# Low Income Housing Residents' Perceived Competency Regarding Hypertension and Diabetes

by

TiAngela Austin

A scholarly thesis presented to the faculty of
Gardner-Webb University School of Nursing
in partial fulfillment of the requirements for the
Master of Science in Nursing Degree

Boiling Springs

2013

| Submitted by: | Approved by: |
| --- | --- |
| _____ | _____ |
| TiAngela B. Austin BSN, RN, CNN | Dr. Vickie Walker |
| _____ | _____ |
| Date | Date |

Abstract

People of African-American ethnicity are affected by hypertension and diabetes at alarming rates. Prevalence of hypertension and diabetes is thought to be the result of many different factors. When considering why each or both of these diseases disproportionately affect this population of people, much focus should query around factors such as socio-economic status, culture, beliefs, diet, lifestyle, and patient perceptions. Evaluation of perception is an integral component in demystifying disease morbidity and mortality. This study evaluates the perception of low-income housing resident's perceived ability to maintain normal blood pressure and blood glucose levels. The literature consistently associates low socio-economic status with increased prevalence of diabetes and/or hypertension. The majority of residents living in the low-income housing community surveyed for this research study were African-American. Statistically, African-Americans comprise the ethnic majority of persons living in the low-income housing communities considered for this survey. Participants completed a demographic survey and the perceived competence scale. The perceived competence scale is a measurement tool designed by Edward L. Deci and Richard M. Ryan. The scale measures perception by averaging answers provided by the participant.

Acknowledgements

My first and most important decree of gratitude is to my father, Jesus Christ. My life has not been an easy one, but my Father has provided for me every step of the way. Never did I dream obtaining a Master's Degree was in my life's plan. I cannot begin to express my deepest thankfulness for the promises made to me and held true by my Father.

Second only to my Father, is my husband, Kyle. You, my love, epitomize the definition of a husband. During this venture you have loved, encouraged, held, supported, and even chastised me when I felt like giving up. Becoming your wife was one of the greatest moments of my life and I will live the rest of my life in a way that I pray will reveal my sincerest gratitude for the gift of you.

To my children, Aerial, Deja, Kaeghan, Marcez, Hailey, and KJ, there are not enough words to describe my love for you all. Despite the countless hours you spent without my undivided attention as I pursued my educational endeavors, you all made me feel loved. Knowing that your children support you and they possess the ability to place themselves aside for your dreams is priceless. You are all wonderful human beings and I can't wait to see what you do in this world.

My sister, Dana, thank you for idea bouncing with me, support, and giving me Sunday nights with Whodunnit to alleviate my mind! I love you, "me and you us never part." Mama, Nana Carol, and all the other loving titles you hold, thank you for being there even when you don't say a word you are there. My entire large extended family, thank you for words of encouragement, family dinners, time, and support.

TABLE OF CONTENTS

List of Figures

List of Tables

# CHAPTER I

## Introduction

### Statement of the Problem

Hypertension and diabetes are among the highest ranked diseases associated with conditions of co-morbidity in the United States. Hypertension and diabetes are often undiagnosed or inadequately managed, which can lead to irreparable damage of major body organs. There are many reasons associated with inadequate management of both hypertension and diabetes. "Diverse explanations have been proposed for the ethnic disparities including physiological, behavioral, and socioeconomic factors," (Connell, Wolfe, & McKevitt, 2008, p. 165). However, the perceived ability of a person to manage their own disease processes are of unequivocal value in narrowing the cause of disease progression. Recent literature and research show a link between lower socioeconomic status and inadequate management of hypertension and diabetes. Hemingway (2007) states, "Lower socioeconomic status may be associated with higher levels of stress hormones and a greater likelihood of smoking, not eating breakfast, and less diverse social networks: as socioeconomic status rises, the levels of stress hormones decrease (p. 361)."

### Justification of the Research

People of African-American ethnicity are affected by hypertension and diabetes at an alarming rate. "Non-Hispanic blacks (47.5%) have significantly higher prevalence of hypertension and (14%) higher prevalence of diabetes than do Non-Hispanic whites and Mexican-Americans," (Fryar, Hirsh, Eberhardt, Yoon, & Wright, 2010, p. 2). Low-income housing communities are frequently comprised of multi-ethnic residents, whom

live at or below the poverty line. African-American residents exceed those of all other ethnic groups living in the income-based housing community surveyed for this research project.

## Purpose

The purpose of this research was to ascertain low-income housing resident's perceived ability to maintain normal blood pressure and blood glucose levels. This study suggests there may be some correlation between blood pressure and blood glucose readings and a resident's perceived ability to manage hypertension and diabetes.

## Thesis Question

What is the perception of low-income housing residents of their ability to maintain normal blood pressure and blood glucose levels?

## Theoretical Framework

The theoretical framework chosen for this research study is the self-determination theory (SDT). The SDT "represents a broad framework for the study of human motivation and personality with a focus on how social and cultural factors facilitate or undermine people's sense of volition and initiative in addition to their well-being and the quality of their performance," (www.selfmotivationtheory.org). Components that comprise the SDT model are autonomy, competence, and relatedness. The SDT framework supports the compilation of this research, as the structure of the framework is designed to evaluate components associated with motivation of desired behaviors such as autonomy in disease management. Figure 1 illustrates the SDT model, which can be used as a guide to motivate health behavior change.

