TIME COMMITMENT, SELF-EFFICACY, SOCIAL ENVIRONMENT AND THE PHYSICAL ACTIVITY PARTICIPATION OF SELECTED HYPERTENSIVE AFRICAN AMERICANS

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Abstract

The purpose of this study was to investigate time commitment, self-efficacy and social environment as it relates to physical activity in a selected sample of hypertensive African Americans. In addition, this study focused on identifying additional research areas in regards to hypertensive African Americans. This study utilized a quantitative method for data collection. The survey instrument utilized contained the following subtopics: (1) demographics; (2) hypertension risk factors; (3) prevention and treatment; (4) hypertension knowledge, and (5) physical activity participation.

Data collected did not support the hypotheses or information contained in the review of literature. It was revealed from data collection that 69% of the respondents (n=90) disagreed with the survey statement that “exercise takes too much of my time (time commitment).” Fifty-two percent of the respondents (n=68) either disagreed or strongly disagreed with the statement “exercise tires me (self-efficacy belief).” Forty-three percent of the respondents (n=56) disagreed with the statement “my spouse (or significant other) does not encourage exercise.”

There is a need for future investigation to examine how additional barriers to physical activity African Americans individually, and is there a culmination of
specific barriers to physical activity that work in conjunction to inhibit African Americans to engage in physical activity.
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CHAPTER I

Introduction

Physical inactivity is an identified hypertension (high blood pressure) risk factor that African Americans face (Ruland, Raman, Chaturvedi, Leurgans, & Gorelick, 2003). Hypertension, often referred as the silent killer, based upon its frequently asymptomatic nature, frequently leads to target organ damage and disease (Hoel & Howard, 1997). Mortality rates of hypertension are high for African Americans of all ages (Schneider et al., 2001). Consequences of this health disparity are severe and include strokes, cardiovascular disease, related mortality and end-stage renal disease (Kotchen et al., 2000).

Physical inactivity is modifiable. The importance of promoting physical activity to prevent or manage hypertension has become increasingly more recognizable (Eyre et al., 2004). African Americans who engage regularly in physical activity achieve overall declines in blood pressure and lower incidences of hypertension (Wilmore et al., 2001). Physical activity decreases blood pressure in individuals with hypertension (Hagberg, Park, & Brown, 2000). Despite the benefits of physical activity, only 25% of African Americans engage in physical activity (Centers for Disease Control and Prevention, 2001).

Statement of the Problem

Hypertensive African Americans are among those who are the most physically inactive (Sacco et al., 2001). Regular physical activity can prevent the development of hypertension or can help manage normal blood pressure levels for those who are already hypertensive (Chintanadilok & Lowenthal, 2002). Time commitment, self-
efficacy and social environment are identified as major impacts on physical activity participation.

**Purpose of the Study**

The purpose of this study was to investigate time commitment, self-efficacy and social environment as it relates to physical activity in a selected sample of hypertensive African Americans.

**Hypotheses**

1. Hypertensive African Americans’ perceived time commitment prevents participation in physical activity.
2. Hypertensive African Americans’ self-efficacy beliefs prevent participation in physical activity.
3. Hypertensive African Americans’ social environment prevents participation in physical activity.

**Significance of the Study**

The state of Maryland’s leading causes of death is hypertension-related morbidity and mortality, primarily heart disease and stroke for both men and women in all racial categories. Heart disease and stroke rank as the number one and number three leading causes of death and disability in Maryland, respectively (Maryland Department of Health & Mental Hygiene, 2001). Maryland ranks 24th in the nation in cardiovascular disease deaths and 19th in stroke deaths. Premature hypertension-related mortality, defined as those occurring under the age of 65, represent about a third of all stroke deaths and 20% of all hypertension-related mortality.
In 1999, there were 448,729 days of hospitalization resulting from hypertension-related morbidity and mortality that totaled more than $890 million (Maryland Health Care Commission, 2001). Future costs of hypertension-related morbidity and mortality are likely to be higher if current trends in obesity, diabetes, poor eating and physical activity habits are not reversed. Uncontrolled hypertension is a major cause of all hypertension-related morbidity and mortality, all of which require substantial health care expenditures for management.

Overweight and obesity substantially increase the risk of hypertension-related morbidity and mortality. Children in the United States are increasingly likely to be overweight and/or to have Type 2 diabetes (Mokdad et al., 2001). Among adolescents specifically, overweight in childhood predicts overweight in adulthood. Over 50% of overweight children, 5-10 years old have at least one cardiovascular risk factor, while 25% have two or more.

Maryland had one of the largest percentage increases in obesity in adults of all states from 1991-1998. Approximately 20% of Maryland adults are obese and more than 37% are overweight. In the period of 1990-2000, overweight increased from 31% to 36% while obesity increased from 12% to 20% of the population. The prevalence of overweight and obesity peaks in 55-74 year olds and is more likely to occur among African Americans, in men than women are and in low income and less educated groups of people. Baltimore City is one of the areas in the state that has the highest percentage of obesity.

In the United States, the prevalence of hypertension increases with age. Approximately 60% of Marylanders age 75 or older are hypertensive (Maryland
Department of Health & Mental Hygiene, 2001). The risk of death from all causes, but especially hypertension-related morbidity and mortality, increases as blood pressure increases, even within accepted normal values of blood pressure. Over a period of years, hypertension causes pathological changes in blood vessels in the heart, kidney, eyes and brain.

An increase in blood pressure with age does not happen in all cultures, which suggests that hypertension is not necessarily a consequence of aging. If there were retention in average blood pressure levels of young adults in the U.S. population, there would be less cardiovascular disease (Jones & Hall, 2004). Hypertension-related morbidity and mortality and associated risk factors are most predominant in people of color in Maryland. African American men and women are more likely to die of hypertension-related mortality than other ethnic groups in the state of Maryland (Centers for Disease Control and Prevention, 2006). Premature hypertension-related morbidity and mortality is twice as high in African American men as Caucasian men are and three times as high in African American women as Caucasian women are. The highest rate of hypertension-related morbidity and mortality in Maryland (Baltimore City) is approximately double the lowest rate (Montgomery County), which reflects a socioeconomic disparity (Maryland Department of Health & Mental Hygiene, 2001).

If the African American population in Maryland had the same age-specific hypertension-related morbidity and mortality rate as the Caucasian population of Maryland’s most affluent county (Montgomery), the African American population would have a hypertension-related morbidity and mortality rate 26% lower.
Physical inactivity is a major risk factor for hypertension-related morbidity and mortality. The physically inactive population has approximately twice the risk of disease and death as the active population. In 1990, approximately 30% of Maryland adults reported no leisure time physical activity (Centers for Disease Control and Prevention, 2006).

African Americans are among those who are the most physically inactive (Bassett, Fitzhugh, Crespo, King, & McLaughlin, 2002). In 2001, physical inactivity in Maryland adults was highest in adults age 75 and older (39%). African Americans are more likely to have no leisure time physical activity than Caucasians; while women are less active to engage in leisure time physical activity (Centers for Disease Control and Prevention, 2006).

Authorities estimate that approximately 35% of hypertension-related morbidity and mortality is due to physical inactivity. Approximately $4.3 billion per year could be saved if all sedentary adults in the United States participated in a walking program, according to a cost-benefit analysis (Colditz, 1999).

This study contributes to the current literature by shedding light on how time commitment, self-efficacy, and social environment influence physical activity participation within a convenient sample of hypertensive African Americans.

Limitations of the Study

The investigation of hypertension, its’ many causes, prevention, management, and other related issues is very broad based. African American is the target population. The literature on African Americans and their barriers to physical activity is sparse. However, the studies that do exist are showing that many African Americans lead sedentary lives.
Also, studies show that updated health information is not as accessible in the African American community. In order to uncover new information, this study limits its focus on management and prevention of hypertension through physical activity as it relates to African American. Time commitment, social environment and self-efficacy were investigated as it relates to African American participation in physical activity.

**Definition of Terms**

*Body Mass Index (BMI).* A key index for relating body weight to height, it is defined as a person's weight in kilograms (kg) divided by their height in meters (m) squared. Since the BMI describes the body weight relative to height, it correlates strongly (in adults) with the total body fat content.

*Hypertension.* A sustained elevation of optimal or normal blood pressure levels that equals or exceeds 140 mm Hg systolic and 90 mm Hg diastolic. It is considered a syndrome with multiple phenomena in which arterial pressure stays high for an extended period of time (McPhee, Lingappa, Ganong, & Lange, 2003).

*Obesity.* Refers to the state of being well above one's normal weight. A person has traditionally been considered to be obese if they are more than 20% over their ideal weight. That ideal weight must take into account the person's height, age, sex, and build. Obesity has been more precisely defined as a BMI of 30 kg/m² and above (National Heart, Lung and Blood Institute, 1998). Obesity is often multifactorial, based on genetic, social and behavioral factors. Accordingly, treatment of obesity usually requires more than just dietary changes. Exercise, counseling and support, and sometimes medication can supplement diet to help patients conquer weight problems.
**Overweight.** Refers to an excess of body weight compared to set standards. The National Heart, Lung and Blood Institute (1998) has identified being overweight as a BMI of 25.0–29.9 kg/m². However, overweight and obesity are not mutually exclusive, since people who are obese are also overweight. Defining overweight as a BMI of 25 kg/m² or greater is consistent with the recommendations of the World Health Organization (1998) and most other countries.

**Perception.** An evaluation of an object, recommended response, or a belief. For example, "exercise tires me “and” my high blood pressure will last a long time" are all perceptions. That a person chooses will be influenced by the beliefs regarding the action.

