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Rural Obese African American Women and Depression, Food Culture, and Binge Eating

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Abstract

The rural African American population has a high incidence of severe psychosocial problems and a skewed perception of obesity, despite obesity's extremely high prevalence rate in this population. Despite the acknowledgements of these problems, there is a gap in literature relative to the effective treatments for obese African Americans diagnosed with depression. This study measured correlations between obesity and depression, binge eating, and food culture amongst African American women residing in Jefferson County, MS. The health belief model was used to guide an assessment of beliefs, perceptions, susceptibility, cues to action, and self-efficacy. A cross-sectional design was used based on the sampling method and the associated sites along with distinctive design factors, including: no time factor, existing differences, and no random allocation. The Beck depressive inventory and the Bernice Roberts Kennedy cultural inventory for minority groups were the tools used to measure obesity and depression. Linear regression determined that there was an association between depression and obesity. Analyzation of study findings indicated that the participants responded to culturally sensitive questions surrounding prayer, religious involvement, and regular church attendance, which are common coping responses and mechanisms for depressed African American women. These results show a need to encourage health practitioners and researchers to create and implement individualized health promotion campaigns and interventions that fit with community and cultural realities, which could effectively address the obesity and poor health epidemic among rural African American women.

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Dedication

The foundation was laid and I am building on it. The importance of education echoed throughout my house as a child. The teachings surrounding social impact by caring for others also resounded. I am forever grateful for my parents, Clifton and Artie Smith. May my work in this lifetime be a mere reflection of what was instilled in me - I am eternally thankful.

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Chapter 1: Introduction to the Study

Many African Americans were introduced into the United States as slaves. Their history is full of unique and distinctive traditions, practices, and customs. This is a race of people whose uniqueness is amalgamated with health disparities. This population of U.S. citizens is misunderstood and often underserved during research, diagnosis, and treatment of health related diseases and illnesses. Their socioeconomic position (SEP) and psychosocial stressors are not equivalent to Caucasians or other races of people. There is a need to discontinue the relegation of black health by acknowledging the differences and addressing the health issues adequately while pursuing a resolve.

Obesity is a serious public health concern in the United States, affecting 35% of the population (Centers for Disease Control and Prevention [CDC], 2014). Obesity is also more prevalent in poverty-stricken areas in the American South, including Jefferson County, Mississippi, the setting of this study. Jefferson County was once the most obese county in the United States and in 2009 had an obesity rate of 45.2% (MSDH, 2013). Jefferson County, Mississippi is 86% nonwhite and 35.2% of its population lives in poverty (MSDH, 2013). This study investigated potential core issues unique to this population in order to better understand how to address concerns surrounding the U.S. obesity epidemic.

There is a need to address the psychosocial issues in an effort to attack obesity. Admittedly, studying the varying effects contributing to obesity is a daunting task, especially when considering acculturation in opposition with ethnocentrism. There are varying levels of differences and possible misconceptions about obesity. For instance,

African American women conceive obesity as being physically attractive. On the other end of the spectrum, Caucasians equate obesity with unattractiveness. In both scenarios, the media contributes to and perpetuates these misconceptions and misconstructions. Healthcare professionals define obesity objectively and in physiological terms using a scientific equation for BMI. To reduce the BMI of obese individuals, additional research must be conducted on food culture, psychological, and social issues to inform intervention programs to reduce obesity. I plan to use the results of this study to strengthen the foundation of the Holistic Wellness Program (HWP). The HWP is spirit-based and promotes optimal health by utilizing social facts to address psychosocial impacts with the intent to reduce and possibly eliminate unhealthy behaviors.

This chapter introduces the study and the need to address psychosocial issues affecting the health of obese African American women living in rural areas. It gives an overview of interventions and petitions the incorporation of culture-sensitive programs unique to the population. It highlights the significance and its impacts on social change, practice and theory. The theoretical model chosen has been used by health researchers for many years due to its ability to capture perceptions. Understanding perceptions is imperative in an effort to address cultural myths, beliefs, and behaviors.

Background of the Study

I am enthusiastic about the possibilities for improved health and wellness inherent in this study. It is imperative to understand the rationale behind African American cultural myths such as:

- additional weight is more attractive and healthier,

- one must have appropriate attire to exercise,
- one must avoid perspiration to protect hair styles,
- "God made me big", and
- there is a need to prepare excessive amounts of food for futuristic eating beyond the date of the actual meal (Baturka, Hornsby, & Schorling, 2004).

Plausible frames of reference necessitate identifying the decision makers in households, gender roles, marital status, and family practices and understanding all that is encased in a social and cultural norm (Huff, Kline, & Peterson, 2015). To embark upon this research journey could produce results that assist other researchers and health promotion advocates with understanding the psychosocial influences of rural obese African American women and could discredit utilization of a one-size-fits-all approach of health promotion (Timmerman, 2007).

The State of Mississippi has implemented many interventions and other programs designed to reduce obesity, but these efforts have not stopped rates from continuing to rise. A one-size-fits-all approach is far from being accurate and is not representative of a successful health campaign, especially in the State of Mississippi. The United States created an initiative called the Lower Mississippi Delta Nutrition Intervention Research Initiative (NIRI) due to a lack of appropriate nutrition (Core, 2006). This initiative noted that Mississippi had 20% fewer vegetables and fruits, less dairy products, and more added sugar and calories from fat than the national average (Core, 2006). Yanovski and Yanovski (2002) stated that approaches, such as behavioral therapy, exercise, dietary changes and if needed, medication must be combined to reduce obesity.

There are recent examples of successful public health campaigns targeting obesity in the United States. For example, First Lady Michelle Obama's Let's Move campaign has positively affected school aged children in Mississippi. The campaign championed the Healthy Hunger-Free Kids Act, which was passed in 2010 and capped lunches between 750 and 850 calories. The old calorie restriction was a minimum of 825 calories for each lunch. The Healthy Hunger-Free Kids Act also mandated sodium restrictive diets along with inclusion of whole grains. Since the start of the Let's Move initiative, Mississippi childhood obesity rates decreased by 13% in 2013 (Khan, 2013). The results of Let's Move in Mississippi show that support from government, state and local municipalities can create a change in obesity rates.

Health promotion advocates must be willing to dig deeper into understanding the cultural competencies, barriers and emotional issues causing unhealthy and often unrealistic behaviors of obese persons in an effort to reduce the obesity epidemic plaguing our country (James, 2012). Assessing depression, food culture and binge eating, and the association with obesity amongst African Americans should heighten the awareness of the need for further research specific to psychosocial influences. Moreover, such an assessment and acknowledgement should prompt health practitioners and researchers to create and implement individualized health promotion campaigns and interventions that fit with community realities that could effectively address the obesity and poor health epidemic in rural African American populations.

Problem Statement

Underserved populations experience a disproportionate share of poverty, unhealthy living, and a high prevalence of obesity. According to Baturka et al. (2004), southern rural African American women have the highest rates of obesity in the United States. Some 57.6% of African American women are obese in the United States, compared to 37.9% of African American men and 32.8% of Caucasian women (CDC, 2014; Ogden, Carroll, Kit & Flegal, 2014). While the value and practice of healthy living are being promoted and addressed through health practitioners and community outreach, there is a need to address the obstacles that prevent underserved minorities from obtaining optimal health. Specifically, this research examines three major psychosocial barriers types: personal, interpersonal and environmental, each of which significantly influences the success or failure of health promotion efforts.

Health barriers are defined as factors that impede health-promoting behavior and include perceptions about the potentially negative aspects of changing behavior such as inconvenience and unpleasantness (Timmerman, 2007). Within the above categories of barriers are self-defeating behaviors to include cultural, familial and psychosocial influences. Therefore, understanding and utilizing barriers to address obesity and promote improved health amongst African American women in underserved rural Mississippi is the intent of this study.

There is a need to incorporate psychosocial interventions in health promotion efforts. Kennedy (2014) suggests that psychosocial interventions should be incorporated in future weight management programs in an effort to improve health amongst African

Americans. To date, there has been limited research addressing psychosocial problems, which are also considered barriers such as depression, familial influences and binge eating. Such a limitation has caused a major gap in research and there is a need to close this health gap, thus decreasing the rates of diseases, disability and early death associated with poor health. This research assesses specific barriers, which militates against improved health and wellness.