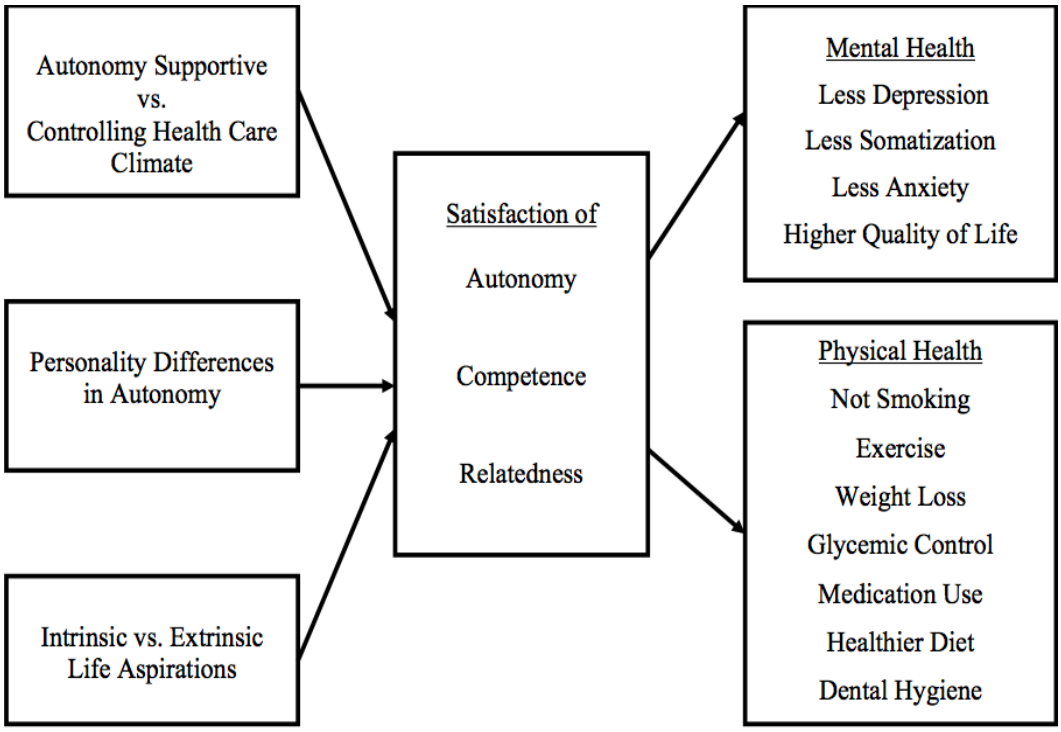


*Figure 1.* Self-Determination Theory Model of Health Behavior Change (Ryan, Patrick, Deci, & Williams, 2008, p. 4)

## Definition of Terms

Terms used in this research are based on definitions provided by the Centers for Disease Control and Prevention, U.S. Department of Health & Human Services, The American Diabetes Association, and The Self-Determination Theory websites as listed below.

1. Hypertension – an average blood pressure greater than or equal to 140/90 or current use of a blood pressure lowering medication (www.cdc.gov).
2. Co-morbidity – co-existence of chronic conditions (www.cdc.gov).
3. Ethnic – American Indian or Alaska Naïve, Asian American, Black or African-American, Hispanic or Latino, and Native Hawaiian or Pacific Islander (www.cdc.gov).
4. African-American – people having origins in any of the black racial groups of Africa (www.cdc.gov).
5. Disparities – experiences related to a disproportionate burden of preventable disease, death, and disabilities compared to non-minorities: a type of difference in health that is closely linked with social or economic disadvantage (www.cdc.gov).
6. Socioeconomic – composite measure that typically incorporates economic, social, and work statuses (www.cdc.gov).
7. Poverty – families or people with income that fall within the federal poverty guidelines, which are updated and released yearly based on household size (ASPE.hhs.gov).

8. Autonomy – acting in accordance with one's values related to well-being across cultures (www.selfdeterminationtheory.org).
9. Competence – seek to control the outcome and experience mastery (www.selfdeterminationtheory.org).
10. Relatedness – the universal want to interact and be connected to and experience caring for others (www.selfdeterminationtheory.org).
11. Diabetes – a condition characterized by hyperglycemia resulting from the body's inability to use blood glucose for energy (www.diabetes.org)

# CHAPTER II

## Review of the Literature

Review of literature utilized to support the foundation of this research is examined categorically as follows; persons of minority ethnicity and/or low socioeconomic status perceived ability to control blood pressure and blood glucose levels, perceptions of understanding the relationship between diabetes and hypertension among persons of ethnic minority, and community strategies for improving disease management in rural and/or low-income areas.

### Perceived Ability to Control Blood Pressure and/or Blood Glucose Levels

One's perceived ability to control their blood pressure and/or blood glucose levels may lead to false competency in disease management. A study conducted by Heymann, Liora, Zucker, Chodick, and Shalev (2012) suggests some patients perceive hypertension as a problem versus an actual disease process. The study consisted of ten focus groups and included persons with hypertension and/or diabetes. Participants were selected from a database of patients with hypertension whom may or may not have diabetes as well. Of the ten focus groups a total of 86 persons participated in the study and 37 participants had both diabetes and hypertension.

The study was designed to have each focus group meet at designated times to discuss what they consider to be important related to management of their hypertension and/or diabetes. Participants were encouraged to speak freely and answer a series of survey questions honestly. The survey questions solicited responses about how participants view, understand, and feel disease and the treatment of disease affects them overall.

