strategies used to analyze the Add health 1994-2018 dataset to determine if the null hypothesis would be accepted or rejected for each research question is explained below.

A binomial logistic regression analysis was performed using one independent variable and the outcome variable to assess any associations between Environmental-Induced Anxieties (community violence and low income) and Ethnicity (Black and White men) and the prevalence of hypertension. Interviews from mail, web, telephone, and face-to-face self-reported data of participants from the Add Health 1994-2018 were used to answer the research questions.

Next, a binomial logistic regression analysis was performed using one independent variable, the outcome variable, and all covariates to assess any associations between Environmental-Induced Anxieties (community violence and low income) and ethnicity (Black and White men) and the prevalence of hypertension when age, education, employment status, and marital status were controlled for. Interviews from mail, web, telephone, and face-to-face self-reported data of participants from the Add Health 1994-2018 were used to answer the research questions.

Lastly, a modeling logistic regression (stepwise) analysis was performed using all independent variables, and the outcome variable to assess any associations between Environmental-Induced Anxieties (community violence and low income) and Ethnicity (Black and White men) and the prevalence of hypertension when age, education, employment status, and marital status were controlled for. Interviews from mail, web, telephone, and face-to-face self-reported data of participants from the Add Health 1994-2018 were used to answer the research questions.

RQ1: Is there an association between community violence and the risk of hypertension in men when age, education, employment status, and marital status are considered?

An unadjusted RR and binomial logistic regression were used to determine if community violence was a predictor for hypertension, as mentioned in RQ1. The Cox & Snell R2 and Nagelkerke R2 were observed to determine if community violence caused a greater risk for hypertension prevalence.

The binominal logistic regression results using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .001 for Cox & Snell R2 and .002 for Nagelkerke R2 for community violence and the risk of hypertension in men. The results from the unadjusted R2 values indicated that community violence did not contribute to hypertension prevalence among men. Results from the binominal logistic regression indicated the independent variable community violence, was not significant and therefore failed to reject the null hypothesis $p = .209$.

Table 9

Binomial Logistic Regression Analysis: Hypertension With Community Violence (n = 1330)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Community violence	.220	.175	1.577	1	.209	1.246	.884	1.757

The binominal logistic regression results using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .034 for Cox & Snell R2 and .050 for Nagelkerke R2 for community violence and the risk of hypertension in men when age, education, employment status, and marital status were controlled for. The results from the unadjusted R2 values indicated that community violence did not contribute to hypertension prevalence among men when age, education, employment status, and marital status were controlled for. Results from the binominal logistic regression indicated the independent variable community violence, was not significant p = .607 and failed to reject the null hypothesis; however, the covariate employment status was significant p = .008 and rejects the null hypothesis as seen in Table 10. These results suggest that employment status could be a predictor for hypertension prevalence among men.

Table 10

Binomial Logistic Regression Analysis: Hypertension With Community Violence, Education, Employment Status, and Marital Status (n = 251)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Community violence	.206	.401	.265	1	.607	1.229	.561	2.695
Education	.580	.339	.029	1	.865	1.059	.545	2.059
Employment status	.960	.361	7.064	1	.008	2.613	1.287	5.306
Marital status	.110	.315	.123	1	.726	1.117	.602	2.071

RQ2: Is there an association between low income and the risk of hypertension in men when age, education, employment status, and marital status are considered?

An unadjusted RR and binomial logistic regression were used to determine if low income was a predictor for hypertension, as mentioned in RQ2. The Cox & Snell R2 and Nagelkerke R2 were observed to determine if Low Income caused a greater risk for hypertension prevalence.

The binominal logistic regression results using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .002 for Cox & Snell R2 and .003 for Nagelkerke R2 for Low income and the risk of hypertension in men. The results from the unadjusted R2 values indicated that Low income did not contribute to hypertension prevalence among men. Results from the binominal logistic regression indicated the independent variable Low income, was not a significant and failed to reject the null hypothesis p = .106.

Table 11

Binomial Logistic Regression Analysis: Hypertension With Low Income, Education, Employment Status, and Marital Status (n = 1349)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Low income	.295	.182	2.620	1	.106	1.343	.940	1.919

The binominal logistic regression results using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .036 for Cox & Snell R2 and .053 for Nagelkerke R2 for Low Income and the risk of hypertension in men when age, education, employment status, and marital status were controlled for. The results from the unadjusted R2 values indicated that Low Income did not contribute to hypertension prevalence among men when age, education, employment status, and marital status were controlled for. Results from the binominal logistic regression indicated the independent variable Low Income, was not a significant p = .240 and failed to reject the null hypothesis; however, the covariate employment status was significant p = .008 and rejects the null hypothesis as seen in Table 12. These results suggest that employment status could be a predictor for hypertension prevalence among men.