**Pre-hypertension.** Defined as slightly elevated blood pressure that without treatment could lead to hypertension. It is categorized by a systolic blood pressure range 120-139 mm Hg and a diastolic blood pressure range 80-99 mm Hg.

**Self-efficacy.** The degree to which an individual perceives that he/she is able to perform the recommended responses to avert the threat. For example, does an individual believe he/she is able to engage in physical activity to prevent or control hypertension? Does an individual believe he/she is competent and able to access the information needed to make good medical decisions?

**Social environment.** A group of identical or similar social positions and social roles. The social environment of an individual is the culture that he or she was educated and/or lives in, and the people and institutions with whom the person interacts. For example, there are socio-economical environments, educational environments, political environments, etc. A given social environment is likely to create environment solidarity
among its members, who are more likely to keep together, trust and help one another and think in similar ways. This will likely influence a composition of a social circle.

*Stage 1 hypertension.* Defined as 140-159 mm Hg systolic and 90-99 mm Hg diastolic blood pressure.

*Stage 2 hypertension.* Defined as 160-179 mm Hg systolic and 100-109 mm Hg diastolic blood pressure.

*Stage 3 hypertension.* Defined as 180-209 mm Hg systolic and 110-119 mm Hg diastolic blood pressure.

*Stage 4 hypertension.* Defined as greater than 210 mm Hg systolic and greater than 120 mm Hg diastolic blood pressure (Jones et al., 2004).

*Time.* Defined as periods or a period necessary or available for a given action. For example, having the time to exercise is essential for hypertensive African Americans.
CHAPTER II
Review of Literature

Blood pressure measurements have been the standard feature of the routine physical examination for decades (American Heart Association, 2004). More than 50 million people in the United States have hypertension (Nindl & Headley, 2002). Despite the well-known benefits of physical activity, many African Americans lead a relatively sedentary lifestyle. According to Nindl et al. (2002), this population is not active enough to prevent and/or manage their hypertension. This review of literature contains sections on the following: Overview of Hypertension, Hypertensive African Americans and Physical Inactivity, Obesity, Physical Activity, Time Commitment, Self-Efficacy Beliefs, Social Environment, and Summary.

Overview of Hypertension

Hypertension is a medical condition (Mann, 1999). It occurs when arterial pressure stays high for an extended period of time (McPhee et al., 2003). The diagnosis of hypertension requires that elevated readings be present on at least three occasions during several weeks (Lewis, Heitkemper, & Dirksen, 2000). Elevated blood pressure indicates that the heart is working harder than normal, putting both the heart and the arteries under a greater amount of strain. The systolic blood pressure represents the highest pressure generated by the contraction of the heart muscle, while the diastolic blood pressure represents the relaxation of the heart muscle.

According Chobanian et al. (2003), there are five classifications of hypertension. Pre-hypertension, defined as slightly elevated blood pressure, can lead to hypertension without treatment. Blood pressure measurement ranges that define pre-hypertension are
120-139 mm Hg systole and 80-99 mm Hg diastole. Blood pressure measurement ranges of 140-159 mm Hg systole and 90-99 mm Hg diastole is Stage 1 Hypertension. Blood pressure measurement ranges of 160-179 mm Hg systole and 100-109 mm Hg diastole is Stage 2 Hypertension. Blood pressure measurement ranges of 180-209 mm Hg systole and 110-119 mm Hg diastole is Stage 3 Hypertension. Finally, blood pressure measurement ranges that are greater than 210 mm Hg systole and greater than 120 mm Hg diastole are Stage 4 Hypertension (Jones et al., 2004).

Hypertensive African Americans and Physical Inactivity

As is true for many aspects of health and disease, race may be an important concept in the biologic and social aspects of hypertension. Living in a disadvantaged neighborhood is associated with an increased incidence of hypertension-related morbidity and mortality (Diez Roux et al., 2001). However, in a study by He et al. (1998), race did not lead to a disparity in the incidence of uncontrolled hypertension because of living in a poor neighborhood.

Hypertension occurs far more frequently in blacks of African American descent than in any other racial group (Sheps, 2002). Health information disseminates slowly into the African American community (Dixon, 2002). By the time the information reaches the community, it is so stale that it does not capture much attention. African Americans are significantly more likely to die from hypertension (Douglas et. al, 2003). Until recently there have not been clinical guidelines available to assist health care professionals in developing high blood pressure treatment strategies targeted to the special needs of African Americans.
The prevalence of physical inactivity is highest among African American women, than by African American men (American Heart Association, 2001). The median percentage of respondents reporting no leisure-time activities was 38.2% for African Americans (Bolen et al., 2000). Obesity and inactivity are of particular concern by African American women (Sowers, 1998). Older African American women are generally less active physically than older African American men (United States Department of Health and Human Services, 2002). Less active African Americans have a 30-50% greater risk of having hypertension than those who engage in regular recreation or physical activities (American Heart Association, 2001). Approximately one-third of African Americans ages 65 or older lead a sedentary lifestyle (Gaines & Burke, 1995).

Physical Activity

According to Mann (1999), lifestyle factors such as exercise and weight play a significant role in regulating hypertension. Regular physical activity is critically important for preventing hypertension and controlling hypertension among African Americans already diagnosed. African Americans who engage in physical activity outlive those who are inactive (Lee, Blair, & Jackson, 1999).

Outdated and biased attitudes and care standards impede optimal care of hypertension in African Americans. The negative expectations that blood pressure targets cannot be reached must be overcome by systematic and appropriate education and treatment. However, researchers should expect that: (1) African American patients with elevated blood pressure benefit from early prevention and intensive management; (2) blood pressure maintenance with appropriate therapeutic lifestyle changes such as
physical activity, nutrition and medication; and (3) avoidance of complications related to high blood pressure due early prevention and intensive management.

Social and lifestyle factors greatly influence a person's level of physical activity when leisure time for recreational activities is limited. Factors that contribute to this level of physical activity in African Americans may include insufficient time, a lack of motivation, opportunity, resources, or energy, and an obligation to family responsibilities.

Although changes in diet and physical activity are undoubtedly beneficial, many people have difficulty altering their usual diet and physical activity patterns. Community education efforts directed at African Americans have an important role in effecting changes in physical activity. A program of cardiovascular physical activity and nutrition counseling every 4 months resulted in reductions of about 4-7 mm Hg in blood pressure among African American adults after one year (Kumanyika et al., 1999). Education programs, delivered through school programs, local religious institutions, barber and beauty shops, and other community venues in a non-threatening manner, can engender trust.

**Obesity**

Overweight and obesity, as well as physically inactivity are commonly cited behavioral risk factors that contribute to an increase prevalence of hypertension (Sowers, Ferdinand, Bakris, & Douglas, 2002). Studies show consistently that weight loss can lower blood pressure (Mann, 1999). When a genetic predisposition to obesity has been identified, it has traditionally been considered an energy imbalance between calories consumed and calories expended (National Institutes of Health, 1995). There is mounting evidence that the prevalence of obesity is more closely related to decreases in energy
expenditures than to increases in energy intake (Bull, Rosenberg, & McGowan, 2000). This strongly implicates physical inactivity in the etiology of obesity (Welk & Blair, 2000).

Rates of obesity are approximately 21% in African American men and 38.2% in African American women, respectively (American Heart Association, 2001). This difference begins early and persists throughout the lifespan. Among children, 16.4% of African American girls are considered overweight and 15.7% of African American girls 12-17 years of age are considered overweight (American Heart Association, 2001). There is a relationship between childhood obesity and the high prevalence of hypertension-related morbidity and mortality in African American women.

While diet, exercise, and behaviour modification compose the gold standard of treatment, the exact role that physical activity plays in the amelioration of obesity remains unclear (Pescatello, 2001). It appears that the predominant effect of physical activity is not in the promotion of substantial weight loss through increased caloric expenditure as once hypothesized. Through metabolic changes that minimize the declines in resting metabolic rate, preserves lean body mass, reduces blood leptin levels and promotes fat oxidation, is the maintenance of the new lower body weight favoured (Welk et al., 2000).

**Time Commitment**

The lack of time for the pursuit of physical activity is linked to health awareness and health behavior (Hyman & Pavlik, 2001). The Robert Wood Johnson Diversity Report on physical activity identified time as one of the major barriers for participation in physical activity (Robert Wood Johnson Foundation, 2004). Adults who work outside the
home have additional time constraints for physical activity. Their limited nonworking time may involve household tasks and, particularly for working parents, childcare. Conversely, perceived barriers to physical activity, particularly lack of time is negatively associated with physical activity among adolescents (Zakarian, Hovell, Hofstetter, Sallis, & Keating, 1994).

Barriers to physical exercise for middle- to older-aged African American women may include time constraints, multiple roles such as financial provider, mother, caretaker and role conflict (Walcott-McQuigg, Sullivan, Dan, & Logan, 1995). African American women are concentrated in lower-status, lower-paying jobs that offer fewer benefits (United States Department of Labor, 1995) and limited or no retirement income, rendering them less likely to afford opportunities for health promotion, including information or resources for physical activity. In addition, African American women in their middle to older years are more likely than younger women to be responsible for intergenerational care giving such as young children, grown children, and elderly parents (McBride, 1990). These factors may produce environmental barriers that reduce the likelihood that African American women find the time and energy for physical exercise. Further, African American women may have limited ability to receive information about health maintenance, including the role of physical activity in health, because of unequal access to healthcare and healthcare information (Leigh, 1995).