Purpose of the Study

This quantitative study is purposed to determine the correlation between obesity, the dependent variable and three independent variables, which are binge eating, food culture and depression. Once equipped with additional information, the beliefs and misconceptions about interventions, health-related messages and programs could be challenged and new programs, interventions and research could be built to specifically target African American women. Such culture-centered information relative to improved health and prevention of chronic and preventative diseases could significantly decrease the obesity epidemic.

Research Questions and Hypotheses

This study was designed to test three primary research questions. The independent variables are as follows: (a) binge eating, (b) food culture, and (c) depression, which align and mesh with constructs of the health belief model (HBM). The HBM is a psychological health behavior change model developed to explain and predict health-related actions and the associated health outcomes (Rosenstock et al., 1988). The model

is composed of perceptions, beliefs, cues to action, and self-efficacy. Determining the effects of the constructs was needed to assess the relationship between variables.

Research Question 1 (RQ1): What is the association between binge eating and obesity among African American women?

- H1: There is an association between binge eating and obesity among African American women.
- $H1_a$: There is no association between binge eating and obesity among African American women.

Research Question 2 (RQ2): What is the association between food culture and obesity among African American women?

- H2: There is an association between food culture and obesity among African American women.
- $H2_a$: There is no association between food culture and obesity among African American women.

Research Question 3 (RQ3): What is the association between depression and obesity among African American?

- H3: There is an association between depression and obesity among African American women.
- $H3_a$: There is no association between depression and obesity among African American women.

These analyses were conducted: analysis of variance (ANOVA) to examine differences and similarities of the 3 subsample groups, G*Power 3.1.9.2 to determine relationships amongst the variables, and Cronbach α reliability analyses for the usefulness of the assessment tools.

Theoretical Foundation

This study used Rosenstock, Hochbaum, Kegeles, and Leventhal's (1988) HBM as its theoretical framework. This model has been used in the public health field since its creation and has been primarily used to understand responses to diseases (Rosenstock, Strecher, & Becker, 1988). This was relevant and useful for this study in guiding the assessment of health barriers. Initially, this model used four constructs: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers (Rosenstock et al., 1988). Two additional constructs were added: cues to action and self-efficacy (Rosenstock et al., 1988). These six constructs are based on the concept that individuals' health related behaviors are based on their perceptions of disease (Rosenstock et al., 1988). The independent variables were assessed to gauge the effects of perceptions and self-efficacy, which are constructs listed in this model.

Nature of the Study

I selected this quantitative, cross-sectional study design due to the sampling method. The key variables in this study included the dependent variable of obesity and the independent variables of depression, binge eating, and culture. Tools were used to gather information pertaining to socioeconomic status; beliefs and attitudes surrounding

nutrition and physical activity; and relationships. The opportunity to have an in-depth insight into the characteristics and social influences of the subjects are critical.

This study examined African American women 25 years of age and older who were citizens of Jefferson County, Mississippi. The surveys were given to African American men and women at Waterloo Missionary Baptist Church, St. Mariah Missionary Baptist Church, and the Jefferson County School District in Jefferson County, Mississippi. The survey questions delved into the participants' daily practices, familial and social stimuli, and how such influences dictate their behaviors. Data from this study were analyzed using SPSS.

Definitions

Acculturation: A term used to describe the degree to which an individual from one culture has given up the traits of that culture and adopted the traits of the dominant culture in which he or she now resides ("Acculturation", 2014).

African Americans: A term used to identify Americans from any Black racial groups of Africa, which includes individuals marking their race as Sub-Saharan African and Afro-Caribbean (U.S. Census Bureau, 2010). Term used interchangeably with the term Blacks.

Ethnocentrism: The assumption that an individual's beliefs and behaviors are correct and preferable (Ferguson & Brown, 1991).

Culture: A term used to describe behaviors, values, beliefs, and symbols of a group of people. The criteria used to describe culture include, but are not limited to,

eating, language, thoughts, patterns of communication, customs, religion, beliefs, values, relationships, and socialization (CDC, 2013).

Underserved Population: A population experiencing significant cultural, economic, and linguistic barriers; disproportionate burden of disease, mortality, and poor health; and inadequate primary care, preventative services, and resources (hrsa.gov, 2014).

Optimal Health: A person's whole state of wellbeing being absent of disease and infirmities. Includes physical, mental, and emotional aspects (Health Promotion Advocates, 2011).

Improved Health: A decrease of diseases, illnesses, and infirmities of a group of individuals.

Health disparities: A tern used to describe differences across racial and ethnic groups in areas of income, education, gender groups, health services, and health outcomes (nlm.nig.gov, 2013). Used interchangeably with health inequalities.

Assumptions

There are quite a few beliefs about the variables in this study. This section covers those beliefs, which are characteristics of the data and considered assumptions.

African American women have been binge eating for a long period of time. However, they have not been diagnosed with binge eating disorder (BED). It is assumed that the participants will answer the questions truthfully in an effort for the data to reflect their relationship with food.

The African American culture plays a vital role in regards to health, beliefs, values and attractiveness. All of which are mere perceptions. The assumption is that due to cultural norms of African American women, many of the participants may not view obesity as an issue despite the health disparities surrounding the condition.

There is an assumption that undiagnosed depression has plagued African American since their forced arrival in the United States of America. Due to the undiagnosed cases it is quite difficult to gauge the actual severity. It is assumed that participants will answer the surveys truthfully.

All of the aforementioned were independent variables. The dependent variable in this study is obesity, which is a preventable disease, second to smoking. The assumption is that many African American women do not consider obesity as a disease or even problematic.

The perceptions and beliefs are ethnocentristic, which means African Americans believe that their way of life is acceptable and good. However, research contradicts such a belief system. This research should affectively address the assumptions and perceptions. By addressing the independent and dependent variables, a stronger case should be built to promote cultural based obesity studies, initiatives and programs.

Delimitations

African American women are a unique population of people. They have overcome and are overcoming numerous obstacles. Their health crisis is unique from any other race of women. They must deal with racial issues, beliefs, trust issues, body image, psychological, social, and economic stressors. This study tackled the following

psychosocial barriers: binge eating, depression, and food culture, which have been preventing them from obtaining improved and optimal health. It provided potential evidence linking cultural norms and the associated psychosocial stressors to the behaviors associated with unhealthy lifestyles.

The unhealthy lifestyles of African American women not only impact their lives, but their immediate and extended family, church members and coworkers. Due to the influential capability of African American women, children were not included in this study. Therefore, this study focused on the women and the data gathered will be used to promote and implement programs, which will ignite a desire for improved or optimal health. Such a motivation should encourage and benefit African American children and men, as well as those in other cultures, which is an excellent opportunity for generalizability. African American men were included to gauge their perceptions and behaviors.

Other variables not included were sedentary lifestyles and nutrition due to evidence in prior research. It has been proven that sedentary lifestyles and poor nutrition contribute significantly to the increase of obesity, poor health, decreased quality of life, immobility, Type II Diabetes, Health Disease, Cancer, Stroke and death (CDC, 2015).

Limitations

There were limitations in this study. The first one is ethnocentrism, which is the assumption that an individual makes in believing that his or her way of doing things is correct and most preferred (Ferguson & Brown, 1991). This way of thinking is prevalent amongst African Americans, which caused a limitation in this study. Will African

American women allow their belief system of what is and has been culturally acceptable to be invaded by research? Another limitation is the data collected is only representative of rural America. However, the data presented a need for further research in African American populations in urban, metropolitan and suburban America. Lastly, the study instruments were self-reported, which accounted for reporting inaccuracies and misinterpretation of questions.

Significance of the Study

This study expressed the need to include psychosocial issues when creating, researching and promoting health in rural African American women populations. The results of this research should cause researchers to investigate and seek to understand the impacts of culture, while addressing the lack of self-discipline. Acknowledging the need for adequate and effective health promotion in underserved communities is important, however, the accountability factor must be addressed as well. It is critical for health promotion advocates to develop programs suited for the African American culture. It is equally important to diagnose those psychopathologies that are the driving force behind self-defeating and destructive behaviors, especially BED. Additional to tackling the behavioral issue, it is important to identify interventions or programs that will foster trust with health practitioners so that proper diet, nutrition, weight, and mental health will be considered of importance in the African American community. All of the aforementioned should promote positive social change within rural underserved America. Not only could the community reap the benefits of education, but the health practitioners as well.