Table 12

Binomial Logistic Regression Analysis: Hypertension With Low Income, Education, Employment Status, and Marital Status (n = 255)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Low income	-.465	.395	1.382	1	.240	.628	.289	1.364
Education	.152	.334	.206	1	.650	1.164	.605	2.238
Employment status	.1.065	.401	7.065	1	.008	2.901	1.323	6.363
Marital status	.2.80	.314	.793	1	.373	1.323	.714	2.451

RQ3: Is there an association between ethnicity and risk of hypertension in men when age, education, employment status, and marital status are considered?

An unadjusted RR and binomial logistic regression analysis were used to determine if ethnicity was a predictor for hypertension, as mentioned in RQ3. The Cox & Snell R2 and Nagelkerke R2 were used to determine if ethnicity caused a greater risk for hypertension prevalence.

The binominal logistic regression results using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .002 for Cox & Snell R2 and .003 for Nagelkerke R2 for Ethnicity and the risk of hypertension in men. The results from the unadjusted R2 values indicated that Ethnicity did not contribute to hypertension prevalence among men. Results from the binominal logistic regression indicated the independent variable Ethnicity, was not significant and failed to reject the null hypothesis $p = .094$.

Table 13

Binomial Logistic Regression Analysis: Hypertension With Ethnicity (n = 1,206)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Ethnicity	.284	.170	2.805	1	.094	1.329	.953	1.854

The binominal logistic regression results using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .041 for Cox & Snell R2 and .061 for Nagelkerke R2 for Ethnicity and the risk of hypertension in men when age, education, employment status, and marital status were controlled for. The results from the unadjusted R2 values indicated that Ethnicity did not contribute to hypertension prevalence among men when age, education, employment status, and marital status were controlled for. Results from the binominal logistic regression indicated the independent variable Ethnicity, was not a significant p = .969 and failed to reject the null hypothesis; however, the covariate employment status was significant p = .007 and rejects the null hypothesis as seen in Table 14. These results suggest that employment status could be a predictor for hypertension prevalence among men.

Table 14

Binomial Logistic Regression Analysis: Hypertension With Ethnicity, Education, Employment Status, and Marital Status (n = 176)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Ethnicity	-0.15	.389	.001	1	.969	.985	.459	2.113
Education	.201	.354	.323	1	.570	1.223	.611	2.447
Employment status	.992	.368	7.251	1	.007	2.695	1.310	5.547
Marital status	.215	.331	.420	1	.517	1.240	.647	2.373

RQ4: Is there an association between environmental-induced anxiety (community violence, low income), ethnicity, and the risk of hypertension in men when age, education, employment status, and marital status are considered?

The binominal logistic regression results from step 1 (community violence, low income, and ethnicity) using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .003 for Cox & Snell R2 and .005 for Nagelkerke R2 for community violence, low income, ethnicity, and the risk of hypertension in men. The binominal logistic regression results from step 2 (community violence and ethnicity) using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression indicated an RR of .003 for Cox & Snell R2 and .004 for Nagelkerke R2 for community violence, low income, ethnicity, and the risk of hypertension in men. The binominal logistic regression results from step 3 (ethnicity) using the Cox & Snell R2 and Nagelkerke R2 analysis for binominal logistic regression

indicated an RR of .002 for Cox & Snell R2 and .002 for Nagelkerke R2 for Community Violence, Low income, Ethnicity, and the risk of hypertension in men.

A stepwise analysis was conducted using community violence, low income, and ethnicity to get to the most parsimonious model predicting the outcome, for hypertension among Black men. The results from the modeling logistic regression analysis indicated none of the predicter variables were significant and all failed to reject the null hypothesis as seen in Table 15. These results suggest that neither Community Violence (p = .279), Low income (p = .383), or Ethnicity (p = .277), are predictor for hypertension among men.