Self-efficacy

Self-efficacy is defined as a judgment of one’s capability to accomplish a certain level of performance. Efficacy expectations derived from four major sources are: (1) performance accomplishments-actual performance or personal experience which is the
most influential source of efficacy information; (2) vicarious experience-observation of events and/or people; (3) verbal persuasion; and (4) physiological state-cues experienced by the individual (Rosenstock, Strecher, & Becker, 1988). Different from stable personality characteristics, self-efficacy relates to beliefs about the capabilities of performing specific behaviors in specific situations. Therefore, self-efficacy will vary depending on the specific task and the specific situation. It is the perceptions, and not necessarily the actual capabilities that influence behavior (Rosenstock et al. 1988).

The concept of self-efficacy assumes that behavior change and maintenance functions are expectations about the result from one engaging in a behavior, and outcome expectations about one’s ability to engage in or execute the behavior (Bandura, 2001). These beliefs about whether a given behavior will lead to given outcomes are outcome expectations. Beliefs about how capable one is in performing these behaviors that will lead to the outcome are efficacy expectations.

Self-efficacy plays a central role in behavior change and maintenance for two primary reasons. The first reason is that self-efficacy functions as a mechanism of action operant in all aspects of behavior, including the acquisition of new behaviors, inhibition of existing behaviors, and dis-inhibition of behaviors, the choices of behavioral settings, the length of time one will persist in the face of obstacles, and one’s emotional reactions and thought patterns (Rosenstock et al., 1988). The second reason is that efficacy beliefs are dynamic and subject to influence according to the informational sources and content, interpretation of the efficacy information, and the impact of the interpretation (Maibach & Murphy, 1995). If self-efficacy is the conviction that one can successfully execute this behavior, then this concept can more fully explain health behavior. For example, in order
to engage in a health-related behavior, one must believe that the behavior will benefit their health.

Although self-efficacy has received increasing attention for its role in weight loss and physical activity, there is less research examining this relationship in minority samples. A recent study examined self-efficacy and weight change in a sample of overweight and obese African American women participating in a weight management program (Martin, Dutton, & Brantley, 2004).

One hundred and six overweight or obese, low-income African American women were included in this study. The women were involved in a weight management intervention that involved personalized monthly sessions either with their primary care physician or with a standard care weight loss treatment. The primary care intervention involved six monthly appointments with their physician. Each appointment followed a standardized general format that was personalized to the patients’ motivation for change, food preferences, and current and dietary habits. One appointment focused on increasing self-efficacy by teaching patients how to resist eating in certain high-risk situations. Self-efficacy for eating behaviors and weight loss were assessed with the Weight Efficacy Lifestyle Questionnaire at baseline and at the end of the 6-month treatment. Weight, depression, and stressful life events also measured at baseline and at the end of six months.

The primary care intervention group obtained significantly greater weight loss from baseline to post-treatment compared with the standard care group. The primary care intervention demonstrated greater improvement in overall self-efficacy than the standard care group. Lower levels of self-efficacy at baseline were associated with greater
increases in self-efficacy during treatment. Higher levels of self-efficacy for weight loss before treatment were associated with worse treatment outcomes, whereas improvement in self-efficacy during treatment were related to greater weight loss.

The fact that higher levels of self-efficacy at baseline predicted poorer outcomes were unexpected, due in part to previous research that had shown that baseline self-efficacy is predictive of weight loss. One possibility for this finding is that self-efficacy for controlling eating behaviors does function in the same manner in this population to that compared with other samples. It is also possible that The Weight Efficacy Lifestyle Questionnaire does not accurately capture the relevant components of self-efficacy for African Americans. Although future studies are needed, these results suggest that self-efficacy for weight loss and physical activity is an important variable to consider regarding weight management programs in the African American population.

Social Environment

Social environment is the strongest predictor of being physically active (Stahl, Rutten, Nutbeam, & Kanna, 2002). Significant others can make it more or less likely that a person is active on a regular basis. Social influences on physical activity are strong for people of all ages, but the nature of the support varies with developmental level. Social support for adults can come from friends, coworkers, family members, and the main types of support are encouragement, participating in physical activities, and providing assistance, such as childcare (Dishman & Sallis, 1994). For adolescents, the influence of peers is paramount. If a given adolescent identifies with a peer group that values and participates in physical activity, the group creates a supportive environment for its members. If the main peer group devalues physical activity, this is an effective deterrent.
The younger the child, the more influential parents are. Studies of children aged 9-13 years have shown there are several ways that parents can support children’s physical activity. Serving as active role models and providing encouragement may have limited influence, but two studies show that parents can have the most impact by directly helping children be active. Parents, who participate in activities with their children (Stucky-Ropp & DiLorenzo, 1993), organize activities (Anderssen & Wold, 1992), or transport children to places where they can be active are the most effective supporters (Sallis et al., 1992). For preschool children, prompts and encouragement to be active can be helpful (Sallis, 1993).

Summary

Hypertension, also known as high blood pressure, is a persisting elevation of the pressure of the blood circulating in the arteries throughout the body (Mann, 1999). It is a leading risk factor for strokes and a leading risk factor for heart attacks. It is a major health concern. Billions of dollars are spent each year on drugs, doctor visits, and research. Approximately 50 million Americans have hypertension, but the disease has its harshest effect on African Americans: one out of three African Americans, and seventy-one percent over the age of sixty, has it (Dixon, 1994). Obesity is a common problem for African Americans. Obesity is strongly associated with the development of hypertension. Studies show consistently that weight loss can lower blood pressure. Lifestyle factors such as exercise and weight plays a significant role in governing hypertension. Many African Americans live sedentary lifestyles. According to Dixon (1994), African Americans need equal health opportunities that include the good health information that will help them make the right choices for healthy and productive lives.
CHAPTER III

Methodology

The purpose of this study was to investigate time commitment, self-efficacy and social environment as it relates to physical activity participation in a selected sample of hypertensive African Americans. This chapter describes the collection of the data. Included are the following: description of the sample population, instrumentation, pilot study, and data collection.

Sample Population

Three hundred and seventy-five questionnaires were distributed to prospective respondents at the Transformation Church of Jesus Christ, located in Baltimore, Maryland. The total number of respondents that returned the questionnaires was 284. Six of the respondents excluded from the study, did not meet criteria of being African American. Consequently, 278 questionnaires were utilized for the study.

Table 3.1 shows the distribution of respondent’s gender, race, marital status, income, education and age.

Table 3.1  Respondent Distribution by Race, Marital Status, Income, Education and Age

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<td>Some College or Technical School</td>
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**Permission**

The investigator received permission from the church leaders to utilize the Transformation Church of Jesus Christ as a research site. This site selection was due, in part, to its population of African Americans with varying incomes, educational attainment and ages.

A cover letter and questionnaire (Appendices C and A) were distributed to the respondents or potential respondents via the study investigator and church leaders of the Transformation Church of Jesus Christ. The cover letter explained the nature of the study, and explained that participation in the study was voluntary and would not influence organizational status, treatment, status within the church, or church access. The investigator informed the respondents that all data was confidential. The study received
approval by the Virginia Tech Human Respondents Review Board (IRB #05-0531) (Appendix B).

Site Information

The Transformation Church of Jesus Christ is an apostolic church with a predominantly African Americans membership. Established in the Baltimore City community on November 7, 1965, the Transformation Church of Jesus Christ is located on 5150 Baltimore National Pike Baltimore, Maryland. The Transformation Church of Jesus Christ currently has an active roster of approximately fifteen hundred people.

Measurement

Instrumentation. The investigator used the literature regarding hypertension and physical activity in addition to a panel of experts to develop the questionnaire for this study. The panel of experts was selected from a pool of African American researchers who have published studies on hypertensive African Americans living in the United States. The questionnaire was composed of five sections: demographics, hypertension risk factors, hypertension prevention and treatment, hypertension knowledge, and physical activity participation subscale.

Section 1: demographics. Questions 1-8 offered information regarding the respondent’s gender, race, age, marital status, education, employment and income.

Section 2: hypertension risk factors. Questions 1-16 were items recommended by the American Heart Association (Appel et al., 2006) and those developed by the investigator based on a review of literature were utilized to determine the respondent’s hypertension risk factors. Specifically, respondents were asked to report whether they had previously been diagnosed with high blood pressure, family history of hypertension,
physical activity levels, height and weight (to obtain BMI), dietary salt intake, alcohol consumption, whether or not they smoked, and individual stress levels.

Section 3: hypertension prevention & treatment. Questions 1-5 asked the respondents questions about hypertension prevention and treatment. Specifically, they were asked whether or not they took measures to prevent the onset of hypertension. Those diagnosed as hypertensive were asked whether or not they took measures to treat their hypertension.

Section 4: hypertension knowledge. Questions 1-8 assessed hypertension knowledge through a thorough review of the literature regarding hypertension. These questions were used to determine the participant’s general knowledge of hypertension: the definition of hypertension; the incidence of hypertension; African American and hypertension; the co-morbidities associated with hypertension; and the recommended treatment of hypertension. All items were constructed using a multiple-choice format with only one correct answer. The correct answers were based upon the American Heart Association’s recommendations (Appel et al., 2006) and hypertension data information obtained from the Seventh Report of the Joint National Committee (JNC) on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (Wang & Wang, 2004).