Significance to Practice

The health practitioners in Jefferson County are accustomed to treating patients, referring them to the BMI chart, and suggesting improved nutrition and increased exercise. Cook (2013) stated that neither she nor any of the other practitioners in the Jefferson County Comprehensive Health Center have ever referred patients to mental health centers due to symptoms of BED. The results of this study contain data needed for those practitioners to consider asking more questions about eating behaviors and linkage to obesity. Now that BED is listed in DSM-5, practitioners have the ability to recognize symptoms, diagnose and refer patients.

Significance to Theory

The newness of culture-sensitive research delving into psychosocial impacts is creating possibilities for more effective programs. The contribution of this study is significant as it sheds light on perceptions and behaviors relative to obesity, depression, BED, and food culture in the rural African American culture. Such a contribution undoubtedly advances the knowledge base in the public health field.

Significance to Social Change

Assessing health promotion barriers in underserved communities and acknowledging the complexities attendant to self-defeating behavior and psychosocial impacts should bring about social change. Assessing depression, culture and binge eating and the association with obesity amongst African Americans should heighten the awareness of the need for further research specific to psychosocial influences. Moreover, such an assessment and acknowledgement should prompt health practitioners and

researchers to create and implement individualized health promotion campaigns and interventions that fit with community realities that could effectively address the obesity and poor health epidemic in rural African American populations.

To further bring about social change, I plan to use the results of this study to strengthen the foundation of the Holistic Wellness Program (HWP). The HWP is Spirit-based and promotes optimal health by utilizing social facts to address psychosocial impacts with the intent to reduce and possibly eliminate unhealthy behaviors. Participants in HWP will: receive individualized attention; learn about the impact of unhealthy and self-destructive behaviors; and be encouraged to adopt strategies to reduce and eliminate such self-defeating behaviors. The HWP staff will consist of a nurse, spiritual counselor and fitness trainer. Initially, monthly meetings will take place at various churches and in the school district in Jefferson County for purposes of educating and promoting the HWP. Based on the effectiveness of HWP in the church and school community, there will be a plan in place to introduce the program to local health centers and community groups. Overall, HWP's goal is to propose a salutogenic approach, which supports human health and well-being.

Summary and Transition

African American women have barriers, stressors and a unique history in the United States of America. No other race of women or other genders have experienced identical stressors. Their culture plays a vital role in regards to eating, health, beliefs, values and attractiveness. Despite health disparities inherent and prevalent in this population, they believe that their way of life is acceptable and good. With such a

perception, which is also a limitation, it is important to study the culture of African American women in an effort to address psychosocial issues directly affecting the health of this population. It is equally important to diagnose those psychopathologies which are the driving force behind self-defeating and destructive behaviors, especially BED.

The results of this study contain data needed for practitioners to consider asking more questions about eating behaviors, culture and other psychosocial influences; and the associated linkages to obesity. Additionally, health practitioners and researchers should be prompted to create and implement individualized culture-sensitive health promotion campaigns and interventions that fit with community realities.

Overall, this quantitative study aimed to identify perceptions, behaviors, competencies, and culture-sensitivities relative to combating obesity and promoting improved health. The next chapter provides literature that will reflect on past research, current literature, the gaps in literature, and solidify the need to study this population of women.

Chapter 2: Literature Review

The purpose of this chapter is to present an assimilated review of relevant literature and theoretical model of the study. This research study was designed to address psychosocial issues of African American women and obesity. The literature review encompasses extant research three dependent variables: food culture, depression, and binge eating; and one independent variable, which is obesity.

While value and practice of healthy living are being promoted and addressed through health practitioners and community outreach, there is a need to address the obstacles that prevent underserved minorities from obtaining improved health. According to Healthy People 2020 (HP, 2014), individual behaviors must be addressed to fulfill components of the Nutrition and Weight Status objective, and to eliminate health disparities. Health promotion is one of the highest priorities in the United States given the skyrocketing costs of treating disease and disability (Himmelstein, Thorne, Warren, & Woolhandler, 2009; Kaiser Family Foundation, 2009). The promotion of health amongst racial/ethnic minorities and individuals with low household incomes is particularly important due to the persistent health disparities that exist between these groups and Caucasians in the United States (Agency for Healthcare Research and Quality [AHRQ], 2009; Centers for Disease Control and Prevention [CDC], 2007, 2009; Mensah, Mokdad, Ford, Greenlund, & Croft, 2005).

Researchers have provided strong scientific support that improved health is achieved primarily by eating healthy diets and maintaining healthy body weights. This review identified a gap in literature as a result of researchers measuring improved health

by objective measures such as the body mass index BMI. By limiting such measures with the BMI only, psychosocial factors associated with culture are not included.

Literature Search Strategy

The strategy for this literature included electronic searches using EBSCO HOST, MEDLINE, CINAHL, PUBMED, and Medscape via Walden University and Alcorn State University library databases and APA PsycNET. The list of key search terms included: *African American*, *depression*, *rural*, *obese African American*, *African American women*, *African American Culture*, *Black Church*, *health belief model*, *binge eating*, *eating disorders*, *food culture*, *psychosocial*, *stress*, *socioeconomic*, *underserved*, and *impoverished*.

Theoretical Foundation

Huff, Kline, and Peterson (2015) noted that there are five prevalent health education models, which include: social learning theory, relevance group-based social influence theory, health belief model, theory of reasoned action/theory of planned behavior and the transtheoretical stages of change model. I have chosen to use Rosenstock, Hochbaum, Kegeles, and Leventhal's health belief model (HBM). The HBM model has been used in the public health field since its creation in the 1950s and has been primarily used to understand responses to diseases (Rosenstock, Strecher, & Becker, 1988). It is quite applicable for this study because of its providing a model for assessing health barriers.

Initially, the HBM had four constructs: perceived susceptibility, perceived severity, perceived benefits and perceived barriers (Rosenstock et al., 1988). Two

additional constructs were added later: cues to action and self-efficacy (Rosenstock et al., 1988). Collectively, these six concepts are based on the idea that individuals' health related behaviors are based on perceptions (Rosenstock et al., 1988). Although this model is flexible in its usage, it was effective when meshing with the variables within this study. The independent variables were assessed to gauge the effects of perceptions and self-efficacy, which are constructs listed in this model. The opportunity, via this research, allowed me to collect and assess data surrounding barriers, behaviors, competencies, and culture, which effort to promote improved health could be most beneficial for the African American population.

James, Pobee, Oxidine, Brown, and Joshi (2012) used the HBM to develop weight management materials for African-American women. They found that participants preferred using words such as *thick*, *stacked*, and *curvy* to describe their extra weight (James et al., 2012). The participants believed that their culture and their genetic build were the reasons for being susceptible to obesity (James et al., 2012). Participants associated losing weight with reduced illness, more appealing appearance, and living life to the fullest (James et al., 2012). James et al. (2012) identified a lack of motivation, unreliable dieting information, and a lack of social support as participants' perceived barriers to losing weight. The motivators for losing weight included: being diagnosed with an illness or health issue; their appearance and savings on attire (James et al., 2012). According to James et al. (2012), self-efficacy was affected by having an unsuccessful and frustrating history of dieting.

Romano and Scott (2014) conducted a study on obesity with 209 faith-based participants. These participants were from 15 churches and they participated in a 16-week program; the HBM was integrated in health coaching sessions for 16 individuals. Romano and Scott found that the participants in the integrated program lost 3.60% of total weight, compared to 1.57% of those not participating.

Becker, Maiman, Kirscht, Haefner and Drachman (1977) conducted a field experiment using the HBM, which tested two levels of fear-arousing communications, which predicted and explained the participation and adherence of mothers and their ability to follow a diet prescribed for their obese children. Correlations were significant between the model and outcome measures and the multiple regression analyses supported the usefulness of the model.

Another model of relevance to be used during implementation of HWP is the PEN-3 model by Airhihenbuwa (1995). This ecological model provides a more practical approach by ensuring that cultural values, beliefs, relevance and roots are considered when assessing community and culture impact on dietary and physical activity habits. There are three dimensions within this model, which include: health education, educational diagnosis of health behavior and educational diagnosis of health behavior and cultural appropriateness of health behaviors. Within each dimension are three categories.