Table 15

Binomial Logistic Regression Backward Stepwise Analysis: Hypertension With Community Violence, and Low Income, Ethnicity (n = 1,160)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Community violence	.208	.193	1.171	1	.279	1.232	.844	1.797
Low income	.178	.204	.762	1	.383	1.195	.801	1.780
Ethnicity	.194	.179	1.182	1	.277	1.215	.855	1.725

Finally, a stepwise analysis was conducted using community violence, low income, ethnicity, education, employment status, and marital status to get to the most parsimonious model predicting the outcome, which was education for hypertension among Black men. The results from the modeling logistic regression analysis indicated the p value for employment status was significant p = .004 and rejects the null hypothesis

as seen in Table 16. These results suggest that employment status could be a predictor for hypertension among men.

Table 16

Binomial Logistic Regression Backward Stepwise Analysis: Hypertension With Community Violence, Low Income, Ethnicity, Education, Employment Status, and Marital Status (n = 208)

Predictor	B	SE	Wald	df	Sig	Odds ratio	95% C.I.	
							Lower	Upper
Community violence	.429	.451	.906	1	.341	1.536	.635	3.718
Low income	-.445	.455	.956	1	.328	.641	.263	1.564
Ethnicity	-.191	.430	.197	1	.657	.826	.356	1.919
Achieved a high school diploma	-.193	.368	.274	1	.600	1.212	.590	2.493
Employment status	1.308	.451	8.395	1	.004	3.699	1.527	8.962
Marital status	.079	.350	.051	1	.821	1.082	.545	2.150

The purpose for conducting this data analysis using the Add Health 1994-2018 study was to observe if exposure to environmental-induced anxiety such as community violence, low income and ethnicity influenced hypertension prevalence among Black men.

Summary

In summary, the results of the data analysis were presented and addressed the four research questions that were posed in Chapter 4. A total of 1379 participants met the primary criteria for this study. All answered yes or no to having hypertension for more than 30 days, were between 33-43, and were Black or White men.

The first research question was regarding community violence and the risk of hypertension in men. Results from Black and White men (n = 1330) using a binomial logistic regression indicated the independent variable community violence failed to reject the null hypothesis. To conduct a more robust analysis to control the outcome variable, covariates ages, education, employment status, and marital status were included. Results from Black and White men (n = 251) using a binomial logistic regression indicated the independent variable community violence failed to reject the null hypothesis. However, results from the covariate employment status indicated there was a correlation between not having a job and hypertension prevalence among men, which supports the alternative hypothesis.

The second research question was regarding low income and the risk of hypertension in men. Results from Black and White men (n = 1349) using a binomial logistic regression indicated the independent variable low income failed to reject the null hypothesis. To conduct a more robust analysis to control the outcome variable, covariates age, education, employment status, and marital status were included. Results from Black and White men (n = 255) using a binomial logistic regression indicated the independent variable low income failed to reject the null hypothesis. However, results from the covariate employment status indicated there was a correlation between not having a job and hypertension prevalence among men, which supports the alternative hypothesis.

The third research question was regarding ethnicity related to culture and the risk of hypertension in men. Results from Black and White men (n = 1206) using a binomial logistic regression indicated the independent variable low income failed to reject the null

hypothesis. To conduct a more robust analysis to control the outcome variable, covariates age, education, employment status, and marital status were included. Results from Black and White men (n = 176) using a binomial logistic regression indicated the independent variable low income failed to reject the null hypothesis. However, results from the covariate employment status indicated there was a correlation between not having a job and hypertension prevalence among men, which supports the alternative hypothesis.

The fourth research question was regarding Environmental Induced Anxiety (Community Violence and Low income), Ethnicity, and the risk of hypertension in men. Results from Black and White men (n = 1160) using a modeling logistic regression indicated the independent variables community violence, low income, and ethnicity failed to reject the null hypothesis. To conduct a more robust analysis to control the outcome variable, covariates age, education, employment status, and marital status were included. Results from Black and White men (n = 208) using a modeling logistic regression indicated the independent variables community violence, low income, and ethnicity failed to reject the null hypothesis.