Section 5: physical activity participation subscale. Questions 1-14 were statements that related to physical activity participation. Developed originally as the Exercise Benefits/Barriers Scale (Sechrist, Walker, & Pender, 1987), items for the scale were obtained inductively from interviews and from the literature. The resulting instrument was tested for internal consistency, validity of its constructs and test-retest reliability.
A sample of 650 individuals, primarily from northern Illinois, responded to the instrument. Calculation of Cronbach’s α for the 43-item instrument yielded a standardized α equivalent to 0.954. The 29-item Benefits Scale has a standardized α equivalent to 0.954 and the 14-item Barriers Scale has a standardized α equivalent to 0.866. Factor analysis yielded a non-factor solution initially with an explained variance of 65.2%. Second order factor analysis yielded a two-factor solution, one a benefits factor and the other, a barriers factor. Test-retest reliability was accomplished with a sample of 66 healthy adults at a two-week interval. Test-retest reliability was found to be 0.89 on the total instrument, 0.89 on the Benefits Scale and 0.77 of the Barriers Scale. For the purpose of this study, the investigator utilized the Exercise Barriers Subscale and renamed it the Physical Activity Participation Subscale.

Development of the Questionnaire

The investigator based on his review of the literature developed the items in the questionnaire. The initial questionnaire consisted of 70 questions. However, after a review by a panel whose expertise was in African Americans’ health issues and hypertension, some questions were eliminated. Some questions were determined to be too difficult. Subsequently, the questions underwent revisions. Fifty-one questions resulted. The questionnaire was organized into five sections demographics (8 questions), hypertension risk factors (16 questions), hypertension prevention and treatment (5 questions), hypertension knowledge (8 questions), and physical activity participation subscale (14 questions).

Pilot Study
To determine whether there were any problems with the questionnaire or directions for potential respondents, a pilot study was conducted using a selected sample of African Americans. During the April 2005 meeting of the Baltimore City Alumnae Chapter of Omega Psi Phi Fraternity Incorporated, the investigator distributed sixteen questionnaires to attendees. All respondents were African American men aged 25-78 (n=17). Two respondents were between the ages of 25-29 (12%). Ten respondents were between the ages of 30-39 (59%). Three respondents were between the ages of 40-49 (17%). One respondent was between the ages 50-59 (6%), and one respondent was greater than 60 years of age (6%). All respondents completed at least four years of college, with fifty percent having an advanced degree. All of the respondents resided in Baltimore, Maryland. Questionnaires were filled out completely, returned to the investigator, and deemed suitable for analysis by the investigator.

After this survey was conducted, the results were analyzed for questionnaire validity. After the pilot study was conducted and the data were analyzed, and approval received from the Virginia Tech Human Respondents Review Board, the questionnaire was submitted for review to a second panel of experts. The second panel of experts consisted of four-hypertension specialist. The panel made recommendations regarding the questionnaire, and based on the recommendations, subsequently revised. For this study, the revised questionnaire, consisting of fifty-one questions, was utilized. Table 3.2 shows the demographic profile of the pilot study respondents.
Based upon the comments from the respondents, the results of the item analysis, and suggestions from the panel of experts, revisions were made. Specifically the format of the questionnaire was changed from a circle-the-answer format to a multiple-choice format.

**Data Collection**

Before data collection began, permission to conduct the study was applied for and received from the Virginia Polytechnic Institute and State University Human Subject Review Board and the Transformation Church of Jesus Christ officials (Appendix D). Data collection began in the late spring and ended early summer of 2005. The investigator sent the church officials a master copy of the instrument packet, which contained the questionnaire (Appendix A) as well as the informed consent and letter of introduction (Appendix C). The questionnaires were administered on two separate occasions. During church services and bible study, the church officials made and distributed three hundred twenty five copies of the instrument packet (questionnaire, informed consent forms, and letter of introduction).
Data Analysis

The first step of the review process was to eliminate respondents who did not fit the profile of the study population. Six of the respondents who returned the questionnaire were not African American. These individuals were excluded from the study. Therefore, all returned data sheets that were filled out by African Americans were used in the study (n=278). After the respondents’ demographic information was reviewed, a profile of the respondents was developed to describe their employment, income, age, and education (Questions 1-8).

The second step of the process was to review the respondent’s hypertension risk factors (Questions 1-16). The respondents were dichotomized according to their hypertension status. Respondents who reported being hypertensive (n=130) were separated from those who reported being non-hypertensive (n=146). Further review was completed for only the hypertensive respondents.

The third step of the process was to review the respondent’s hypertension prevention and treatment factors (Questions 1-5).

The fourth step of the process was to review the section of the questionnaire that consisted of the respondents’ hypertension knowledge (Questions 1-8).

The fifth step of the process was to review the respondent’s perceived physical activity barriers (Questions 1-14). These questions included items that addressed time commitment to engage in physical activity, one’s self-efficacy to engage in physical activity, and how one’s social environment effects their ability to engage in physical activity.
The final step of the process was the use of triangulation of the review of literature, pilot study, and results of the study to support or dispute each of the three hypothesis.
CHAPTER IV
Results of the Study

The results of this study were presented in this chapter. It contains the findings from the survey instrument and analysis of data.

Profile of the Respondents

Two hundred and eighty-four respondents returned questionnaires. Six respondents were excluded from the analysis for not being African American. Table 4.1 shows a profile of the respondents’ gender, race, marital status, income, education and age.

Table 4.1  Demographics

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<thead>
<tr>
<th>Characteristic</th>
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<td>Gender:</td>
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<td></td>
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<tr>
<td>Female</td>
<td>202</td>
<td>73%</td>
</tr>
<tr>
<td>Male</td>
<td>76</td>
<td>27%</td>
</tr>
<tr>
<td>Race:</td>
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<td></td>
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<tr>
<td>Black or African American</td>
<td>278</td>
<td>100%</td>
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<tr>
<td>Marital Status:</td>
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<td></td>
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<tr>
<td>Never Married</td>
<td>64</td>
<td>23%</td>
</tr>
<tr>
<td>Married</td>
<td>134</td>
<td>48%</td>
</tr>
<tr>
<td>Divorced, Separated, Widowed</td>
<td>56</td>
<td>20%</td>
</tr>
<tr>
<td>Non-responsive</td>
<td>24</td>
<td>9%</td>
</tr>
<tr>
<td>Income:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5,000</td>
<td>18</td>
<td>7%</td>
</tr>
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<td>22%</td>
</tr>
<tr>
<td>Master Degree</td>
<td>50</td>
<td>18%</td>
</tr>
</tbody>
</table>
As presented in Table 4.1, 278 of the respondents that returned their questionnaires were African-American. Six respondents from the total sample population (n=284) were excluded from the study for not being African American. Seventy-three percent of the sample population that was included in the study were women (n=202), while 27% were men (n=76). In the age category, the majority of respondents (23%) were 36-45 years of age. In the marital status category, the majority of respondents (48%) were married. In the education category, the majority of the respondents (24%) reported having some college or technical school training. In the employment category, the majority of respondents (63%) reported they worked full-time. In the income category, the majority of respondents (25%) reported they earned $50,000+.

**Hypertension Risk Factors**

*Figure 4.1 Have you been told by a doctor, nurse, or health professional that you have high blood pressure (120/80mmHg or greater)?*
NR = No response

As illustrated in Figure 4.1, of all respondents, 47% reported having high blood pressure (n=130), while 53% of respondents reported not having high blood pressure (n=146).

**Figure 4.2** If you answered yes to the previous question, what stage of high blood pressure do you have?

As illustrated in Figure 4.2, of the 130-hypertensive respondents, 55% did not know their hypertensive status (n=72).
**Figure 4.3** Has a parent or close relative of yours been diagnosed with high blood pressure?

As illustrated in Figure 4.3, 82% of all respondents reported that parents or close relatives have been diagnosed with high blood pressure (n = 228).

**Figure 4.4** During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

As illustrated in Figure 4.4, 81% of all respondents reported that they have participated in physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise within the past month (n=220).
Figure 4.5 How often do you exercise?

![Bar Chart]

- <1 = Less than 1 week
- 1–3 = 1–3 times per week
- >4 = Greater than 4 times per week
- NR = No response

As illustrated in Figure 4.5, 49% of all respondents reported that they exercise 1-3 times per week (n=136), while 38% exercised less than once a week (n=106).

Figure 4.6 Body Mass Index (BMI) [Weight in lbs./(Height in inches) * (Height in inches)]

![Bar Chart]

- UW = Underweight
- N = Normal
- OW = Overweight
- O = Obese

As illustrated in Figure 4.6, 46% of the respondents were obese (n=129), while 29% were overweight (n=82).
Figure 4.7  How would you describe yourself?

As illustrated in Figure 4.7, 63% of the respondents reported themselves as being overweight (n=174).

Figure 4.8  Do you consume more than one teaspoon (1 tsp.) of salt a day?

NR = No response
As illustrated in Figure 4.8, 59% of the respondents reported that they did not consume more than one teaspoon of salt a day (n=164). However, 39% reported that they consumed more than one teaspoon of salt a day (n=108).

Figure 4.9  Do you consume more than 1–2 beverages that contain alcohol per day?

As illustrated in Figure 4.9, 99% of the respondents reported that they consumed more than 1-2 beverages that contain alcohol per day (n=274).

Figure 4.10  Are you presently under a lot of stress?

As illustrated in Figure 4.10, 46% reported that they are presently under a lot of stress (n=128). However, 50% reported that they are not under a lot of stress (n = 140).
**Figure 4.11**  Do you exercise to reduce your stress?

As illustrated in Figure 4.11, 73% of the respondents reported that they did not exercise to reduce stress (n = 202).

**Hypertension Prevention and Treatment**

**Figure 4.12**  Are you currently taking pills for high blood pressure?

As illustrated in Figure 4.12, 84% of the respondents with high blood pressure reported not currently taking pills for high blood pressure (n = 109).
Figure 4.13 If yes, to the previous question, how many high blood pressure pills are you currently taking?

As illustrated in Figure 4.13, 65% of the hypertensive respondents reported taking one high blood pressure pill (n = 84).