The first dimension of the PEN-3 model, Health education, consists of the categories Person, Extended Family, and Neighborhood. The Person category suggests that individuals should be empowered to make health decisions based on their roles in the community and within their families. The category Extended Family defines family as

not restricted to one household, but as being extended to family members not residing in the same home. The Neighborhood category of Health education emphasizes that leaders within a community play vital roles in health promotion. A safe, friendly, and active neighborhood is more positive and productive than one heavily laden with drugs, filth, and crime, and is more conducive to health promotion (Airhihenbuwa 1995).

The second dimension, Education Diagnosis of Health Behavior, includes three categories: Perceptions, Enablers, and Nurturers. Perceptions include the knowledge, attitudes, values, and beliefs that foster or hinder change within a culture. Enablers are forces such as cultural, society, and structural that may be barriers or enhancements relative to change. Nurturers include family, kin, friends, peers, and community; this category is used to assess the degree to which a person is influenced by them.

The third dimension is the cultural appropriateness of health behavior. Its categories include: positive behaviors, existential behaviors, and negative behaviors. Positive behaviors are those that are beneficial and encouraged. Existential behaviors are those of cultural significance, such as practices and beliefs. Such behavior(s) within a culture are not harmful and pose no health risks despite the fact that they are misunderstood to others outside of the culture. Negative behaviors are those practices that are harmful to the health of the individual or group.

Literature Review

This literature review provides in-depth and pertinent information regarding the latest literature about the dependent variable, obesity and the independent variables, binge eating, food culture, and depression prevalent amongst African Americans and

African American women. It delves into the history, practices, beliefs, and perceptions pertaining to the variables.

Binge Eating Disorder

Binge Eating Disorder (BED) affects an estimated 2 million Americans and is marked by recurrent binge eating, which takes place a few days a week for a period of six months or so, but can last an average of eight years (Hellmich, 2007). Although many Americans have suffered with BED for decades, it was not considered an actual eating disorder until May 2013. The American Psychiatric Association (APA) finally moved BED from being a topic of discussion in Appendix B to a real illness in the *Diagnostic and Statistical Manual of Mental Disorders* (DSMV). Due to this major accomplishment, medical professionals are now able to treat and refer patients in a manner that is not solely based on poor eating habits, but based on symptoms consistent with diagnosis in DSM.

The BED illness, at one time, was slated as being one only experienced by Caucasians. Recent studies have proven that such a claim is unfounded. Kennedy (2014) stated that African American women may not seek medical or mental health services for binge eating as opposed to Caucasians. Grilo, Lozano, and Masheb (2005) found that black women had lower frequencies of BED, but significantly higher BMI values (M = 39.7, SD = .1) than White women (M = 35.8, SD = 7.3). Undoubtedly, eating disorders cross the boundaries of racial and ethnic minority groups. The culture and body image of minority groups does not necessitate immunity in regards to eating disorders. In relation to this research, to disregard BED amongst African American women in underserved

communities would be unjust as they have been historically labeled without the sensitivity to culture, psychological, biological and social influences.

BED is characterized by binge eating episodes without inappropriate compensatory behaviors such as purging and excessive exercise (Leombruni et al., 2006). A core feature of BED is loss of control (LOC) over eating (Wolfe, Baker, Smith, & Kelly-Weeder, 2009). During an episodic event, binge eaters experience a fear of not voluntarily being able to stop eating and a fear of not being able to control the amount of food eaten. There is a need to search the impact of LOC because it is a subjective experience, therefore most challenging to understand (Wolfe et al., 2009). After binge eating episodes, majority of individuals experience a brief period of positive feelings. However, those feelings are only temporary and are quickly exchanged with shame and guilt. Many individuals will often then start a diet.

Starting a diet due to shame resulting from overcompensation of food eaten during a binging episode does not promote healthy eating nor does it alleviate the guilt resulting from binging. However, starting a diet – as a binge eater – ignites a very dangerous cycle. A cycle encompassing dieting and binging which is purposed to compensate for psychological and social issues. Unfortunately, once a cycle begins, dieting and binging and binging and dieting – there is no resolution. The psychological and social issues that prompt the cycle are left unresolved and a lifestyle of high caloric foods eaten within short intervals of times still exists. Kennedy (2014) noted that many African American women binge eat due to life stressors.

There are contradicting findings relative to the association with a high BMI. Masheb and Grilo (2006) administered the Emotional Overeating Questionnaire (EOQ) to 220 consecutive overweight (BMI >25) treatment-seeking BED patients (48 men and 172 women). Correlations were found between eating disorder frequencies, depressive symptomologies, while BMI was unrelated to emotional overeating (Masheb & Grilo, 2006). Yanovski and Yanovski (2002) recorded that treating BED would reduce the prevalence of obesity as BED is linked to obesity. Reagan and Hersch (2005) studied 563 women and 360 men in the Detroit metropolitan area and found that BED was negatively associated with age and family income, but was positively associated with being married, depressed and residing in polluted-filled neighborhoods. Reagan and Hersch (2005) also found that BED was more prevalent amongst adults 40 years of age and older. Strigel-Moore and Franco (2003) stated that BED studies have been primarily focused on two variables, which are race and gender, but expressed the need for more research geared towards the nonobese, along with those of varying demographic and socioeconomic correlates.

There are various treatments for binge eating disorder. Such treatments include, but are not limited to: Individual Therapy; Support Groups; Self Help; Workshops; Online and Telephone Therapy; Conferences; Holistic Therapy; Physical Health Services; Yoga; Massage; Hypnosis; and Nutritionist. The therapies for BED have been uncertain. Many researchers have combined therapies or have chosen one at a time to combat the illness. Palmer (2002) performed a study which investigated the effectiveness of a few therapies, which include self-help without guidance and self-help with guidance.

Numerous studies record the association between BED and symptoms of depression, stress and anxiety. Peterson, Latendresse, Barholome, Warren and Raymond (2012) studied the behaviors of depression and anxiety and its association with BED. A total of 32 women participated in the study, 15 BED and 17 controls. They engaged in a laboratory eating episode while answering questions about anxiety and depression. The BED group results were more symptomatic of depression (10.1 versus 4.8, p=0.005). Their anxiety was greater as well (8.5 as opposed to 2.7, p=0.003).

Depression

Currently, 1 in every 10 adults in the United States of America report depression. Depression is a major disabling disorder and defined as a state of profound sadness (Kennedy, 2009; Sohail, Richie, & Bailey, 2014). There is a substantial gap in literature relative to the studies of depressed African American women and their children (Boyd & Waanders, 2013). They experience a disproportionate share of environmental and life stressors, which significantly increases their vulnerability to depression (Goodman et al. 2011; Riley et al. 2009). More recently, clinical depression amongst African American women is 50% greater than Caucasians (Kessler, 1995; Zauszniewski, Picot, Debanne, & Roberts, 2002). African Americans also experience a longer duration of depression at 56.5% compared to 56% for Carribean blacks and 38.6% for Caucasians (Sohail et al., 2014). The rates have reversed due to the fact that many African American women were not diagnosed as being depressed. Medical professionals have been encouraged to ask more questions relative to mental stability when treating patients. Such a prompter allows for treatment and referrals to therapists and mental health clinics. African American

women have visited mental health agencies over 3 million times each year (Sohail et al., 2014). Despite the advances in diagnosing depression, many researchers are continuously pushing for additional screenings amongst African American women. There is a belief that there are unique stressors that affect African American women, which is primarily due to their distinctive traditions and practices.

African American women have struggled in numerous ways since being introduced as slaves to United States (Sohail et al., 2014). Therefore, there is a need to reflect on the past in an effort to address the present and future. During slavery, African American women were raped, beaten and separated from their families. They did not know the location, the welfare of their husband and children, mother, father and siblings. Womanhood as they knew it was stripped away. They were no longer the caretakers of households, instead they were considered livestock. This could be considered the onset of depression amongst African American women and offspring. Hammack's (2003) integrated theoretical model for the development of depression in African American youth outlines a potential pathway, which started with stresses socially and environmentally then resulting in depression among youth. In stating this and in reflecting back on slavery, there is a high probability that this race experienced depression, which was transmitted from generation to generation.