However, results from the covariate employment status indicated there was a correlation between not having a job and hypertension prevalence among men, which supports the alternative hypothesis. In Chapter 5, the interpretation of the findings, study limitations, recommendations, implications, and conclusions relating to this study was discussed.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The nature of this dissertation was quantitative and used an inferential approach and a cross-sectional design to compare environmental-induced anxiety (community violence and low income) and ethnicity (Black and White men) with hypertension prevalence. A cross-sectional design was used to compile survey responses using data collected from the Add Health 1994-2018 survey of Black and White men ages 33–43 who answered *yes* to having been diagnosed with hypertension. The purpose of this study was to determine if there is an association between environmental-induced anxieties (community violence and low income) and ethnicity (Black men and White men) as independent variables and hypertension as the dependent outcome variable using secondary data collected from interviews from the Add Health 1994-2018 study (Harris & Udry, 2021). This study was conducted was to examine why Black men rank highest for hypertension prevalence among people of all ethnicities despite numerous health promotion/education programs tailored toward reducing hypertension prevalence (Greer & Spalding, 2017). This study helps to bridge a gap in the research regarding environmental-induced anxieties and ethnicity and the prevalence of hypertension among Black men (Chan et al., 2016).

Key Findings

The key finding was that 22.9% (n = 1,379) of the sampled men reported having hypertension for more than 30 days which is defined as having a diastolic reading above 120 mmHg and a systolic reading above 80 mmHg. Although the predictors used in the

study to determine if there were any association with hypertension and Black men along with health beliefs have been relevant in some studies, this study could not prove a relationship except for the covariate employment status.

All participants included in this research were men (n = 1,379, 100%) and of this sample, 203 (15.1%) experienced community violence, 182 (13.4%) had low income, 224 (13.4%) were Black, 991 (86.6%) were White, 73 (5.3%) did not achieve a high school diploma, 162 (11.8%) were not employed, and 524 (38.1%) were not married (Harris & Udry, 2021). The covariate variables were used to control the outcome of the dependent variable hypertension prevalence in binomial logistic regression analysis. Although logistic regression analysis did not produce results that were statistically significant, on each occasion, the covariate employment status generated p-values < 0.05, which indicates an association with hypertension prevalence among men. The findings of this study failed to reject the null hypotheses that there were no associations between environmental-induced anxiety (community violence and low income) and ethnicity and the risk of hypertension in men when age, education, employment status, and marital status were controlled for.

Interpretation of Findings

Research Question 1

The first research question was designed to determine if community violence influenced hypertension among men when age, education, employment status, and marital status were considered. A sample of male participants ages 33–43 was drawn from the Add Health 1994-2018 study (Harris & Udry, 2021) and was used to accept or

reject the null hypothesis that there is no association between community violence and the risk of hypertension in men. According to Schmeer and Tarrence (2019), anxieties created by community violence could contribute to the prevalence of hypertension among Black men compared to other ethnic groups.

Based on previous research, community violence influences anxiety and can to hypertension if experienced over a period. Jones et al. (2019) indicated that neighborhoods that lack resources often generate unwanted fear based on the safety in the community. Lopez and Moore (2019) indicated that Black men experience higher prevalence rates of hypertension due to depression associated with the inability to provide the necessities for their families. Despite numerous health promotion/education programs to reduce community violence and improve living conditions, few peer-reviewed articles have been published in which researchers investigated community violence as a significant contributor to hypertension among Black men.

I aimed to examine if exposure to violence in the home, community, and school could influence the prevalence of hypertension among men, primarily Black men (Chan et al., 2016). My findings failed to make the association between community violence and hypertension prevalence among Black men despite evidence that supports this postulation from previous research (Chan et al., 2016). Based on previous literature, community violence may be significant in the consistency of hypertension among Black men, but further research is suggested (Leguizamon, 2020). This assumption may have been generated from seminal knowledge that Black men retain anxiety caused by racial profiling by law enforcement, domestic violence, and gun violence within the community

(Mayo Clinic, 2017). Observing these types of violence within the communities where black men live is related to hypertension prevalence. Most men of other ethnicities are not exposed to these factors and report having little anxiety within their communities (Tully et al., 2015). In most Black communities, acts of discrimination, lack of guidance, and the threat of dying an untimely death due to violent behaviors are more suspectable, especially because many of these neighborhoods have fewer resources (U.S. Department of Veteran Affairs, 2019). Nonetheless, the results from the binary logistic analysis failed to reject the null hypothesis that there is no association between community violence hypertension prevalence.

Research Question 2

The second research question was designed to determine if low income influences hypertension among men when age, education, employment status, and marital status are considered. Men participants ages 33-43 were drawn from the Add Health 1994-2018 study (Harris & Udry, 2021) to accept or reject the null hypothesis that there is no association between low income and the risk of hypertension in men. The results from the binary logistic analysis in this study failed to reject the null hypothesis that there is no association between low income and hypertension prevalence.