Figure 4.14 Within the past year have you began to exercise more due to the advice of a doctor, nurse, or other health professional?

As illustrated in Figure 4.14, 61% (n = 170) reported not exercising due to the advise of a doctor, nurse, or other health professional.
**Figure 4.15**  Within the past year have you tried to reduce your levels of stress due to the advice of a doctor, nurse, or other health professional?

As illustrated in Figure 4.15, 63% (n = 174) of the respondents have not tried to reduce their levels of stress due to the advise of a doctor, nurse, or other health professional.

**Hypertension Knowledge**

**Figure 4.16**  Over 50 million Americans have (  ).

As illustrated in Figure 4.16, 94% of all respondents selected the correct response to the above statement (n = 260). Six percent selected the incorrect answer (n = 18), with 3% selecting option a (n = 8), and 3% selecting option c (n = 10).
Figure 4.17  Over 40% of the African American community has (  )

![Graph showing response distribution](image)

NR = No response

As illustrated in Figure 4.17, 90% of all respondents selected the correct response to the above statement (n=249). Five percent selected the incorrect answer (n = 16), with 4% selecting option b (n=12) and 1% selecting option c (n = 4). Five percent did not respond (n = 13).

Figure 4.18  There are (  ) classifications or stages of high blood pressure.

![Graph showing response distribution](image)

NR = No response

As illustrated in Figure 4.18, 79% of the respondents selected the correct answer to the above statement (n = 220). Fifteen percent (n = 44) selected the incorrect answer with 7% (n = 20) selecting option a, and 8% (n = 22) selected option b.
**Figure 4.19**   High blood pressure is considered “the silent killer” because it has no warning signs until problems with the heart, kidney or brain occur.

As illustrated in Figure 4.19, 79% of the respondents selected the correct answer to the above statement (n = 220). Fourteen percent selected the incorrect answer (n = 38), and 7% did not respond (n = 20).

**Figure 4.20**   African Americans are not at risk for any life threatening diseases that are associated with high blood pressure such as heart disease, stroke, or diabetes.

As illustrated in Figure 4.20, 79% of the respondents selected the correct answer to the above statement (n = 220). Fourteen percent selected the incorrect answer and (n = 40), and 7% did not respond (n = 18).
**Figure 4.21**  African Americans tend not to develop high blood pressure at an earlier age and more severely than Caucasians.

As illustrated in Figure 4.21, 69% of the respondents selected the correct answer to the above statement (n = 193). Twenty-five percent selected the incorrect answer (n = 70), while 6% did not respond (n = 15).

**Figure 4.22**  Despite the advances in blood pressure medications and home blood pressure monitoring devices, the actual number of deaths due to high blood pressure has increased by 40% in the last ten years.

As illustrated in Figure 4.22, 86% of the respondents selected the correct answer to the above statement (n = 238). Eleven percent selected the incorrect answer (n = 30), while 3% did not respond (n = 10).
Figure 4.23  Lifestyle changes that include exercise will limit the risk for heart attack and stroke regardless of race.

<table>
<thead>
<tr>
<th></th>
<th>True</th>
<th>False</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>245</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Percentage</td>
<td>88%</td>
<td>4%</td>
<td>8%</td>
</tr>
</tbody>
</table>

NR = No response

As illustrated in Figure 4.23, 88% of the respondents selected the correct answer to the above statement (n = 245). Eleven percent selected the incorrect answer (n = 11), while 8% did not respond (n = 22).
Physical Activity Participation

Figure 4.24  Exercising takes too much of my time.

As illustrated in Figure 4.24, of the 130 hypertensive respondents, 69% disagreed that exercise takes too much of their time (n = 90).

Figure 4.25  Exercise tires me.

As illustrated in Figure 4.25, of the 130 hypertensive respondents, 40% agreed that exercise tires them (n = 52). However, 35% disagreed that exercise tires them (n = 46). Seventeen percent (n = 22) strongly disagreed that exercise tires them.
Figure 4.26  Places for me to exercise are too far away.

As illustrated in Figure 4.26, of the 130 hypertensive respondents, 51% disagreed that places to exercise are too far away (n = 66). Twenty-three percent strongly disagreed that places to exercise are too far away (n = 30).

Figure 4.27  I am too embarrassed to exercise.
As illustrated in Figure 4.27, of the 130 hypertensive respondents, 60% disagreed that they are too embarrassed to exercise \((n = 78)\). Thirty-one percent strongly disagreed that they are too embarrassed to exercise \((n = 40)\).

*Figure 4.28 Exercise facilities do not have convenient schedules for me.*

As illustrated in Figure 4.28, of the 130 hypertensive respondents, 51% disagreed that exercise facilities do not have convenient schedules \((n = 66)\). Thirty-four percent strongly disagreed that exercise facilities do not have convenient schedules \((n = 34)\).

*Figure 4.29 My spouse (or significant other) does not encourage exercising.*
As illustrated in Figure 4.29, of the 130 hypertensive respondents, 43% disagreed that their spouse (or significant other) does not encourage exercising (n = 56). Twenty-one percent strongly disagreed that their spouse (or significant other) does not encourage exercising (n = 27). Seventeen percent agreed that their spouse (or significant other) does not encourage exercising (n = 20).

Figure 4.30  Exercise takes too much time from family relationships.

As illustrated in Figure 4.30, of the 130 hypertensive respondents, 61% percent (n = 79) disagreed that exercise takes too much time from family relationships. Twenty-seven percent strongly disagreed that exercise takes too much time from family relationships (n = 35).
Figure 4.31  My family members do not encourage me to exercise.

As illustrated in Figure 4.31, of the 130 hypertensive respondents, 51% disagreed that their family members do not encourage them to exercise (n = 66). Twenty-six percent strongly disagreed that their family members did not encourage them to exercise (n=34).

Figure 4.32  Exercise takes too much time from my family responsibilities.

As illustrated in Figure 4.32, of the 130 hypertensive respondents, 52% disagreed that exercise takes too much time from family responsibilities (n = 68). Thirty-one
percent strongly disagreed that exercise takes too much time from family responsibilities (n = 40).

*Figure 4.33  Exercise is hard work for me.*

As illustrated in Figure 4.33, of the 130 hypertensive respondents, 48% disagreed that exercise is hard work for them (n = 62). However, 28% agreed that exercise is hard work for them (n = 36). Twenty percent strongly disagreed that exercise is hard work for them (n = 26).

*Figure 4.34  There are too few places for me to exercise.*
As illustrated in Figure 4.34, of the 130 hypertensive respondents, 57% disagreed that there are too few places for them to exercise (n = 74). Twenty-eight percent strongly disagreed there are too few places for them to exercise (n = 36).
CHAPTER V
Discussion, Conclusion and Recommendations

The purpose of this study was to investigate time commitment, self-efficacy, social environment as it related to physical activity within a selected sample of hypertensive African Americans. Following is a brief summary of the demographics, a description of the respondents’ hypertension risk factors, the reported prevention and treatment utilized by the respondents, the respondents’ hypertension knowledge and their physical activity perceptions.

Demographics

The investigator received two hundred and eight-four surveys (n=284). Excluded from the study, were six respondents that did not meet the study requirement of being African American. After exclusion, 278 questionnaires remained viable for review. Two hundred and two respondents were female (73%). Sixty-four percent were between the ages of 26-55 (n=178). Twenty-eight percent were 56 years and older (n=80). Approximately 50% of the respondents were married (n=134). Fifty-two percent of the respondents had an associate, bachelor, master or doctoral degree (n=144). The annual income of $50,000 represented 25% of the respondent’s earnings (n=70). In comparison to respondents with higher levels of education and income, respondents with lower levels of education and income reported being the least active in physical activity. Respondents who were non-hypertensive reported more physical activity participation than those who were hypertensive. These findings were consistent with the current literature that African-American are particularly at risk because they often are unaware of the disease, do not receive treatment, and/or do not adhere to a treatment regimen if one is prescribed.
Management of hypertension in African-American men is complex and requires consideration of the unique aspects of this special-need population (Wagner, 1998).

**Hypertension Risk Factors**

Forty-seven percent of the 278 respondents are hypertensive (n=130). However, it is important to note that 55% of the respondents who reported having high blood pressure did not know what hypertensive stage they were in (n=72). This statement is indicative of the sparse literature that postulates a correlation between lack of education and increased hypertension risk in African Americans. Eighty-one percent indicated that they participated in physical activities during the past month (n=220), with over 49% exercising one to three times per week (n=136). However, 29% had a BMI that was considered overweight (n=82), while 46% of the respondents had a BMI that was considered obese (n=129). However, only 5% of the respondents described themselves as being obese (n=14). African-American women tend to be satisfied with their bodies and perceive themselves to be attractive whether they are normal or overweight (Stevens, Kumanyika, & Keil, 1994) and may not become dissatisfied with their body size until they are obese (Fitzgibbon, Blackman, & Avellone, 2000). Although greater acceptance of heavy body ideals may be protective against some eating disorders, it may be a risk factor for obesity and may limit motivation for weight loss or weight control (Kumanyika & Morssink, 1997). Some body image dissatisfaction and accurate perception of overweight status may be necessary to motivate healthy behaviors (Heinberg, Thompson, & Matzon, 2001). However, African-American women are less likely to perceive their overweight status correctly compared with Caucasian women (Paeratakul, White, Williamson, Ryan, & Bray, 2002). Although obesity is less of a problem among African-
American men than women are, African American men who are overweight are also less likely to perceive their overweight status than Caucasian men (Paeratakul et al. 2002) are. Forty-six percent of the respondents reported being under a lot of stress (n=128). However, 73% of the respondents reported not engaging in physical activity to reduce stress. African Americans experience higher morbidity and mortality than Caucasians because of hypertension-related morbidity and mortality. Chronic psychosocial stress has been considered an important contributing factor to these high rates (Schneider et al., 2001).