African American women today may not be oppressed due to slavery, but experience other stressors. Undoubtedly, they are aware of their roles as mothers and homemakers (Kennedy, 2009; Sohail, 2014). However, they may experience social stressors such as poverty, racism, discrimination, sexism, lack of education, inadequate

medical care, and unsafe neighborhoods (Watson, Roberts & Saunders, 2012). Watson et al. (2012) suggested that anxiety and depressive disorders are linked to poverty and a lack of social support. African American women may also feel guilt when promoting self-development and additional stress from being a caretaker or a homemaker, which significantly increases the risk for depression. Hormonal fluctuations associated with pregnancy, childbirth and menstruation will also increase the likelihood of distress (Watson et al., 2012). Moreover, many, African American women are tired, sad, empty, and lonely (Kennedy, 2009; Sohail, 2014). They are not confident that the medical professionals will take care of them and experiences conflicts in personal development and survival skills, which results in depression. The delays in seeking medical attention until it is absolutely necessary oftentimes result in a poor quality of life, disability, and possibly death (Sohail, 2014).

There is a gap in literature relative to the effective treatments for African Americans diagnosed with depression. However, holistic treatments have been beneficial and the influence of religion has proven to be quite effective (Sohail et al., 2014). A holistic approach of confronting troubles instead of avoiding them is a popular approach. This approach has been encouraged by family, friends, neighbors, and religious leaders in the African American community. This approach is valuable information for researchers as it should help them understand the psycho-socio impacts (Sohail et al., 2014).

Additionally, prayer, religious involvement and regular church attendance are common coping responses (Cummings, Neff, and Husaini, 2003; Sohail et al., 2014). African Americans have found refuge and power in the Black church. They found

effective ways, especially through prayer and singing, to deal and cope with their depressive states. Such a practice produced a coping mechanism that initiated hope for change and better days. This research is purposed to record depressive states of rural obese African American women.

Religion and Spirituality

The African American church has been the center of most Black American communities since 1777. The church was organized politically, educationally and spiritually; and taught Christianity and addressed specific issues affecting members. (African American Registry, 2014). The church was a place where slaves could voice their opinions and have leadership roles. For example, Waterloo Missionary Baptist Church, one of the study sites, formerly known as Waterloo Colored Baptist Church, has a rich history. It was organized in 1870 and filed on record in 1871. Two acres were purchased in the amount of $100. Initially, it was a place for the slaves of the Waterloo Plantation to worship, but in 1926 it doubled as a school for children in the community as well as a place of worship. Although the church served many purposes, it suffered hardships. In 1929 careless children caused a fire and the church was destroyed. A small building was erected as the new church was being built. One year after the erection of the new church, it was mysteriously destroyed by fire. Since then, the church has been rebuilt twice. Needless to say, despite the hardships of this church it is was and continues to be an extremely important place in the community.

The Black Church is historically known for spearheading health services, educational and economic development initiatives, job training seminars and services for

the elderly. It emphasizes the importance of structured, communal worship (Taylor & Chatters, 2010). Some 85% of African Americans have described themselves as being fairly or very religious and are regularly involved in religious activities (Taylor & Chatters, 2013; Taylor, Chatters, Taylor, Levin, & Lincoln, 2000). Holt, Wang, Clark, Williams, and Schulz (2013) studied 803 African Americans (52.8% women and 47.2 men) in a cross sectional telephone survey. Holt et al. found that individuals engaging in and receiving religious emotional support had fewer depressive symptomology, while those not as engage or involved experienced worse emotional functioning. It is believed that support and interactions with fellow church members reduced depressive symptoms (Taylor & Chatters, 2013).

Culture and Food

According to Broome (2003), culture is vitally important and it is imperative to accept the ethnic diversity in the U.S. and recognize the special needs of each culture without biases. Culture plays a significant role in attitudes, perceptions and knowledge in regards to obesity and being overweight and the effects thereof. With such an outlook, culturally dissonant messages can be targeted to meet the needs of a specific culture.

Definitions. For the bases of thoroughly understanding cultural impact the following definitions are provided:

- Umanitoba.ca (2013) defined culture as "the system of shared beliefs, values, customs, behaviors, and artifacts that the members of society use to cope with their world and with one another, and that are transmitted from generation to generation through learning."

- Merriam Webster Dictionary (2013) defined culture as "the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations."
- Eou.edu (2013) defined culture as "a shared, learned, symbolic system of values, beliefs and attitudes that shapes and influences perception and behavior – an abstract mental blueprint or mental code."
- The Free Dictionary (2013) defined culture as "the totality of socially transmitted behavior patterns, arts, beliefs, institutions, and all other products of human work and thought."

When comparing all of the above-mentioned definitions, there is a common theme inclusive of words such as transmitting, learning, generations, beliefs and values. Burke, Beilin and Dunbar (2001) investigated the associations between BMI and family characteristics. Such characteristics included lifestyle, in parents and offspring from Australian families. This study involved a longitudinal survey. The survey was given to 219 Australian children between the ages of 9 and 18. Measurements used in this study included: social-economic status, weight and height, diet and the frequency of meals, alcohol consumption, smoking habits, and physical fitness regimens. The participants' BMIs were quite similar to that of their parents. Although this study dealt with Australian children and families, it shows the impact of family and culture.

African Americans have a different interpretation, association and nonacceptance in regards to the word obesity its meaning and as an illness. According to Lopez, Boston,

Dutton, Jones, Mitchell and Vilme (2014) most women in a Florida study used words such as pig, glut or a little thick to describe overweight. When referring to obesity, it was considered a negative word, a suggestive abnormality; and did not apply to them. Instead, words like a little over or having a weight issue were preferred words. They also feel as if the BMI method is for Caucasians and not African Americans due to the guidelines linked to appropriate weight.

Lopez et al. (2014) also covered areas such as education and social support regarding weight. Most of the participants were never taught how to control weight and were taught by their fathers or another male about physical activity. When asked about their support system, the majority of the participants noted that they did not have one. They relied on themselves, reading God's word and visits to the pharmacist (Lopez et al., 2014).

African Americans in the South have even more unique identity issues (Shugart, 2013). Their behavior and their identity evoke pride, rebellion and defiance and are associated with self-destructive behaviors. Shugart (2013) suggests that the patterns of behavior within the study associate defiance and ignorance to personal responsibility; and poverty, lack of education to environmental influences such as rurality and historical events.

In 2000, elementary aged African American children in Mississippi had BMIs above the 85th percentile – 39% of the boys and 49% of the girls (Davis, Bienemey, Ellis, Ferdinand, Loustalot & Trabeaux, 2003). The profile's results reported that 11% were classified as fit, 84% as fair and 5% as unfit (Davis et al., 2003). The study also revealed

that many of the children's grandparents were overweight and had high rates of obesity, diabetes, stroke and heart disease. This study shows that culture is significant in relation to perceptions about health as it has affected generations.

There have been other health related studies in Mississippi. In 2007, Mississippi had been the fattest state for over 6 years, with more than 30% of the population obese (Tufts, 2007). Today, it is not the fattest state, but ranked amongst the highest obese states (CDC, 2016). The state has been and is nearing a health crisis with tens and thousands of people suffering in one way or another from their fat and sugary diet (Economist, 2006). According to Tufts (2007), the state of Mississippi has the least-active population, with 31.6 never exercising. Despite such sedentary lifestyles and additional pounds, most Mississippians are aware of their culture and have a general complacency about being big. However, they decide to be big because their families are big.

Being big is not a problem and is actually considered more appealing amongst many Mississippians (Economist, 2006). Unfortunately, this way of thinking and perceiving body image is distorted. Singleton-Walker stated that many African-American women grow up believing that big is good and beautiful, stated that many of these women want to emulate physically large black celebrities like the singer-actress Queen Latifah (Economist, 2006). Singleton-Walker stated that these women believed that they could be big, gorgeous, and rich just like celebrities, but that they were in denial and that they were actually hurting themselves.

Many African Americans refuse to admit and accept that unhealthy eating and food preparations directly contribute to chronic disease. Targeted food marketing does not help such an issue with the promotion of unhealthy foods and fewer advertisements for fruits, vegetables and dairy in comparison to the general population of people. Such marketing practices influences unhealthy eating and discourages food preparations, which influences the perceptions in the African American population (Kramer, Schwarte, Lafleur & Williams, 2012).

Actually, Thomas (2002) stated that perceptions of disease risk differ in different cultures, which explains why many African Americans feel that their way of eating is healthy. As a researcher, I realize that acknowledging perceptions is one issue, but addressing life stressors, which could contribute to unhealthy lifestyles and eating is another issue (Bulatao & Anderson, 2004).