Limitations of the study surround, “The use of focus groups to generate a hypothesis and participants in the focus groups do not form a representative sample of the population, (Heymann et al., 2012, para. 21).” The researchers were able to gather important data and synthesize patient perception about disease management. Results of the study revealed participant’s, “perceptions regarding the medical condition and its treatment may improve control of both diabetes and hypertension, (Heymann et al., 2012, para. 22).”

Additional studies, such as one conducted by, Wilson et al. (2012), suggest there are direct links between access to care by ethnic minority groups and poor self-management of disease. This study utilized data from previously conducted studies that focused on, “barriers and facilitators in accessing healthcare services and optimizing self-management by ethnic minority groups living with diabetes (Wilson et al., 2012, p. 1).”

Researchers of this study conducted an extensive search of databases that contained data specific to the developed research questions. The research questions focused on ethnic populations of people living with diabetes, the availability of access to care, and self-management of diabetes. This study also incorporates the component of socioeconomic status and it’s relevancy to disease management.

Limitations of the study, as described by the researchers were, “necessitation of search refinement, eligibility criteria, synthesizing high volumes of data, incorporating mixed method designs, and rigorous evaluation processes, (Wilson et al., 2012, p. 15).” Ultimately the study produced significant insight into patient perceptions of barriers that lead to poor disease management, higher levels of glucose, and non-adherence to treatment regimens. In some instances, ethnic minority populations associated cultural

practices with poor glycemic control. Such practices include diets high in carbohydrates, frequent social gatherings for meals, and poor glucose monitoring associated with stigmas attached to illness.

A combination of factors is found to contribute to poor self-management of diabetes in ethnic minority populations, as derived from this study. “Diabetes disproportionately affects those from ethnic minority backgrounds and the prevalence, including undiagnosed diabetes is estimated to be far higher, particularly in ethnic minority groups, (Wilson et al., 2012, p. 2).” Perceptions of disease management are concluded to be closely associated with a patient’s access to care they feel is adequate and trustworthy, their knowledge base of the disease, its processes, and overall effects on the person.

An interpretive synthesis was conducted by Schlomann and Schmitke, in which they used, “Meta-interpretation to analyze 11 qualitative research studies, (Schlomann & Schmitke, 2007, p. 358),” to gain an understanding of patient beliefs about hypertension. The studies used to complete the interpretative synthesis focused mainly on African-Americans of low-income status, with nine out of the 11 studies meeting this criterion.

The researchers described analyzing study data as follows, “read articles several times, created grids of methods, samples, findings, context, key concepts, and themes, explored commonalities, dissonance, and gaps with consideration of the context of the studies, and developed final synthesis, (Schlomann & Schmitke, 2007, p. 359).” A study of this kind allows examination of cumulative prior works, yielding great understanding of how the group of studied persons perceives a particular disease, such as hypertension.

Limitations of the study, as described by the researchers include: “A limited opportunity to compare belief systems, many of the studies in the review began from a dichotomized position potentially limiting participant response, populations studied focused on poor African-Americans, (Schlomann & Schmitke, 2007, p. 365).” The previously listed limitations may be significant in ascertaining lay-beliefs about hypertension, but the study offers ideal information with regard to this population’s perception of hypertension.

The study is comprehensive and includes patient perceptions of what hypertension is, how hypertension is caused, treated, and prevented. Participants perceived hypertension as being associated with genetic pre-disposition, not the same as high blood pressure caused by certain foods, psychological manifestations, and as having little or no cause for cardio-vascular disease. Perceived ability to control blood pressure is contingent upon the person’s understanding of the pathophysiology of hypertension. Minimal participants associated diet and exercise with effective treatment for hypertension. Medication was commonly viewed as a conspiracy and not an intervention. This study deduces there are cultural, historical, and socioeconomic causes for the increased incidence of hypertension among African-American persons of low socioeconomic status.

**Perceptions of understanding the relationship between diabetes and hypertension**

The literature on diabetes and hypertension as comorbid diseases is extensive. However, when searching for literature that explores patient perception of the relationship between diabetes and hypertension, the search results narrowed significantly. Inglis (2012) states “Hypertension is present in 50-80% of people with diabetes and tight

control of blood pressure reduced diabetes-related endpoints by 24%, diabetes related deaths by 32% and micro vascular disease by 37% (p. 84)."

One of the two supporting literature reviews chosen for this research explores patient perception of the relationship or lack thereof, between diabetes and hypertension. In a focus group study conducted by Stewart, Brown, Kendrick, and Dyas (2005), 32 participants were divided into five groups and were surveyed regarding their beliefs about how important blood pressure was in relation to their diabetes. The five groups were individually comprised of three ethnic groups; Caucasian, Asian, and African-Caribbean persons.

The concentration of the focus group was to obtain open and honest perceptions as expressed by the participants. The most interesting aspect of this study were the published results which revealed, "Some participants, including those with raised blood pressure, were not aware of the increased importance of achieving good blood pressure control; no participants mentioned the increased risk of eye or kidney disease as a result of the combination of diabetes and raised blood pressure; participants perceptions regarding the control of blood sugar and blood pressure were different (Stewart et al., 2005, p. 298-299)." Additionally, as the study pertains to this research, the African-Caribbean focus group showed increased knowledge about the relationship between diabetes and hypertension, but expressed leeriness about care received by healthcare providers. With a perception of healthcare providers not practicing in their best interest, this may play a part in poor disease management within the African-Caribbean/African-American communities.

Limitations of this study were the participants of the African-Caribbean and Asian groups were less than those of the Caucasian group and the data cannot be considered all inclusive, as there was not a wide enough range of ethnic representation to support inclusivity. The study does provide insight into a common theme noted by this researcher in recent literature, which is "Controlling blood sugar is perceived to be within each individual's control, but controlling blood pressure was viewed by some as beyond personal control (Stewart et al., 2005, p. 304)."