**Hypertension Prevention and Treatment**

Eighty-four percent of the hypertensive respondents did not take pills for their hypertension (n=109). Of the remaining 16% that did take medication for their hypertension, 65% of the respondents reported only taking one medication (pill). This is consistent with the current literature. Bosworth and colleagues (2006) studied 569 veterans. Forty-one percent were African Americans and 59% were Caucasians in order to identify the social, economic, and physical factors that may explain racial differences in blood pressure control. African Americans were 70% more likely to have inadequate blood pressure control compared with Caucasians. African Americans were 81% more likely not to adhere to their medication regimen. After adjustment for more than 20 potential factors, African Americans were still 59% more likely than Caucasians to have poor blood pressure control.

**Hypertension Knowledge**

In the Hypertension Knowledge section of the questionnaire, the respondents were asked questions regarding their knowledge of hypertension (Appendix A). Items 1
and 2 received over 90% of the respondents scoring correctly (n=260 and n=245, respectively). Items 7 and 8 were correctly addressed by over 90% of the respondents (n=238 and n=245, respectively). Items 3, 4, 5, and 6 were correctly responded to by over 79% of the respondents (n=220, n=220, n=220, and n=193, respectively).

Patient knowledge and awareness of blood pressure plays an important role in the ability to control hypertension (Grueninger, 1995; Kjellgren et al., 1997; Speers, et al., 1990; Wizner et al., 2000). A previous study showed an association between hypertension knowledge and compliance in hypertensive patients (Balazovjech & Hnilica, 1993). Recently, lack of knowledge of target systolic blood pressure (SBP) levels have shown to be an independent predictor of poor blood pressure control (Knight et al., 2001). While many studies have evaluated patient awareness of hypertension (Burt et al., 1995; Joffres et al., 1992; Ramsden et al., 1994; Roccella et al., 1986; Tanihara et al., 1999; Roccella et al., 1993), critical elements of blood pressure knowledge have not been adequately assessed, especially with regard to the systolic component of blood pressure.

Historically, diagnosis of hypertension has been based on elevated diastolic blood pressure (DBP), while SBP was relatively ignored (Kannel, Dawber, & McGee, 1980). However, it has been shown that SBP is the more important component of arterial pressure in predicting hypertension-related morbidity and mortality (Benetos et al., 2002; Kannel, 1999). Further, research from the Framingham Heart Study (Kannel, Dawber, & McGee, 1980) and the Third National Health and Nutrition Examination Survey (NHANES III) [Lloyd-Jones et al., 2000; Franklin et al., 2001], has found that poor BP control is largely a result of elevated SBP. Improved control of SBP is of crucial importance in an aging population because SBP continually rises with increasing age, in
contrast to DBP, which begins to decline in the sixth decade of life (Burt et al., 1995). Thus, the high prevalence of hypertension among seniors is primarily due to elevated SBP. In light of this mounting evidence for changing the focus from DBP, the National High Blood Pressure Education Program (Izzo, Levy, & Black, 2000) has recommended that SBP be the principle measure for diagnosing and managing hypertension. These findings suggest the added importance of patient knowledge of the risks and management of elevated SBP as well as DBP in controlling hypertension.

**Hypotheses**

This study addressed the following three hypotheses:

1. Hypertensive African Americans’ perceived time commitment prevents participation in physical activity.

2. Hypertensive African Americans’ self-efficacy beliefs prevent participation in physical activity.

3. Hypertensive African Americans’ social environment prevents participation in physical activity.

_Hypertensive African Americans’ perceived time commitment prevents participation in physical activity._ The data does not support the hypothesis. Sixty-nine percent of respondents (n=90) disagreed with the statement “exercise takes too much of my time.” Fifty-one percent of respondents (n=66) disagreed with the statement “exercise facilities do not have convenient schedules.” Sixty-one percent respondents (n=79) disagreed with the statement “exercise takes too much time away from family relationships.” Fifty-two percent of respondents (n=68) disagreed with the statement “exercise takes too much time
away from my family responsibilities.” This data conflicts with the literature, which reports perceived time commitments as a barrier.

The literature regarding perceived time commitment and physical activity participation by African Americans is sparse and limited. Most of the existing literature focuses upon the time commitments of African American women, who are single moms. However, the existing literature conflicts with the findings in this study. The finding shows that most of the respondents do not agree that exercise takes too much time or takes them away from family relationships. However, the literature reports that family relationships and the lack of time prevent physical activity participation by African Americans. Additional studies need to delineate perceived time commitment and physical activity among African Americans further.

The findings demonstrate 49% of respondents reported engaging in physical activity one to three times per week within the last month (n=136). This finding suggests that there is a barrier to physical activity participation. However, it is unclear if this barrier relates to perceived time commitment. This is less than the recommended levels of physical activity cited in Healthy People 2010. The recommended level of physical activity is five or more times per week for thirty minutes or more at a moderate intensity, or three or more times per week for twenty minutes or more at a vigorous intensity (Healthy People 2010, 2006).

**Hypertensive African Americans’ negative self-efficacy beliefs prevent participation in physical activity.** The data do not support the hypothesis. Respondents reported that they disagreed that they viewed themselves as not able to engage in physical activity. Forty percent of respondents (n=52) agreed with the statement “exercise tires
me.” However, 52% either disagreed or strongly disagreed with the statement “exercise
tires me.” Forty-seven percent of respondents (n=61) disagreed with the statement “I am
tired by exercise.” Forty-eight percent of respondents (n=62) disagreed with the statement
“exercise is hard work for me.”

An inference can be derived from the findings that negative self-efficacy beliefs
did not prevent the respondents from participating in physical activity. The existing
literature is limited; however, the inference that can be made from both the findings and
the existing literature is that factors beyond self-efficacy may prevent physical activity
participation among African Americans.

*Hypertensive African Americans’ social environment prevents participation in
physical activity.* The data do not support the hypothesis. Fifty-one percent of
respondents (n=66) disagreed with the statement “places for me to exercise are too far
away.” Thus, it can be inferred that the distance of exercise places does not present a
barrier to 51% of the respondents. Forty-three percent of respondents disagreed with the
statement “my spouse (or significant other) does not encourage exercising.” Fifty-one
percent of respondents (n=56) disagreed with the statement “my family members do not
encourage me to exercise.” Fifty-seven percent of respondents (n=74) disagreed with the
statement “there are too few places for me to exercise.”

According to the findings, social environment does not prevent participation in
physical activity for the majority of respondents. The role social environment plays
however, is unclear and there is a need to conduct additional studies to identify the
specific role social environment plays.
Conclusion

Much of the data collected disputed the review of literature. Information within the review of literature strongly points out African Americans live sedentary lifestyles. Additionally, the review of literature suggested that African Americans are physically inactive, do not have time to exercise, are not intrinsically motivated to engage in physical activity, nor are they extrinsically motivated, are poorly educated on the benefits of physical activity, and do not have social environments that are conducive to engage in physical activity. However, the findings of this study suggested that this is not the case.

Significant to point out is that the data collected held much contradiction as it related to the respondents’ physical fitness activity perceptions and hypertension knowledge. For example, 79% of the respondents reported that they exercise. Yet, 75% of the respondents had a BMI of 25.0-29.9 (overweight) or 30.0 or greater (obese).

Generalizing these findings to the population at large is limited due to it being a selected sample, and not representative of the African American population as a whole. In addition, the study used self-reported data, which could contain erroneous reports or over-estimations. Despite these limitations, this study provided a unique opportunity to examine the physical activity participation of a select group of hypertensive African Americans. To more clearly identify and understand physical activity participation, future studies can build on the data presented here. The following recommendations for future research are suggested.

Recommendations

The present study contributes to the existing review of literature, which is sparse and conflicting. However, more research is needed to understand how time commitment,
self-efficacy, and social environment effect the physical activity participation by hypertensive African Americans. This study could be enhanced if it were replicated using qualitative analysis, specifically one-on-one interviews. Qualitative interviews may illicit in-depth information about personal and cultural beliefs. This information can assist researchers in developing a clearer understanding of the variables that influence physical activity participation.

In addition, the investigator recommends using qualitative inquiry such as focus groups to develop culturally sensitive instruments that will more accurately access the effect time commitment, self-efficacy and social environment effects the physical activity participation of hypertensive African Americans. Hypertensive African Americans must understand the importance of regular physical activity to control their high blood pressure. Once it is understood how time commitment, self-efficacy, and social environment effect physical activity participation of hypertensive African Americans, health promotion professionals may be able to address the specific barriers that inhibit the adoption and maintenance of physical activity by hypertensive African Americans.

There is a need for future investigation to examine how additional barriers to physical activity affect African Americans individually, and is there a culmination of specific barriers to physical activity that work in conjunction to inhibit African Americans to engage in physical activity.

Summary

As many as 50 million adult Americans have hypertension. It is one of the most prevalent diseases in our society. Unchecked hypertension can lead to strokes and heart failure. Hypertension is more common in African Americans and persons with a lower
socioeconomic background. There are many risk factors for high blood pressure - such as age, race, heredity, and sex, but the most interesting statistic about this disease is that most of the risk factors - stress levels, sodium intake, use of certain drugs, obesity, physical inactivity - are all controllable. For the purpose of this study, the researchers examined how potential barriers such as time commitment, self-efficacy and social environment affect the decision to participate in physical activity by a convenient sample of African Americans. It is suggested that based on the results of this study, it is further investigation is needed. The investigator recommends examining additional barriers that are involved in the lack of physical activity participation of African Americans from an individual standpoint, as well as the interaction of select barriers.
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Appendix A – Questionnaire
Questionnaire

Please tell me about yourself. Please remember your responses will remain private and confidential. Directions: Please place an X next to the appropriate response, unless specified to do otherwise.