Bulatao and Anderson (2004) states that minorities face multiple life stressors to include discrimination, violence and poverty. Today, one main stressor amongst African Americans is police brutality, the excessive force and the associated deaths surrounding arrests for criminal and noncriminal actions. Such a stressor has caused renewed fears and anger amongst African Americans (Huetteman, 2015) and according to Barrington, Ceballos, Bishop, McGregor, and Beresford (2012) perceived stress in many contexts may contribute to obesity by way of biobehavioral processes.

Food culture. Food in the African American population has encountered many changes. What is now considered “soul food” originated during the slavery period. However, the first slaves, who arrived in Jameston in 1619, had somewhat healthy diets

and contributed okra, black-eyed peas, and peanuts to American cuisine (Collins, 2007). They were also accustomed to eating mushes such as millet porridge (Collins, 2007). The slave diet changed once they arrived on plantations. Slaves ate what was given to them, which consisted of a great deal of pork and corn. They kept their meats salted for preservation (Dixon, 1997). Slaves ate many undesirable cuts of meat from the farm animals, especially the pig. They fried the pig fat to make pork rinds and pork skins, they boiled the intestines, feet, ears, tongues, and tails (Dixon, 1997). They made the meals tasty and hearty by adding the parts in stews (Dixon, 1997).

The food became a staple in the African American culture. So much so that vegetables such as collard greens were seasoned with portions of the pig. This way of food preparation and food intake did not cause as much harm to the slave workers in that era due to the daily physical activity demands and the absence of chemicals that are now used in farming (Belle, 2009). Currently, however, African Americans have retained this way of cooking, but also consume more artificial hormones, medicines, and chemicals in their foods while engaging in less physical activity, leading to a high prevalence of obesity and other health issues, diseases, and death (Belle, 2009). Obesity is a problem amongst all racial groups in the United States, but the highest prevalence of obesity being found in the African American population makes this of especially critical importance to investigate.

Obesity

Obesity is one of the most serious public health concerns in the United States according to the World Health Organization, and is predicted to pass in importance other

global health concerns such as malnutrition, poor sanitation, transmittable diseases, and endemic outbreaks (WHO, 2014). The American Obesity Association (AOA; 2014) defines obesity as a complex, multifactorial chronic disease involving environmental to include social and cultural, genetic, physiologic, metabolic, behavioral, and psychological components. Obesity, second to smoking, is classified as a leading preventable cause of death in the United States and affects one-third of the population, which is approximately 35% and 17% or 12 million of children and adolescents aged 2 to 19 years of age (Centers for Disease Control and Prevention [CDC], 2014).

In 2012, African Americans made up 14.2% (44.5 million) of the U.S. population with the largest concentrations in the South. Mississippi at 38% is second to the District of Columbia (51.6%) with the largest percentage of African Americans per total population (CDC, 2014). Mississippi is also among the top states to house the most obese counties in the United States. Jefferson County, Mississippi was once the most obese county in Mississippi and in 2009 had an obesity rate of 45.2% (MSDH, 2013). Jefferson County is 86% nonwhite with 35.2% of its population living in poverty (MSDH, 2013). Diseases and illnesses linked to obesity also plague this poverty-stricken county.

Obesity is the second preventable illness in the United States and affects approximately 78.6 million adults (CDC, 2015). The medical cost due to obesity was approximately $147 billion in 2008 (CDC, 2015). Contributing factors to obesity include: high caloric intake, genetics, metabolism, behavior, environment, culture, and socioeconomic status (US General, 2015). Health conditions related to obesity include: heart disease, stroke, type 2 diabetes and certain types of cancer (CDC, 2015). Although

obesity is complex, it is not diagnosed as an eating disorder, but is diagnosed according to having a BMI of 30 and greater. Oftentimes, individuals may eat emotionally to alter their moods, which could be triggered by self-concept, social acceptance, socioeconomic status, work, or environmental factors. Also, persons who have been sexually, physically or verbally abused may overeat as a means to provide comfort or escape their experiences (Austin, 2007).

There is a disproportionate share of obesity amongst African American women when compared with white and Mexican American women and men (CDC, 2015). Numerous research studies and weight management programs have been conducted to address the disproportionate share of obesity amongst African American women. Oftentimes, programs surrounding obesity have been centered on nutrition, diet and physical activities (Kennedy, 2014). In essence, research has been limited to reducing obesity by focusing on body mass index (BMI), which promotes increasing physical activity and improving nutrition (Timmerman, 2007). To base health efforts solely on research focused on reducing BMIs and improving nutrition is ineffective for and a disservice to not only African Americans, but other racial groups as well (Timmerman, 2007).

The origin of the concept of obesity in USA appears to rest in the hands of insurance industry (Davidson & Knafl, 2006). The average and acceptable standards for average height and weight were introduced in 1912. In 1959, the table weight was revised to replace “average” with “ideal” weight. Medicine soon documented the association between weight, morbidity and mortality and with the usage of the 1959 revision deemed

40% of the adult female population overweight (Davidson & Knafl, 2006). The term obesity surfaced in the United States between 1966 and 1971 (Davidson & Knafl, 2006).

Obesity has been caused by high calorie consumption and sedentary lifestyles. In an effort to reduce obesity, the recommendation has been limited and reduced calorie consumption and increased physical activity. Such a process seems to be "cut and dry", but it is not. Other factors to include are: culture, family history and psychosocial issues.

Social desirability has been noted as being a contributing factor to emotional overeating. Glass, Rasmussen, and Schwartz (2006) list the following fear-inducing factors in urban neighborhoods: vacant houses; social disorganization; single parent families; unemployment; public safety; inaccessible fitness facilities; and violent crimes. Hopelessness, unemployment, culture, single parent families, lack of sidewalks and fitness facilities are a few factors associated with overeating in Fayette, Mississippi.

Summary and Conclusions

Obesity has become an epidemic in the United States – despite it being preventative. Researchers once thought that a "one size fits all" approach was effective, however statistics and failed health programs prove that there is a need for inclusion of cultural, behavioral and belief factors. Holistic approaches have deemed to be successful in the African American culture, but implementation of health education and promotion must be consistent in an effort to effectively reach and impact the population. The HBM has been used since the 1950s and has been successful in developing programs and predicting outcomes. Usage in this study should be quite beneficial as well, especially when considering perceptions of African American women.

Current literature presented in this study sheds light on the need to make the "one size fits all" approach obsolete. It is imperative to include psychosocial components in research and develop programs with cultural specificity. The prevalence of BED is of great concern as it affects approximately two million Americans (Hellmich, 2007). What is of greater concern is the fact that many African Americans have not and may not seek medical attention for BED, therefore additional cases are assumed to exist (Kennedy, 2014). Depression affects one in two adults. There are gaps in literature about depression among African American women. Unfortunately, African American women have struggled since introduced as slaves to the United States. It is believed that depression was transmitted from generation to generation (Hammack, 2003). The BDI and the Kennedy Depression Inventory should provide data that will shed light on depression among African American women. Culture plays a significant role in attitudes, perceptions and knowledge in regards to obesity and lack of acknowledgement of depression in the African American population. Again, it is imperative that the psychosocial components are included in research due to cultural sensitivity.

The following chapter covers the methodology, setting, sample, and analysis that will be used in this study.

Chapter 3: Research Method

The purpose of this study was to determine if there is a relationship between obesity (the dependent variable) and the independent variables: depression, culture, and binge eating. My investigation of these variables' relationships was designed to assist in effectively addressing the obesity epidemic in the African American population. This chapter describes the study setting of Jefferson County, Mississippi; the health belief model (HBM); the chosen design; research questions; the hypotheses; and instrumentation. The collection of data and the processes involved are also discussed.

I am the researcher and my role in this study was observer. I reside in Jefferson County, MS. Jefferson County is a small community. There were three recruitment sites: Waterloo Missionary Baptist Church; Greater Faith Worship Center, and the Jefferson County School District.

Research Design and Rationale

This study was designed to answer three primary research questions. The study variables aligned and meshed with constructs of the HBM. The HBM is a psychological health behavior change model developed to explain and predict health-related actions and the associated health outcomes (Rosenstock et al., 1988). The model is composed of perceptions, beliefs, cues to action, and self-efficacy. Understanding the effects of these constructs was needed to accurately assess the relationship between variables.

The following tools and scales were used to measure the independent variables: the demographic sheet, the Beck Depression Inventory, the B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups, and the Binge Eating Scale.

The dependent variable is obesity, which was measured by the Body Mass Index calculator.