In the qualitative research review conducted by Marshall, Wolfe, and McKevitt (2012), a total of 53 studies were analyzed to find common themes among participants with hypertension whom were non-adherent to treatment regimens. The researchers, after an extensive literature search, selected focus group studies that contained participants with hypertension in 16 countries. The researchers state, "despite national and international guidelines and initiative for hypertension, population base studies have found that around two thirds of people with hypertension are either untreated or inadequately controlled, including a substantial number who remain undiagnosed (Marshall et al., 2012, p. 15)." As previously discussed, the commonality among participant's perceptions related to hypertension management are based on beliefs, lack of knowledge related to disease, socioeconomic status, fears, and impact on lifestyle.

Literature exploring the non-adherence of disease management interventions is of plenty when discussing causes within the African-American population. The researchers of this study find similar perceptions expressed by African-Americans and other ethnic minority groups related to hypertension. Moreover, the researchers cover a wide range of studies providing an extensive look into the perceptions of minorities both nationally and

internationally. Results of the study conclude ethnic minorities perceived the following reasons to be the cause of inadequate management of their hypertension, "Stress related to racism exacerbating hypertension, low paying jobs, inability to afford medications, economic hardship, lack of trust of their white doctors with perceived prejudice, self-adjusting drug dosages, stopping medications, and simply choosing to avoid taking drugs (Marshall et al., 2012, p. 22-23)."

Limitations of the study, which the researchers were very clear about, are that the focus groups were not proportionate and they candidly divulge some databases could have been missed during their search. The review proves to be consistent with recent literature, as reviewed by this researcher.

**Community strategies for improving disease management in low-income areas**

Healthcare representatives and government agencies have attempted to improve health outcomes in low-income populations for decades. There have been many attempts, both successful and unsuccessful, to improve the health of ethnic minorities, whom make up the majority of residents living in low-income communities. The literature reviews included in this segment will explore recent community strategies to improve the health of persons within low socioeconomic areas.

As mentioned in chapter one, African-Americans comprise the highest number of ethnic minorities living in most low-income areas. In a narrative review conducted by Connell et al. (2008), researchers examined 27 studies, which focus on interventions implemented in African-American communities aimed at improving hypertension. The researchers "explore the collaboration with black communities, using local or minority

ethnic staff, conducting preliminary research with target groups to investigate perceptions and canvass ideas for intervention designs (Connell et al., 2008, p. 165)."

Researchers conducted searches for studies that explore participant's perception of community intervention. After study procurement and analysis using thematic techniques, the researchers were able to identify community interventions that were effective in improving hypertension, in addition to gaining positive participant perception. In concurrence with building patient participation, there are several other interventions that yielded positive outcomes. Interventions such as improving health literacy, including social and cultural support, and individualizing treatment plans were perceived by participants as being of great importance.

Limitations of the study are, some of the studies reviewed were not evaluated over a long enough time span to cement findings and the researchers relied heavily on previously published studies. The study acquiesces that in order to make profound research advancements within the African-American community, addressing population perception will be of prodigious importance.

A pilot study conducted by Alexander, Uz, Hinton, Williams, and Jones (2008), assessing the nursing intervention of culture brokerage, which the researchers define as a "nursing intervention consisting of mediation between the traditional health beliefs and practices of a patient's culture and the health care system (Alexander et al., 2008, p. 461)." The researchers of this study sought to examine the possibilities of improving diabetes outcomes with use of culture brokerage in African-American rural communities. Researchers conducted focus group studies with 73 participants, all of whom were African-American, had diabetes, and lived in one of three rural counties.

Many of the participants provided some of the same reasons for poor disease management and control that were consistently observed in this researcher's literature review. Explanations provided by participants included, "Stigma of others knowing your business, sense of shock upon diagnosis, powerlessness, fear of diabetic complications, social and financial drawbacks of rigid dietary guidelines, complicated treatment plans with unrealistic goals set by providers (Alexander et al., 2008, p. 465)."

Limitations of this study expressed by the researchers were, "Poor conceptualization of culture and the lack of outcome measurement, and a continuing need for research among African-American men with diabetes living in rural areas (Alexander et al., 2008, p. 467)." The researcher's conclusion is transparent as stated on (p. 467) "A growing body of evidence indicates significant racial/ethnic and socioeconomic disparities in health outcomes, including rates of diabetes prevalence and complications, (Alexander et al., 2008)." Culture brokerage is a nursing intervention that has been in use for many years and has been included in recent efforts to ensure nurses practice with culturally competent skill. The study suggests there is much room for improving this population of people's perception of effective community intervention.

## Summary

The literature reviewed leans favorably toward this researcher's hypothesis, that a person's perception of disease self-management, healthcare provider competence and trustworthiness, available resources, and social support are integral in effective management of hypertension and diabetes. More specifically, socioeconomic status proved to be a common factor among participants in several of the studies analyzed. Participants often mention the inability to afford dietary changes, lifestyle modifications,

and prescription medications when discussing reasons for non-adherence to treatment regimens.

Studies in which African-American participants were the majority, a recurrent concern for social stigmas, acceptance, and conformation are overwhelming. In order to portentously impact the perception of hypertension and diabetes control in the socioeconomically disadvantaged, which will correspond to adequate blood pressure and blood glucose levels, community efforts are unrivaled. Connell et al. (2008) states, "Health education combined with strategies to promote self-management of hypertension including goal setting and monitoring, and social support have demonstrated improved outcomes in black groups; a need for greater clarity in defining cultural sensitivity, and strategies to achieve it are needed (p. 185)."