According to Riniki et al. (2020), anxieties generated from low income could contribute to the prevalence of hypertension among Black men. Based on previous research, low income influences anxiety, leading to hypertension if anxiety is experienced over a period. The lack of investments in Black communities is significant; there are minimal amenities such as parks, playgrounds, organized sports activities, retail

stores, and drug stores (Jenkins, 2020). Access to these resources could influence Black community members to spend income on the same free services to better-paid community members through homeowner's associations dues and donations (Jenkins, 2020). Factors that may contribute to the lack of these opportunities in low-income communities could derive from education levels, health issues, illicit drug use, and gang activities, which may be an underlying reason these amenities are distant from these communities (Jenkins, 2020).

Another goal of this dissertation was to investigate if low income influences the prevalence of hypertension among Black men (Chan et al., 2016). My findings in this study failed to make the association between low income and hypertension prevalence among Black men, despite previous evidence that supports this postulation from previous research (Riniki et al., 2020). Based on previous literature, low income may be significant in the consistency of hypertension among Black men, but further research has been suggested (Jenkins, 2020). This assumption may have been generated from seminal knowledge that Black men retain anxiety caused by not having enough resources to sustain a healthier lifestyle (Jenkins, 2020). Previous studies have implied that minimal income within a household limits access to better quality foods, healthcare, and other amenities that would influence healthy behaviors (CDC, 2016; Riniki et al., 2020; Whelton et al., 2017). Although previous literature has directed attention toward these factors, an increase in income within these communities needs to occur to reduce crime, improve safety, and reduce hypertension prevalence (KFF, 2020). Because low income could be a barrier to resources, stress and anxiety can be generated from the need to

provide for a family, the threat of eviction, the possibility of car repossession, and hunger (Jenkins, 2020).

Research Question 3

The third research question was designed to determine if Ethnicity influenced hypertension among men when age, education, employment status, and marital status are considered? Men participants ages 33-43 were drawn from the Add Health 1994-2018 to accept or reject the null hypothesis that there is no association between ethnicity and the risk of hypertension in men (Harris & Udry, 2021).

According to Assari et al. (2018), ethnicity may contribute to hypertension prevalence among Black men based on household structures, health beliefs, and social norms. These ethnical variables could be associated with hypertension prevalence since ethnicity is typically shaped by traditional and cultural practices (Vaccaro et al., n.d.). Focusing on behaviors directly related to ethnicities, such as beliefs and culture, could help understand why the prevalence of hypertension is observed more among Black men (Ellis et al., 2015). Research has proven that most Black men do not participate in annual physician visits, daily exercise, and have poor diets (CDC, 2016). This dissertation failed to make the association between ethnicity and hypertension prevalence among Black men despite previous evidence that supports this postulation from previous research (Vaccaro et al., n.d.). Observing these ethnical variables could be vital to understanding hypertension prevalence since ethnicity is typically developed from learned tradition and cultural practices (Vaccaro et al., n.d.).

Based on previous literature, factors such as not participating in annual physician visits, the lack of exercising, smoking tobacco products, alcohol consumption, and ingestion of low-fiber high-fat diets could be observed to understand why hypertension prevalence is most common in Black men (CDC, 2016). Previous research has noted that Black men often do not have relationships with physicians for various reasons, mainly because of the lack of trust for healthcare providers (Tully et al., 2015). However, establishing a consistent repertoire between healthcare professionals and Black men could be vital in adherence to medical advice, therefore lowering hypertension prevalence (Gaddis, 2019).

Accepting healthcare professionals' advice could help improve ethical practices among Black men, such as developing trust for healthcare professionals, increasing health literacy, engaging in exercise, changing how food is prepared, and engaging in annual health visits (Vilsaint et al., 2019). Since health improvement can be implemented through the change of lifestyles based on ethnicity, healthier practices could be learned within the household, therefore decreasing hypertension prevalence. The results from the binary logistic analysis failed to reject the null hypothesis that states there is no association between ethnicity and hypertension prevalence.