The primary research questions were:

Research Question 1 (RQ1): What is the association between binge eating and obesity among African American women?

Research Question 2 (RQ2): What is the association between food culture and obesity among African American women?

Research Question 3 (RQ3): What is the association between depression and obesity among African American?

This was a quantitative study due to the need to use statistical methods to analyze the data retrieved from various tools. Additionally, it was my hope that the results from this study hold a significant amount of credibility when using it in future research as well as when creating the HWP. There are other advantages to this method, such as: the results being independent of me, usage of statistical software, and quick data collection.

A cross-sectional design was used in this study. This design was chosen based on the sampling method and the associated sites along with three distinctive design factors, which include: no time factor, existing differences, and no random allocation. Also, the rationale behind the usage of this design supported the fact that participants for this study were purposely selected based upon their existing differences. By using this design, I was able to estimate the prevalence of obesity due to the sample being taken from the population of individuals in Jefferson County, Mississippi.

Methodology

Upon receiving approval to conduct this study from the Walden University Institutional Review Board (Approval #12-30-15-0028617, expiration December 29, 2016), I hosted a Holistic Wellness Empowerment Session at 3 sites: Waterloo Missionary Baptist Church, Greater Faith Worship Center, and the Jefferson County School District. I chose these sites because they were representative of the culture of this area. The largest employer in Jefferson County is the Jefferson County School District. This school system captures the educated adult population within the county. Two churches were selected for this study. Waterloo Missionary Baptist Church, which is in north Jefferson County, was chosen along with Greater Faith Worship Center, which is in south Jefferson County. These churches were chosen due to the population within the churches. Its members were educated, as well as uneducated, with varying ages and body mass indexes; employed as well as unemployed, and many were retired. However, the commonality within this population was their faith, the need to congregate, and promotion of community. Such commonalities among participants were important especially when considering the results of this study and the potential to gather true depictions of the perceptions and thought processes surrounding obesity, depression and food culture of rural African Americans.

I informed the participants that I had gained permission from their leaders to conduct a brief survey. I notified them of the process and informed them that the survey would be anonymous. I distributed surveys to African American men and women, 25 years of age and older in attendance at Waterloo Missionary Baptist Church; Greater

Fellowship Worship Center, and during a staff meeting at the Jefferson County School District location. Participants were not financially compensated for participation in this study.

A convenience sample, which is a nonprobability sampling method, was the sampling strategy of choice. This strategy was chosen due to accessibility and representation of the target population in the churches and school district. The criterion for each participant included being 25 years of age or older; English speaking; and African American. As an observer, I handed the surveys to the participants I deemed meet the criterion. As validation, the demographic sheet captured the participants' age and race.

Population

The study took place in Jefferson County, MS. There are approximately 7,722 residents in Jefferson County of which 86.8% are African Americans and 50.3% are women (city-data.com, 2014). Some 35.2% of its population lives in poverty (MSDH, 2013). Jefferson County was once the most obese county in Mississippi and in 2009 had an obesity rate of 45.2% (MSDH, 2013). This county is disproportionately saturated with obesity and poverty among African Americans. Therefore, the need to determine the linkages between obesity and the dependent variables was much needed for research purposes, as well as intervention strategies.

Sampling and Sampling Procedures

The study participants in this research consisted of adult African American women and men residing in Jefferson County, Mississippi. Nonresidents, the illiterate

and children under the age of 25 were excluded from the sample. The primary factor that distinguished diversity among the cohorts of women and men was their source of recruitment along with other demographic factors such as BMI, employment status, income, history and diagnosis of disease and educational background. The sample was recruited from three sites: Waterloo M.B. Church, Greater Faith Worship Center, and the Jefferson County School District.

The Power Analysis was conducted by using the G*Power 3.1.9.2 Statistical Software, which tested the relationships for research questions one, two and three (Faul, Erdfelder, Lang, & Buchner, 2007). The correlation: point biserial model was the statistical test of choice. The power analysis revealed that for a one tailed test, the sample size is 64 with a probability level of 0.05. The calculated effect size *p* is 0.7071068 for all three hypotheses (Faul et al., 2007).

Procedures for Recruitment, Participation, and Data Collection (Primary Data)

Participants were provided informed consent forms at the beginning of the collection period. The informed consent gave a background of the study and addressed ethical concerns. Church congregants were given the opportunity participate in this study after church service. Employees at the Jefferson County School District were asked to complete the surveys at the district office. Individuals indicating an interest in being participants in the research were given a coded packet and were asked to complete the written questionnaires. A contact sheet was given to participants – separate from the packet and for usage with the HWP. All data was collected face-to-face.

Once all completed the questionnaires, they were given a brochure about the HWP separate from this research. I advised them of a general health outreach via their leaders within the next 6 months. I will send emails to their leaders regarding the HWP. There will not be any follow up regarding this study. The HWP will solicit information that may entail referrals to health and mental health practitioners.

Instrumentation and Operationalization of Constructs

This research contained four instruments and a demographic sheet. The Binge Eating Scale (BES) was used to assess binge eating behaviors. The Beck Depression Inventory (BDI) and the B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups (The Kennedy Depression Inventory) were used to measure depression. The Body Mass Index (BMI) was used to measure body fat, thus categorizing participants as underweight, normal, overweight or obese. The demographic sheet was used to gather pertinent data about participants and culture.

Definitions and in-depth information pertaining to the above-mentioned tools are listed in the following paragraphs.

The Binge Eating Scale (BES) was used to assess the presence of binge eating behaviors (Appendix D). The BES contained 16 self-reported items regarding behavior, thoughts and emotional status and their feelings thereof. It was developed by Gormally, Black, Daston and Rardin (1982). The score range is from 0 to 46: nonbinging (less than 17); moderate binging (18-26) and severe binging (27 and greater).

Gormally et al. (1982) conducted a study using BES to assess the severity of binge eating amongst obese individuals. The results indicated that participants scored

from nonbinging to severe binging. Also, the results indicated that binge eaters tend to set unrealistic expectations regarding dietary habits and were less likely to sustain a diet.

Celio, Wilfley, Crow, Mitchell and Walsh (2004) compared BES, Questionnaire for Eating and Weight Patters-Revised (QEWP-R) and Eating Disorder Examination Questionnaire with Instructions (EDE-Q-I). BES was not accurate in identifying those who were not obese, but performed satisfactorily for screening binge eating disorder. Timmerman (1999) showed that BES had a good test-retest reliability ($r=.87$; $p<.001$). Freitas, Lopes, Appolinario and Coutinho (2006) evaluated the usefulness of BES to assess BED. Although the BES was administered to Brazilian women, evidence indicated that BED symptomologies are similar to those in other cultures and countries (Freitas et al., 2006). The test-retest reliability, which was measured by kappa statistics was 0.66 and Cronbach's alpha was 0.89 (Freitas et al., 2006). Due to these results, BES was considered a valid BED screening instrument.

The usage of BES in this study was useful in determining if the sample population had symptomologies consistent with those of binge eaters as listed in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-V, 2014). The results will be used to heighten awareness of the potential problem among African Americans in rural Mississippi.

The Beck Depression Inventory (BDI), Second Edition measured depression as listed in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV, 2014; Appendix E). The BDI (also referred to as BDI-1A) and the BDI-II were created by Beck (1996). It is a 21-item self-reported

inventory. The scoring is as follows: 9 to 17 – mild; 18 to 28 – moderate; and a score of 29 and above – reflecting severe symptoms of depression. It is widely used to assess the severity of depression – behavioral, cognitive, motivational, affective and vegetative aspects (Beck, Steer, & Brown, 1996). The BDI-II was used in this study to assess participants' depressive symptoms.

BDI-II was an excellent tool for this study on African Americans. This tool was initially standardized for Caucasians, therefore it has been under investigation for racial bias. Sashidharan, Pawlow and Pettibone (2012) examined racial bias and BDI-II, finding no evidence of bias. BDI-II was also used in a study of financially disadvantaged women who were primary care patients, with a finding of strong internal consistency with a mean alpha of 0.81 and a high validity with other measures of depression (Poleshuck, Giles, & Tu, 2006). Beck et al. (1996) showed that BDI-II had a high test-retest reliability at 1-week (r = .93). Beck et al. (1996) showed that BDI-II I's internal consistency was good (Cronbach's alpha 0.91).