# CHAPTER III

## Methodology

This research explores low income housing residents' perceived competency regarding hypertension and diabetes self-management. Over the course of this research project several opportunities for improving hypertension and diabetes management within the community setting of low-income housing were identified. The findings are shared respectively, with each of the two agencies that work closely together in effort to identify and improve parities within low-income housing communities. A motif of reasoning resonated from an extensive literature review; commonalities include socioeconomic status, health literacy associated with the relationship between diabetes and hypertension, desire for culturally sensitive interventions, the need for improved self-advocacy and intimate involvement in disease management.

Research questions addressed were:

1. What is the low-income housing resident's perceived competency regarding hypertension and diabetes self-management?

2. Out of the residents surveyed, how many perceived adequate self-management of their hypertension and/or diabetes?

Participants, after informed consent (Appendix A) was obtained, were asked to complete a perception measurement questionnaire. No forms of manipulative techniques were used to solicit a particular response. Presence of hypertension and/or diabetes was ascertained by participant's responses to a demographic questionnaire (Appendix B).

## Setting

The questionnaire was administered to 30 residents living in a low-income housing community in North Carolina. The community is comprised of 262 single-family units. African-American persons are the majority of residents within the community.

## Sample

There were a total of 30 residents whom participated in the research study. Participants lived in the community anywhere from less than six months to greater than ten years. Each participant spoke English fluently, therefore there was no need for interpreter services. Completion of the questionnaire took less than ten minutes total to complete. Participants were enlisted to participate in the research study via representatives of local agencies involved in improving health disparity in low-income housing communities. Participants disclosed informed consent by completing the survey, as indicated in the debriefing form, which ensured protection of human subjects in addition to the University Investigational Review Board (IRB) approval of the research study.

## Measurement Tool

The researcher collected data from residents living in a low-income housing community. Each participant completed a demographic questionnaire, which asked if the participant had a diagnosis of hypertension and/or diabetes, age, race, and gender. There were no exclusion criteria, with the exception of declination of participation. The researcher personally administered the questionnaire (Appendix C) to participants during a door-to-door outing within the participating community and was accompanied by the

community's assigned parity liaison. The researcher provided privacy for participants during completion of the questionnaire via the confines of the participant's home.

Low-income housing resident's perceived competency regarding hypertension and diabetes was measured using an existing measurement tool for which reliability and validity have previously been established. The measurement tool utilized by the researcher was a perception measurement questionnaire developed by Edward L. Deci and Richard M. Ryan. Permission to use the measurement tool was granted by the developers for educational research purposes only. Commercial use of the measurement tool was prohibited. The measurement tool used was the Perceived Competence Scale (PCS). The measurement tool was used to calculate perception by averaging answers provided by the participant. The measurement tool evaluated the participant's perceived level of competency regarding management of hypertension and/or diabetes utilizing the following scale:

1. Not at all
2. Somewhat
3. Very

## Data Analysis

The researcher entered participant's responses and demographic data into the Statistical Package 21 for the Social Sciences (SPSS) software program. Participants' perceived competency regarding hypertension and diabetes will be determined based on averaging of the questionnaire results. Participants' perceptions will lend greater insight of the need for additional community interventions related to hypertension and/or

diabetes self-management tools, as perceived by the participants. Descriptive statistics yielded from this research were analyzed with SPSS.

# CHAPTER IV

## Study Results

The study yields findings suggestive of learning prospects within the community of participants. The goal of the study was to establish perceptions of low-income residents related to hypertension and diabetes. Participants were comprised of residents whom live in a low-income based housing development. The following research questions were answered in the study:

- What is the low-income housing resident's perceived competency regarding hypertension and diabetes?
- Out of the residents surveyed, how many perceived adequate self-management of their hypertension and/or diabetes?

## Study Participants

Participants of the study were residents whom live in an apartment community comprised of 262 single-family units. A total of 30 residents were selected, based on their completion of informed consent to participate in the study. Participants provided demographic data, which included existing diagnosis of hypertension and/or diabetes, age, race, and gender. Participants ranged in age from years of 26-69 respectively.

Participants of the study ranged in years of residency within the community from one to ten years. Out of the participants, 11 were of male gender and 19 were of female gender. Participant ethnicity was composed of 90% African-American heritage, leaving the remaining 10% comprised of Non-African-American ethnicity. Tables 1-3 illustrate the demographic data categorically via respective frequency charts.

Table 1

*Age of Participant*

| | | Frequency | Percent |
|---|---|---|---|
| Valid | 29.00 | 3 | 10.0 |
| | 61.00 | 3 | 10.0 |
| | 26.00 | 2 | 6.7 |
| | 33.00 | 2 | 6.7 |
| | 35.00 | 2 | 6.7 |
| | 42.00 | 2 | 6.7 |
| | 46.00 | 2 | 6.7 |
| | 36.00 | 1 | 3.3 |
| | 38.00 | 1 | 3.3 |
| | 39.00 | 1 | 3.3 |
| | 40.00 | 1 | 3.3 |
| | 43.00 | 1 | 3.3 |
| | 44.00 | 1 | 3.3 |
| | 50.00 | 1 | 3.3 |
| | 51.00 | 1 | 3.3 |
| | 53.00 | 1 | 3.3 |
| | 57.00 | 1 | 3.3 |
| | 58.00 | 1 | 3.3 |
| | 59.00 | 1 | 3.3 |
| | 60.00 | 1 | 3.3 |
| | 69.00 | 1 | 3.3 |
| | Total | 30 | 100.0 |