Demographics
1) What is your gender? ( ) Male ( ) Female

2) What is your race? ( ) Black or African-American ( ) Native American
   ( ) White or Caucasian ( ) Asian
   ( ) Other: (Please specify)____________

3) What is your age? ( ) Under 18 ( ) 18-25 ( ) 26-35 ( ) 36-45
   ( ) 46-55 ( ) 56-65 ( ) Over 65

4) What is your present marital status? ( ) Never married ( ) Married
   ( ) Divorced/Separated ( ) Widowed
   ( ) Other: (Please specify)___________

5) What is your highest level of education?
   ( ) Less than high school ( ) High School or GED
   ( ) Some College or Technical School ( ) Associate’s Degree
   ( ) Bachelor’s degree ( ) Master’s degree
   ( ) Doctorate ( ) Other: (Please specify)____________

6) What is your current job status? ( ) Full-time ( ) Self-employed ( ) Part-time
   ( ) Retired ( ) Unemployed

7) What is your total annual income? ( ) Less than $5,000/year ( ) $5,000 to $9,999/year
   ( ) $10,000 to $14,999/year ( ) $15,000 to $19,999/year ( ) $20,000 to $24,999/year
   ( ) $25,000 to $39,999/year ( ) $40,000 to $49,999/year ( ) $50,000+/year

8) What state and county/parish do you live in? (Please specify state, county/parish, and zip code)_______________________

Hypertension Risk Factors
1) Have you been told by a doctor, nurse, or health professional that you have high blood pressure (120/80 mmHg or greater)? ( ) Yes ( ) No
2) If you answered yes to Question #1 in this section, what stage of high blood pressure do you have? ( ) Pre-hypertension ( ) Stage 1 ( ) Stage 2 ( ) Stage 3 ( ) Stage 4 ( ) Don’t know

3) If you answered yes to Question #1 in this section, how long have you had high blood pressure? (Please specify)__________

4) Has a parent or close relative of yours been diagnosed with high blood pressure? ( ) Yes ( ) No

5) During the past month (30 days), other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise? ( ) Yes ( ) No

6) How often do you exercise? ( ) Less than once a week ( ) 1-3 times per week ( ) 4 or more times per week

7) How much do you weigh? (Please specify)_____________

8) What is your height? (Please specify)___________

9) How would you describe yourself? ( ) I’m underweight. ( ) My weight is fine. ( ) I’m overweight. ( ) I’m obese.

10) Do you consume more than one teaspoon (1 tsp) of salt a day? ( ) Yes ( ) No

11) Have you been told by a doctor, nurse, or other health professional that you have high cholesterol? ( ) Yes ( ) No

12) Do you consume more than 1-2 beverages that contain alcohol per day? ( ) Yes ( ) No

13) Do you currently smoke cigarettes or have regularly smoked in the past? ( ) Yes ( ) No

14) If yes to Question # 13 in this section, how long have you smoked? (Please specify)________________

15) Are you presently under a lot of stress? ( ) Yes ( ) No

16) Do you exercise to reduce your stress? ( ) Yes ( ) No

Hypertension Prevention and Treatment
1) Are you currently taking pills for high blood pressure? ( ) Yes ( ) No

2) If yes to Question #1 in this section, how many high blood pressure pills are you currently taking? (Please specify)__________

3) Within the past year (12 months), have you change your diet to include fewer foods containing high levels of fat, cholesterol, or salt due to the advice of a doctor, nurse, or other health professional? ( ) Yes ( ) No
4) Within the past year (12 months), have you began to exercise more due to the advice of a doctor, nurse, or other health professional? ( ) Yes ( ) No

5) Within the past year (12 months), have you tried to reduce your levels of stress due to the advice of a doctor, nurse, or other health professional? ( ) Yes ( ) No

**Hypertension Knowledge**

Directions: The next set of questions relates to your knowledge of hypertension and exercise. Please read each question carefully and circle the letter next to the answer that best represents your response. Please choose only one answer. Remember there isn’t any right or wrong answers and again, confidentiality will be kept.

1) Over 50 million Americans have___________.
   (a) back spasms (b) high blood pressure (c) car sickness

2) Over 40% of the African American community has___________.
   (a) high blood pressure (b) flu (c) gall stones

3) There are ____ classifications or stages of high blood pressure.
   (a) 0 (b) 1 (c) 5

4) High blood pressure is considered “the silent killer” because it has no warning signs until problems with the heart, kidney or brain occur.
   (a) True (b) False

5) African Americans are not at risk for any life threatening diseases that are associated with high blood pressure such as heart disease, stroke, or diabetes.
   (a) True (b) False

6) African Americans tend not to develop high blood pressure at an earlier age and more severely than Caucasians.
   (a) True (b) False

7) Despite the advances in blood pressure medications and home blood pressure monitoring devices, the actual number of deaths due to high blood pressure has increased by 40% in the last ten years.
   (a) True (b) False

8) Lifestyle changes that include exercise will limit the risk for heart attack and stroke regardless of race.
   (a) True (b) False
Physical Activity Participation

**Directions:** Below are statements that relate to ideas about exercise. Please indicate the degree to which you agree or disagree with the statements by circling **SA** for strongly agree, **A** for agree, **D** for disagree, or **SD** for strongly disagree.

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Exercising takes too much of my time.</td>
<td>SA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Exercise tires me.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>3.</td>
<td>Places for me to exercise are too far away.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>4.</td>
<td>I am too embarrassed to exercise.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>5.</td>
<td>It costs too much money to exercise.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>6.</td>
<td>Exercise facilities do not have convenient schedules for me.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>7.</td>
<td>I am tired by exercise.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>8.</td>
<td>My spouse (or significant other) does not encourage exercising.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>9.</td>
<td>Exercise takes too much time from family relationships.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>10.</td>
<td>I think people in exercise clothes look funny.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>11.</td>
<td>My family members do not encourage me to exercise.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>12.</td>
<td>Exercise takes too much time from my family responsibilities.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>13.</td>
<td>Exercise is hard work for me.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>14.</td>
<td>There are too few places for me to exercise.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
</tbody>
</table>
Appendix B – Virginia Polytechnic Institute and State University IRB Approval
DATE: September 8, 2005

MEMORANDUM

TO: Kerry J. Redican Teaching and Learning 0313 Detrick Stith

FROM: Carmen Green

SUBJECT: IRB Exempt Approval: “Determinants that Affect Physical Activity in a Select Group of African Americans at Risk for Hypertension” IRB # 05-531

I have reviewed your request to the IRB for exemption for the above referenced project. I concur that the research falls within the exempt status. Approval is granted effective as of September 8, 2005.

Virginia Tech has an approved Federal Wide Assurance (FWA00000572, exp. 7/20/07) on file with OHRP, and its IRB Registration Number is IRB00000667.

cc: File
Department Reviewer: Jan K. Nespor
Appendix C – Letter of Introduction and Informed Consent
Letter of Introduction

Dear Participant:

As part of my doctoral work at Virginia Polytechnic Institute and State University, I am conducting a survey on physical activity among African Americans at risk for high blood pressure (hypertension). Specifically, I am interested in learning what factors influence physical activity and blood pressure control in African Americans. This study has been approved by the Institutional Review Board (IRB) for Virginia Polytechnic Institute and State University.

Your participation in this study is entirely voluntary. There are no direct benefits to you, but your participation in this research might help Health Professionals better understand what physical activity and high blood pressure attitudes, beliefs, and knowledge mean to African Americans. Filling out the questionnaires will not effect your employment, raises, promotions, or grades.

It would help greatly if you would complete the enclosed questionnaires and return it as soon as possible. All responses will be kept confidential. The information you supply will not be shared with Virginia Polytechnic Institute and State University Administrators. At no time will the researchers release the results of the study to anyone other than individuals working on this project without your written consent.

I am aware that your time is very limited. However, these questionnaires will only require approximately 20-30 minutes to complete. I hope you view this study as beneficial to yourself and to all African Americans by advancing the understanding of what decisions are involved in increasing physical activity and blood pressure control, as well as contributing to the development of disease prevention and health promotion programs. If you have any questions or concerns regarding involvement in this study, please call me at (301) 251-2023 or Dr. Kerry Redican at (540) 231-5743.

Thank you for your time and assistance.

Sincerely,

Dettrick L. Stith, MS, PH.D (c)
Title of Project: Time Commitment, Self-efficacy, Social Environment, and the physical activity participation of a convenient sample of hypertensive African Americans

Principal Investigator: Dr. Kerry Redican Phone: (540) 231-5743

Co-Investigator: Dettrick Stith Phone: (301) 251-2023

I. Purpose:
The purpose of this study is to determine if certain concepts are involved in the decision to increase physical activity in a select group of African Americans.

II. Procedures:
You will be asked to fill out three (3) questionnaires, which will gather information regarding your attitudes, beliefs, and knowledge regarding exercise and high blood pressure. The questionnaires will measure African Americans, ages 18-85, at risk for high blood pressure. Once you have completed the questionnaires, the investigators of this research will collect them.

III. Risks:
There should be no risks to you from participating in this study. You can refuse to answer any questions that make you uncomfortable. You can also withdraw from the study at any time.