Research Question 4

The fourth research question was designed to determine if Environmental-Induced Anxiety (community violence, low income) and ethnicity influenced hypertension among men when age, education, employment status, and marital status are considered? Men participants ages 33-43 were drawn from the Add Health 1994-2018 to accept or reject

the null hypothesis that states there is no association between Environmental-Induced Anxiety (community violence, low income) Ethnicity and the risk of hypertension in men when (Harris & Udry, 2021). A modeling logistic analysis using stepwise elimination of insignificant variables to get to the most parsimonious model predicting the prevalence rate of hypertension was incorporated.

This dissertation failed to make the association between community violence, low income, ethnicity, and hypertension prevalence among Black men despite minute evidence that supports this postulation from previous research (Chan et al., 2016). Although community violence, low income, and ethnicity have been mentioned in previous literature reviews as possible contributors of hypertension among Black men, there was a need to look at these factors in-depth. Although this dissertation did not prove any associations between community violence, low income, ethnicity, and hypertension prevalence among Black men, more research needs to be conducted. The results from the modeling logistic analysis failed to reject the null hypothesis that states there is no association between Environmental-Induced Anxiety (community violence, low income) and Ethnicity and hypertension prevalence; however, the covariate unemployment indicated an association between hypertension prevalence and men. employment status, and marital status (Assari et al., 2018; Glanz et al., 2015; Riniki et al., 2020).

Theoretical Framework

The reasoned action theory (RAT) was used as a theoretical guide to understand any association between community violence, low income, ethnicity, and hypertension prevalence among Black men when age, education, employment status, and marital status

are controlled for. Secondary data from the Add Health 1994-2018 survey from men 33-43 years old were analyzed using Binomial Logistic Regression. Results from these analyses were used to determine if there was an association among these variables. The findings from this study could support the framework of the RAT since this principle can be used to explore behaviors, understand why a stimulus is perceived as safe or a threat, and why decisions are made based on belief (Fishbein and Ajzen 1975). Employment status was statically significate supporting the belief that having gainful employment could reduce anxiety, therefore, reduce hypertension prevalence.

The findings from this study could create positive social change by bringing awareness about environmental-induced anxieties and the need to change unhealthy behaviors based on ethnic traditions, which may lower the prevalence rate of hypertension among Black men. However, focusing on the importance of employment to afford better qualities of life could be most pertinent in the reduction of anxiety by living in more resourceful communities, affordability to amenities, and changing lifestyles which may all reduce hypertension prevalence among Black men.

To further this research, the RAT could be used by health care providers, educators, and philosophers to understand why certain groups are more prone to develop and prevail with an illness more than another group. Using the RAT model could assist in understanding how Black men interact with a multitude of unique stimuli, such as environmental-induced anxieties and ethnicity-based perceptions or beliefs (Glanz et al., 2015). Also, furthering this research could help understand how hypertension is

perceived and contribute to anxiety. If a health care professional sees them, it is essential to decrease hypertension prevalence among men, emphasizing Black men.

Limitations of the Study

This dissertation was limited to Black and White men who answered yes or no to having hypertension for more than 30 days using data collected from the Add Health 1994-2018 study States (Harris & Udry, 2021). The data collected was limited to 80 urban, suburban, and rural school districts selected randomly across the United States (Harris & Udry, 2021). Data collection was more challenging than expected because many omitted to answer if they had experienced community violence, gender change since the initial survey in 1994 and if they had hypertension. Since the samples were collected from participants in elementary through high school and then later when the participants were adults, some of the responses noted could have been comprised by coercion from parents, answers are given based on what the participant assumed the interviewer wanted to hear, misinterpretation of the question, and memory loss.

Another limitation was the inability to locate some of the participants for follow-up interviews since the study elapsed over 24 years resulting in a decrease in sample size to obtain the necessary data. Because of the small sample size based on the power to make an appropriate decision, the statistical significance of the study may be a limitation. The a priori power analysis indicated that a sample of 137 participants was needed to achieve a power of .20. Replicating this study with a larger sample size than 137 participants may provide the necessary power to reject the null hypothesis with more certainty if the dataset had more participants experienced community violence and

hypertension. Since there were enough participants who completed the Add Health 1994-2018 survey over the 24-year extent, this instrument was valid for data collection among the required participants. Participation was voluntary, and the participants were assured their identity would not be revealed. Other limitations for this dissertation could have been accuracy, fit, availability, and relevance however these factors were not identified by the researchers.