Table 2

*Gender*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Female | 19 | 63.3 | 63.3 | 63.3 |
| | Male | 11 | 36.7 | 36.7 | 100.0 |
| | Total | 30 | 100.0 | 100.0 | |

Table 3

*Ethnicity*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | African-American | 27 | 90.0 | 90.0 | 90.0 |
| | (Non) African-American | 3 | 10.0 | 10.0 | 100.0 |
| | Total | 30 | 100.0 | 100.0 | |

## Measurement Tool

Participant's perceived competency regarding hypertension and diabetes was measured using an existing measurement tool for which reliability and validity have previously been established. The measurement tool utilized in the study was the perception measurement questionnaire entitled, Perceived Competence Scale (PCS). The tool was modified for the purposes of this study, to reflect a three-point scale. The three-point scale allowed the participant to choose, based on their level of perception, how competent they were related to hypertension and/or diabetes. The Perceived Competence

Questionnaire was administered by the researcher. Time was allowed for explanation of the questionnaire, informed consent, and demographic data collection.

## Descriptive Statistical Analysis

The study had a total of 30 participants. Each participant disclosed whether they had an existing diagnosis of hypertension, diabetes, or a dual diagnosis of hypertension and diabetes. Of the 30 participants, 53.3% had an existing diagnosis of hypertension, 10% had a diagnosis of diabetes, and 36.7% had a diagnosis of both hypertension and diabetes. Table 4 illustrates the frequency of diagnoses as reported by participants of the study.

Table 4

*Diagnoses*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | HTN | 16 | 53.3 | 53.3 | 53.3 |
| | DM | 3 | 10.0 | 10.0 | 63.3 |
| | Both | 11 | 36.7 | 36.7 | 100.0 |
| | Total | 30 | 100.0 | 100.0 | |

Study participants were asked to rate their perceived level of competency related to self-management of their hypertension and/or diabetes using the Perceived Competency Scales. Participants had the opportunity to rate their perceived efficacy of disease self-management by choosing from one of the following choices on the competency scales: not at all, somewhat, or very. Results of the competency survey revealed 40% of participants perceived they were “somewhat” able to self-manage their

disease and/or diseases, 23.3% of participants perceived they were “very” able to manage their disease, and finally 36.7% indicated “not at all” for their perceived ability. Table 5 illustrates the frequency percentages of perception among study participants. Figure 2 provides a bar graph that presents visual comparisons between diagnosis and perceived competency as reported by study participants.

Table 5

*Perception of Disease Management*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Not at all | 11 | 36.7 | 36.7 | 36.7 |
| | Somewhat | 12 | 40.0 | 40.0 | 76.7 |
| | Very | 7 | 23.3 | 23.3 | 100.0 |
| | Total | 30 | 100.0 | 100.0 | |

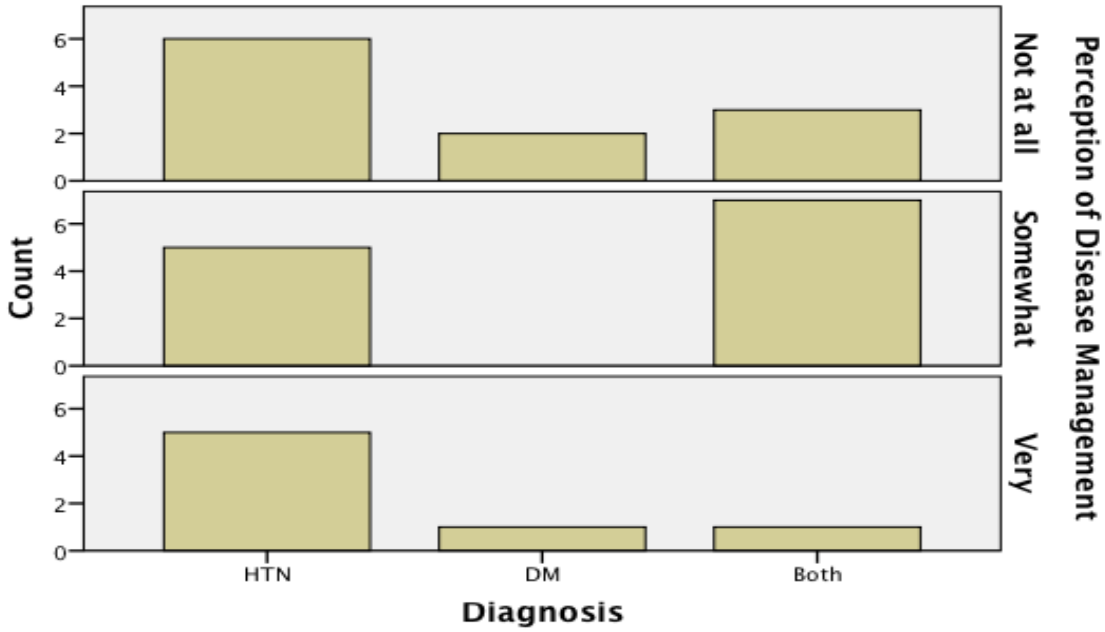


*Figure 2.* Bar Graph Illustrating Perception & Diagnosis

# CHAPTER V

## Discussion

The purpose of this research study was to ascertain low-income housing residents' perceived competency regarding hypertension and diabetes. Perception of competence in any area has the potential to build confidence, but confidence does not always produce effective management. The study results suggest 40% of participants perceive their ability to manage their hypertension and/or diabetes categorically as "somewhat." The participants whom perceived their ability to self-manage hypertension and/or diabetes as "very well," were the minority. Alarmingly, the percentage of participants whom perceived their ability to self-manage their disease processes as, "not at all" are relatively high for the population surveyed.