IV. Benefits:
There are no direct benefits to you, but your participation in this research might help Health Professionals better understand what are the physical activity and high blood pressure attitudes, beliefs, and knowledge of African Americans. Filling out the questionnaires will not effect your job, raises, promotions, or grades.

V. Confidentiality:
Names will not be used on the questionnaires. Privacy and confidentiality will be maintained. The information you supply will not be shared with Virginia Polytechnic Institute and State University Administrators. The information you supply will only be shared with the research investigators. At no time will the researchers release the results of the study to anyone other than individuals who request their information. You are free to withdraw from participation in this study at any time. Just inform the researcher or call one of the others listed at the front of the first page.

VI. Compensation
There is no compensation for participating in this study. Your participation is voluntary.

VII. Approval of Research:
This research project has been approved, as required, the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University, by the Department of Teaching and Learning.

VII. Right to Withdraw:
Your participation is voluntary. You are not obligated to participate in this research. You may withdraw your consent to participate at anytime.

VIII. Subject’s Permission:
I have read and understand the Informed Consent and the conditions of this project. I have had all of my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.
By signing below, you indicate that you have read and understood the Informed Consent and conditions of this project, that you have had all of your questions answered, and that you give your voluntary consent for participation in this study.
If you participate, you may withdraw at anytime without penalty.

UNIVERSITY STATEMENT:

Responsibility for Research-Related Risks: Participating in this kind of research presents minimal risk, as explained above. If you suffer any injury directly related to your participation in this project, Virginia Polytechnic Institute and State University will help you obtain medical treatment for the specific injury and provide referrals to other health care facilities, as appropriate. Virginia Polytechnic Institute and State University will not provide you with financial compensation or reimbursement for the cost of care provided to treat a research-related injury or for other expenses originating from a research-related injury. The institution or group providing medical treatment will charge your insurance carrier, you, or any other party responsible for your treatment costs.
Your Rights in the Event of a Study-Related Incident: By signing this Consent Form, you are not giving up any legal rights. If this research project is conducted in a negligent manner and you are injured as a direct result, you may be able to recover the costs of care and other damages from the individual(s) or organization(s) responsible for our injury.
Further Information and Claims Procedures: Information regarding research may be obtained from the Institutional Review Board (a group established to protect the rights of research participants) at the following address and telephone number:
Dr. David M. Moore
Research Compliance Office
CVM Phase II (0442)
Virginia Polytechnic Institute and State University
Blacksburg, VA 24061-0442
(540) 231-4991
If you have a study-related question, you may contact the Institutional Review Board for information about procedures for making claims against those who may be responsible for injuries due to negligence. In addition, the Institutional Review Board can provide further information about the procedure to make claims for injuries not related to negligence.
If you have read and understood this information and agree to join this study, please sign your name below:

________________________________________
Participant Signature                        Date

________________________________________
Witness Signature                            Date

________________________________________
Investigator Signature                       Date
May 5, 2005

Detrick L. Stith  
3229 C Aspen Tree CT  
Laurel, MD, 20724

Dear Mr. Stith:

I am writing formally to notify you that the Transformation Church of Jesus Christ supports your doctoral research. You have the permission of the church leadership to conduct your research.

If you have any additional questions or need additional information, please do not hesitate to contact me.

Sincerely,

Elder Simone Gibson  
Transformation Church of Jesus Christ
Appendix E – Vita
Detrick L. Stith, PhD (May, 2006)

310 C Prettyman Dr. Apt 7109
Rockville, MD 20850
Phone: (301) 251-2023
Phone: (703) 907-6224
Email: dstith@vt.edu

Education

Highest Educational Level Attained:
Virginia Polytechnic Institute & State University, Blacksburg, VA
May, 2006 Doctorate Curriculum and Instruction (Health Promotion)
Dissertation Topic: Time commitment, Self-efficacy, Social Environment and the Physical Activity Participation of Selected Hypertensive African Americans
May, 2000 MS Health Promotion
May, 1998 BS Science of Foods, Nutrition, & Exercise

Skills & Qualifications

Senior Advisor with a Ph.D in Health Promotion (scheduled to complete May 2006) and a MS in Health Promotion experienced in: (1) implementing Faith Based Research Programs in high risk communities; (2) performing these programs cooperatively with physicians, scientists, and other skilled health care professionals; and (3) as well as providing behavior modification counseling to disabled individuals.
Highly skilled problem solver with five years progressive research experience and experience working with groups of scientists from academia, industry and government. Superior qualitative, quantitative and analytical skills with experience implementing Gerontology, HIV, Stroke and Behavioral Health research studies.

- **Health Educator.** Lectured and facilitated programs promoting healthy behaviors within at risk communities. Utilized expertise in gerontology, physical activity and nutrition issues including authoring curricula, classroom text, press releases, newsletters, grants, and training materials; as well as consulting with government, education, and nonprofit organizations. Topics in lectures included cancer prevention & control, nutrition, exercise physiology, drug abuse & use, and the contribution of lifestyle to chronic disease.

- **Well versed in research methodologies.** Conducted case-control studies, cohort studies, surveys, and clinical trials. Calculated various measures of association and identified possible sources of bias in epidemiology study. Applied methods to control for confounding and assessed interactions among various exposures. Experienced in conducting focus groups and analyzing ethnographic data.

- **Superior communication skills.** Skilled in communicating complex technical information to diverse audiences. Effective liaison with significant experience developing relationships with government, industry, association members, staff, and the public.

- **Design original management support instruments.** Created questionnaires, logs, data collection surveys, summary sheets, and other instruments that supported research program management.

- **Administrative & Management.** Experienced in developing, managing & coordinating Clinical Initiatives via program evaluation and measurement of effectiveness and efficiency. Five years experience supervising and providing leadership to community lay leaders.
Professional Experience

Insurance & Financial Services
National Rural Electric Cooperative Association (NRECA)
Arlington, VA
June 2005 - Present
Senior Advisor, Clinical Initiatives
Coordinate NRECA’s Community Health Care Initiatives relative to managed care, medical cost containment, vendor management, and healthcare quality programs. Analyzed financial and operational aspects of such, organized resources, and ensured effective implementation and communication of these programs. In addition, expertly advised cooperatives and members who interacted with these programs.

Interfit Health, Inc.
Houston, TX
Health Educator (Contractual @ $40.00/hr)
May 2005 - June 2005
Delivered individual consumers direct access to a wide range of medical tests primarily through food and drug retail outlets, private and public sector employers, health clubs, and the Internet. While individual health needs were of paramount concern, privacy and confidentiality were always maintained. Worked closely with Interfit Health’s channel partners and sponsors to achieve key organizational objectives such as increasing sales, increasing store traffic, increasing customer, member, and employee satisfaction, increasing employee productivity, and reducing health benefit costs.

Department of Medicine
Division of Gerontology
University of Maryland (Baltimore)
Baltimore, MD
August 2003 - June 2005
August 2003 - June 2005
Health Promotion Specialist
Within the Division of Gerontology, performed comprehensive quantitative and qualitative assessments to identify cardiovascular risk factors among African Americans within a community health setting. Implemented a Faith Based Research Program at an African-American Church, located in West Baltimore. Additionally assisted with other scientist/researchers with the development of proposals. Completed HIPPA certification essential to clinical research, and implemented innovative health promotion and public health theory to communicate health risk and health benefit in community health setting. Designed and regulated therapeutic exercise encompassing active and passive ranges of motion, aerobic fitness, and strength training as well as created and maintained medical and health records of research participants in a research study.

Veterans Affairs Hospital
Department of Medicine
Claude D. Pepper Older Americans Independence Center
University of Maryland (Baltimore)
Baltimore, Maryland
August 2003 - June 2005
August 2003 - June 2005
Exercise Physiologist
At the University of Maryland (Baltimore), performed rehabilitative exercise training conducive to the improvement of function in participants suffering from stroke. Also performed isometric strength testing on individuals suffering from stroke; performed multiple medical and functional assessments necessary for research participation. Conducted exercise stress and fitness testing techniques in populations that were at risk for vascular disease and populations with HIV.
Instructed courses that focused on the enhancement of health and physical fitness. Incorporated body composition evaluations, behavior modification, and active lifestyle into instructional design. Other duties included troubleshooting computer problems for the College of Human Resources and Education faculty and staff at Virginia Tech, providing computer instruction for Virginia Tech faculty, developing web site material, assisting with installation of distance learning classrooms, and installing computer software. Additionally, as a graduate assistant for the Dean of Students Office, my duties and accomplishment included development of the Student Disability Contracts, coordination and facilitation of student focus groups, analysis and reporting of ethnographic data and student career counseling.

Certifications
• Project Management Fundamentals
• Centers for Disease Control (CDC) Activity in Tuberculosis
• CPR Certified through American Red Cross

Professional Conferences
• Integrating Behavioral Healthcare Management: Successful Strategies to Maximize Cost Efficiency, Streamline Care Delivery and Support Populations for Health Plans and Employers, Chicago, IL – October 26-28, 2005
• 10th Annual Disease Management Congress, Orlando, Fl – September 19-21, 2005

Related Courses
• Health Behavior & Health Education
• Clinical Exercise Physiology
• Medical Sociology
• Health Psychology
• Mental Health & Race
• Biometry I &II
• Epidemiology
• Kinesiology
• Public Health Administration
• Qualitative Research Methods
• Research/Evaluation Methods in Education

Affiliations
• Omega Psi Phi Fraternity, Inc.
• Phi Upsilon Omicron National Honor Society

Volunteer Activities
• 2003 – 2004: Gerontology – Adult Day Services
• 2002 – 2003: Assistant Wrestling Coach
• 2000 – 2003: Assistant Track & Field Coach
• February 2000-May 2000: Student Athlete Mentor