Recommendations

This study should be replicated using a larger sample of men drawn across the United States to further investigate if hypertension prevalence could be reduced among Black men. Although this study did not result in the outcome that was predicted, it could be used as seminal data encouraging the need for further research. Evidence from this study could help with understanding the need for Black men to increase education and to improve areas such as annual physician visits, daily exercise, and diets. In addition, this study could be replicated to understand if lifestyle improvements such as increasing education could promote better paying jobs which could reduce anxiety because there will be more income to buy better food, increase leisure time, live in better communities, sustainability.

The outcomes of this research could be used to develop a survey that includes reasons why participants did not achieve higher education or invest in a skill that could sustain their lifestyle. Additional research is needed to examine other factors that may affect hypertension prevalence in men but more specifically in Black men. Using a quantitative approach, interviews could determine why some participants are exposed to

environmental anxieties such as community and low income in conjugation with ethnicity. Since seminal data has implemented that stress could contribute to elevated blood pressure, these variables are not farfetched to explain why Black men are prone to experience hypertension prevalence when compared to women and men of other ethnicities. The outcomes of this research could be used to develop a survey that includes reasons why Black men may be most susceptible for hypertension prevalence. Also, the outcome of this study could be used to develop a survey that includes reasons why participants did not achieve higher education or invest in a skill that could sustain their lifestyle.

Implications

This dissertation did not support the theory that environmental-induced anxieties such as (community violence and low income) and ethnicity contributed to hypertension prevalence among Black men when age, education, and marital status were controlled for. However, the results using binary regression indicated employment status was statistically significant in this study. These variables could be used in conjunction with another dataset to observe further an association between the independent, dependent, and covariates. Since anxiety is one of the lead causes of hypertension prevalence among Black men and some of these same Black men are exposed to community violence, low income, and ethical practices that may not be as healthy as suggested, there needs to be more research to determine if the outcome of this study is based on the sample size, demographics, or the survey. Including these variables are an investigational tool when related to health practices; there is a chance of overcoming barriers that have been long

into existence between health care professionals and Black men regarding health. Not only could focusing on environmental-induced anxieties such as (community violence and low income) and ethnicity be vital in reducing hypertension prevalence among Black men, other chronic diseases such as diabetes, lung cancer, and vision loss could be accessed as well (Ramezankhani et al., 2019). Other health practices such as eating well-balanced meals, exercising, meditation, and cessation from smoking and drinking could reduce hypertension prevalence (Schoenthaler et al., 2017).

Theoretically and methodologically, hypertension prevalence could be reduced among Black men by learning how to lower blood pressures from health care professionals and practicing these strategies to keep blood pressure lower (Fishbein & Ajzen, 1975). Therefore, learning about hypertension prevalence, incorporating healthcare professionals' advice, eating healthier, and exercising could reduce hypertension among Black men.

The most critical social change implication based on the results of this study is the realization that unemployment is associated with hypertension among men (Harris and Udry, 2021). The health outcomes regarding hypertension prevalence may be from anxiety that stems from not being able to sustain a healthy lifestyle among men, emphasizing Black men. Social change that could derive from this study could be focused on promoting general education for better-paying jobs and opportunities that could assist with healthier eating, better living conditions, and less stress within the home. In that case, there is a possibility there may be less anxiety among Black men leading to

healthier lifestyle choices resulting in the decrease of hypertension prevalence (Glanz et al., 2015).

Conclusions

In conclusion, focusing on employment could reduce hypertension among men, especially among Black men. Based on previous research, it is also vital to change the perception and behavior of Black men leading to hypertension, such as the lack of exercising, dieting, and reducing risky behaviors to decrease the prevalence of hypertension (Glanz et al., 2015). Obtaining a job that could sustain the lifestyle of Black men could reduce anxiety by creating the opportunity to participate in daily exercising, eating healthier, the reduction of risky behaviors, improvement in their residential status, and participation in annual physician examinations. Using the guidelines of the RAT could assist with changing how Black men perceive the need to improve in either of these areas as it relates to lifestyles (Glanz, Rimer, & Viswanath, 2015). Although there are established programs that promote improvement in these areas, these programs need to focus more on improving the health status of Black men with a emphasizes pride, misinterpretations, and trust issues (Goodman et al., 2015). Although this study did not support the assumption that Environmental Anxieties such as community violence, low income and ethnicity influenced hypertension prevalence among Black men, the lack of employment was identified as a contributor to hypertension prevalence among men. Based on these results, a new study may be formed to explore more factors generated from unemployment associated with hypertension prevalence among Black men.

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