The literature frequently associates relationships between socioeconomic status, ethnicity, and lifestyle with the prevalence of hypertension and diabetes. An article published by Duke Health states, "Researchers found that lower household income was most strongly associated with elevated blood pressure. A lower education level was also related to higher blood pressure, but not as strongly as household income and by way of behavioral risk factors, such as smoking and less exercise," ("Low Income, Less Education," 2011, para. 8). There is also a plethora of literature to support a definitive relationship between diabetes and socioeconomic status as well. In a study conducted by Rabi et al. (2006), the authors state, "Diabetes may be up to two times more prevalent in low-income populations compared to wealthy populations; There is considerable evidence to show that poverty is associated with shorter life expectancies and increased mortality, particularly cardiovascular mortality" (para 5).

## Limitations of the Study

There were limitations related to this study. The participant population and sample size was not inclusive of all residents whom live in low-income housing communities with a diagnosis of hypertension and/or diabetes. The study participants may have inadvertently given false perceptions of their ability to self-manage disease processes based on the possibility of subconsciously desiring to portray adequacy. Additionally, the study did not compare actual blood pressure/blood glucose readings, Glycosylated Hemoglobin (Hgb A1C) lab values, or confer with primary care providers in an effort to ascertain whether perceived ability evidenced adequate self-management.

## Study Strengths

In lieu of the study limitations, there were significant strengths noted in the study. The perception of participants yields an opportunity for community organizations, such as those consulted during this study, to gain insight into the perceived adequacy of disease self-management in the low-income housing community. The sample population was compiled only of residents living in a low-income housing community. Study results are shared with the community organization assigned to decrease parities in low-income areas.

## Theoretical Framework & Study Findings

The chosen framework for this study was the Self-Determination Theory, designed by Edward Deci and Richard Ryan. The theoretical framework allows for, "the study of human motivation and personality with a focus on how social and cultural factors facilitate or undermine people's sense of volition and initiative in addition to their well-being and the quality of their performance," (www.selfmotivationtheory.org). By

analyzing participant's perceptions, the possibility of discovering underlying motives to adequately or inadequately self-manage disease, provides an integral piece of the puzzle related to disease prevention and management. Moreover, the possibility of improving patient outcomes greatly increases when healthcare professionals understand the driving motivations and perceptions expressed by specific patient populations.

## Nursing Implications

In an era of nursing where cultural competence is the expectation, nurses are not only required by employers to facilitate a relationship with the patient based on respect for the patient's beliefs and values, but this has also become the expectation of the patient. Recognizing that patients come from a wide variety of socio-economic backgrounds is simply not enough. The nurse must be aware of all the effects of socio-economic status as they relate to manifestation of disease. Being aware that the literature supports a direct link between lower socio-economic status with that of disease prevalence, comorbidity, poor outcomes, and mortality should be considered an additional expectation of clinical practice. Registered nurses in the community, hospital, primary care office, and industrial settings need to be aware of patient perception and how it unambiguously relates to patient outcomes.

## Future Research

Further research is needed to clearly define the relationship between patient perception of ability and adequacy of disease self-management. Advanced research, over a long time span could prove beneficial when comparing reported patient perception of disease self-management with trending lab values, blood pressure and blood glucose readings, in an effort to establish a definitive relationship between perception and

adequacy of disease management. The prevalence of hypertension and diabetes in the lower socio-economic population is undisputable; therefore ascertaining the causative factors associated with these phenomena presents a platform for future research.

# References

Alexander, G., Uz, S., Hinton, I., Williams, I., & Jones, R. (2008). Culture brokerage strategies in diabetes education. *Public Health Nursing*, *25*(5), 461-470. http://dx.doi.org/10.1111/j.1525-1446.2008.00730.x

An approach to human motivation and personality. (2013). Retrieved from www.selfdeterminationtheory.org

Common terms. (2013). Retrieved from www.diabetes.org

Connell, P., Wolfe, C., & McKevitt, C. (2008). Preventing stroke: a narrative review of community intervention for improving hypertension control in black adults. *Health and Social Care in the Community*, *16*(2), 165-187. http://dx.doi.org/10.1111/j.1365-2524.2007.00737.x

Definitions Racial and Ethnic minority populations. (2012). Retrieved from www.cdc.gov/minorityhealth/populations/REMP/definitions.html

Frequently asked questions related to poverty guidelines and poverty. (2013). Retrieved from aspe.hhs.gov/poverty/faq.shtml

Fryar, C., Hirsh, R., Eberhardt, M., Yoon, S., & Wright, J. (2010). NCHS Data Brief No. 36: hypertension, high serum cholesterol, and diabetes: racial and ethnic prevalence differences in U.S. adults 1999-2006. Retrieved from www.cdc.gov

Hemingway, A. (2007, June 29, 2007). Determinants of coronary heart disease risk for women on a low income: literature review. *Journal of Advanced Nursing*, *60*(4), 359-367. http://dx.doi.org/10.1111/j.1365-2648.2007.04418.x

Heymann, A., Liora, V., Zucker, I., Chodick, G., & Shalev, V. (2012, March 26, 2012). Perceptions of hypertension treatment among patients with and without diabetes. *BMC Family Practice*, *13*(24). http://dx.doi.org/10.1186/1471-2296-13-24

Inglis, A. (2012). Managing blood pressure and lipids in diabetes in primary care. *Practice Nursing*, *23*(2), 82-87. Retrieved from http://www.ncbi.nlm.nih.gov

Low income, less education tied to high blood pressure in young adults. (2011). Retrieved from www.DukeHealth.org

Marshall, I., Wolfe, C., & McKevitt, C. (2012, July 9). Lay perspective on hypertension and drug adherence: A systematic review of qualitative research. *British Medical Journal*, *345*(7867), 14-30. http://dx.doi.org/10.1136/bmj.e3953

NCHS data brief. (2010). Retrieved from www.cdc.gov

Rabi, D. M., Edwards, A. L., Southern, D. A., Svenson, L. W., Sargious, P. M., Norton, P.,...Ghali, W. A. (2006, October 3). Association of socio-economic status with diabetes prevalence and utilization of diabetes care services. *BMC Health Services Research*. http://dx.doi.org/10.1186/1472-6963-6-124

Ryan, R., Patrick, H., Deci, E., & Williams, G. (2008). Facilitating health behavior change and its maintenance: Interventions based on Self-Determination Theory. *The European Health Psychologist*, *10*, 2-5. Retrieved from www.ehps.net/ehp

Schlomann, P., & Schmitke, J. (2007). Lay beliefs about hypertension: An interpretive synthesis of the qualitative research. *Journal of the American Academy of Nurse Practitioners*, *19*, 358-367. http://dx.doi.org/10.1111/j.1745-7599.2007.00238.x

Stewart, J., Brown, K., Kendrick, D., & Dyas, J. (2005, April 1). Understanding of blood pressure by people with type 2 diabetes: A primary care focus group study. *The*

*British Journal of General Practice*, *55*(513), 298-304. Retrieved from http://www.ncbi.nlm.nih.gov

Wilson, C., Alam, R., Latif, S., Knighting, K., Williamson, S., & Beaver, K. (2012). Patient access to healthcare services and optimization of self-management for ethnic minority populations living with diabetes: a systematic review. *Health and Social Care in the Community*, 20(1), 1-19. http://dx.doi.org/10.1111/j.1365-2524.2011.01017.x

Vital signs high blood pressure and cholesterol. (2011). Retrieved from www.cdc.gov/vitalsigns/cardiovasculardisease/index.html

# Appendix A

## Participant Informed Consent/Debriefing for Survey Research

**Researchers Name and Contact Information:**

TiAngela Austin, RN, BSN
E-mail: tbrock@gardner-webb.edu

Vickie Walker, RN, DNP
E-mail: vwalker@gardner-webb.edu

**What is the study about and why are you doing it?**

This study will assess your perception of how competent you feel about your ability to control your blood pressure and/or blood sugar levels.

**What are you asking me to do if I agree to be in the study?**

If you agree to participate in the study, demographic information will be collected. You will be answering a series of questions related to your blood pressure levels and/or blood sugar levels, if your doctor has ever given you the diagnosis of hypertension (high blood pressure) or diabetes (high blood glucose/sugar levels), how well you feel like you are controlling your blood pressure and/or blood sugar, and whether or not your blood pressure/blood sugar levels are within a normal range.

**How will this study help me**?

The questions in the survey will give you an idea of how well you are actually controlling your blood pressure and/or blood sugar, will give you important information to share with your health care provider, and will provide the Asheville Buncombe Institute of Parity Achievement important information about what kinds of tools the people in your community could use to help better care for your blood pressure and/or blood sugar levels.

**Are there any risks involved with being in the study?**

No. Participation in the study will be kept confidential and information collected will be used to ascertain if perceived ability to control blood pressure and/or blood sugar levels correlate with readings that are within normal limits. If you feel you have been harmed in any way through participation in the study please contact the primary investigator: Dr. Vickie Walker at vwalker@gardner-webb.edu

**What is this going to cost you?**

You will not be charged anything for participating in this study.

**Can you change your mind?**

Yes. You may decide not to participate in the study for any or no reason at all.

**Return of the attached surveys indicates your informed consent.**

# Appendix B

## Demographic Survey

### Demographic Information

1. Do you have a diagnosis of high blood pressure? Yes____ No____
2. Do you have a diagnosis of diabetes? Yes____ No____
3. What is your age? _____
4. What is your race? _____
5. What is your gender? Male____ Female____

# Appendix C

## Participant Survey

### Perceived Competence for Diabetes

Please respond to each of the following items in terms of how true it is for you with respect to dealing with your diabetes. Use the FOLLOWING scale:

| | NOT AT ALL | SOMEWHAT | VERY |
|---|---|---|---|
| I feel confident in my ability to manage my diabetes | | | |
| I am capable of handling my diabetes. | | | |
| I am able to do my own routine diabetic care. | | | |
| I feel able to meet the challenge of controlling my diabetes. | | | |

### Perceived Competence for Hypertension (High Blood Pressure)

Please respond to each of the following items in terms of how true it is for you with respect to dealing with your diabetes. Use the FOLLOWING scale:

| | NOT AT ALL | SOMEWHAT | VERY |
|---|---|---|---|
| I feel confident in my ability to manage my blood pressure. | | | |
| I am capable of handling my blood pressure. | | | |
| I am able to do my own routine blood pressure monitoring. | | | |
| I feel able to meet the challenge of controlling my blood pressure. | | | |