Holden et al. (2012) conducted a cross-sectional study with BDI as one of the tools. The participants consisted African American women who were faced with issues stemming from their historical, cultural, and socioeconomic standing in the United States. This tool was used to assess their vulnerability to depression. 65% of the women scored in the mild range, 23% moderate, and 12% severe. Cronbach α reliability analyses were conducted to determine the reliability when applied to the sample and was extremely reliable α = .91 (Holden et al., 2012).

The B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority

Groups (The Kennedy Depression Inventory*)* was used as a companion to BDI (Appendix F). The usage with BDI contributed to its reliability and validity for a culture sensitive research tool. The Kennedy Depression Inventory was created by Dr. Bernice Roberts Kennedy and provides an estimated degree of depression severity. It is a 25-item self-reported inventory and is ideally suited based on its unique culture sensitive items. The scoring is as follows: 0-25 (normal); 26-50 (mild mood changes); 51-75 (moderate depression); and 76-100 (severe depression).

The Body Mass Index (BMI) calculator was used to measure body fat. The BMI or Quetelet index was devised by Quetelet while developing social physics between the years of 1830 and 1850 (Garrow & Webster, 1985). BMI does not measure body fat directly, but is a reliable alternative (Garrow & Webster, 1985). The standard weight status categories are as follows: <18.5 is considered underweight; 18.5-24.9 is normal; 25.0-29.9 is overweight; and 30.0 and above is considered obese (CDC, 2015). The formula for BMI using pounds and inches is: weight (lb)/[height (in)]2 x 703 (CDC, 2015). The usage of the BMI calculator was needed in an effort to determine an individual's body fat and category in this study.

Demographic questionnaires were created and was used to gather basic information regarding the participants' ethnicity, age, gender, weight, height, education, employment, marital status and culture. There were three demographic questionnaires for the following sites: Waterloo Missionary Baptist Church, Greater Faith Worship Center, and the Jefferson County School District (Appendix A, B and C respectively). The questionnaires were also used to gather history of illness of the participants and their

parents. Additionally, participants' spiritual and social involvement were assessed using these questionnaires.

Data Analysis Plan

Directional null hypotheses were used as I predicted the direction of the difference. Therefore, a one-tailed test of significance was used with a .05 probability level. Data analyses were carried out using SPSS. Basic descriptive statistics to include: mean, standard deviation, standard error, range and proportion were used to answer research questions. Analysis of variance (ANOVA) was used to examine the differences and similarities between the churches and the school district. Cronbach α reliability analysis was used to assess the usefulness of the BES, the BDI and the Kennedy Depression Inventory. Logistic regression was used to test the relationship between the independent variables of binge eating, depression, and culture with the dependent variable, obesity.

Table 1 below lists the variables with the level of measurements; and Table 2 lists the hypotheses and the statistical test associated with each one of them. The dependent variable, obesity was determined by the BMI calculator. Participants self-reported their weight and height and a BMI calculator was used to categorize the participants in one of the following categories: underweight, normal, overweight or obese. This process caused a conversion from a ratio level to nominal level of measurement. The level of measurement for the independent variables of binge eating and depression was ordinal due to self-reported perceptions measured by a summarization of scores. The level of

measurements for the independent variable, culture, included nominal, ordinal and interval due to the results of the participants' demographic and family history answers.

Table 1

List of Variables with Level of Measurements

Dependent Variable	Independent Variable	Level of Measurement
Obesity as determined by BMI (Ratio converted to Nominal)	Binge eating	Ordinal
	Food culture	Nominal, Interval and Ordinal
	Depression	Ordinal

Table 2

List of Hypotheses

Hypothesis	Dependent Variable	Independent Variable(s)	Statistical Test	Research Question
H1	Obesity as determined by BMI (Ratio converted to Nominal)	Binge eating (Ordinal)	Logistic Regression	What is the association between binge eating among African American women and obesity?
H2	Obesity as determined by BMI (Ratio converted to Nominal)	Food culture (Nominal, Interval and Ordinal)	Logistic Regression	What is the association between food culture and obesity among African American women?
H3	Obesity as determined by BMI (Ratio converted to Nominal)	Depression (Ordinal)	Logistic Regression	What is the association between depression and obesity among African American women?

The research questions and hypotheses investigated by this study were:

Research Question 1 (RQ1): What is the association between binge eating and obesity among African American women?

- H1: There is an association between binge eating and obesity among African American women.
- $H1_a$: There is no association between binge eating and obesity among African American women.

Research Question 2 (RQ2): What is the association between food culture and obesity among African American women?

- H2: There is an association between food culture and obesity among African American women.
- $H2_a$: There is no association between food culture and obesity among African American women.

Research Question 3 (RQ3): What is the association between depression and obesity among African American?

- H3: There is an association between depression and obesity among African American women.
- $H3_a$: There is no association between depression and obesity among African American women.

Threats to Validity

External Validity

There were three potential threats to external validity which included: location, time, and the sample. The study was not inclusive of the local university as a research site due to the university being located in the neighboring county. However, some participants were employees of the university. The locations of the sites covered areas within and outside of the city limits of Fayette, Mississippi. The time of this research took place during the first quarter of the year when goals of improved health are more prevalent. During the empowerment session, realistic goals and expectations were addressed.

Internal Validity

There were several threats to internal validity, but I took the needed steps to insure minimization. As researcher-participant-observer, I worked to discredit the threat of interaction by only acting as observer during the times participants were asking questions. As researcher, I was conscious to allow the data to be representative of the findings, alleviating potential biases. Because interaction amongst participants is a potential threat due to influential factors, I made sure to not communicate with the participants during the survey. I only responded when questions were asked.

Ethical Procedures

The informed consent form was given to each participant in the study. It addressed confidentiality issues and the voluntary nature, risks, and benefits of participation. Participants were knowledgeable of their freedom to either participate or withdraw from the study. My name and contact information were listed on the form in case participants may have questions or concerns.

The information packets were coded for anonymity and participants were informed of nondisclosure of identity. Once the data were collected, it was stored in a locked, fire-proof cabinet until transported to the electronic system. Upon completion of data analyses, the forms were destroyed (Appendix J).

Summary

This chapter covered the methodologies of this study. The convenience sample of Jeffersonians were intended to be representative of the population due to the chosen testing sites. As stated in Chapter 2, spirituality is highly influential in African American

populations, therefore choosing two churches captured samples representative of the church population. The school setting provided a more diverse setting due to the educational levels.

The chosen scales provided assessments worthy of publishing. The BMI gave the prevalence of obesity. The BDI and the Kennedy Depression Inventory measured the severity of depressive and mood symptomologies. The BES reflected a need for practitioners to ask questions about eating habits and the need to refer to mental health services. Additionally, the results of the BES showed that there is a need to educate the community about the undiagnosed dangers associated with binge eating. The demographic sheets answered questions regarding influences of family and culture.

I embraced being the host of the HWP Empowerment sessions because of my passion about educating others and encouraging improved and optimal health. The sessions were not long, but emphasized the importance of living a balanced and healthy life. After the sessions, the information packets were given to the participants and were coded to protect and not disclose the identity of the participants.

Chapter 4: Results

Introduction

The purpose of this chapter is to present descriptive results and findings from this cross-sectional quantitative study. It covers the data collection and its representation of the population and the results of the study. It thoroughly represents the study's statistical findings as it was purposed to determine the correlation between obesity, the dependent variable and three independent variables, which are binge eating, food culture and depression amongst African American women. Linear regression was used to describe the association between self-reported perceptions of obesity and the independent variables, which are presented in this chapter. In an effort to explain descriptive statistics for the dependent and independent variables, univariate analyses were used. Also provided herein are summarizations of the findings for all research questions. The three research questions along with the respective null and alternate hypotheses were:

Research Question 1 (RQ1): What is the association between binge eating and obesity among African American women?

- H1: There is an association between binge eating and obesity among African American women.
- $H1_a$: There is no association between binge eating and obesity among African American women.

Research Question 2 (RQ2): What is the association between food culture and obesity among African American women?

- H2: There is an association between food culture and obesity among African American women.
- $H2_a$: There is no association between food culture and obesity among African American women.

Research Question 3 (RQ3): What is the association between depression and obesity among African American?

- H3: There is an association between depression and obesity among African American women.

  $H3_a$: There is no association between depression and obesity among African American women.

Data Collection

The data were collected within three days over a period of two weeks. The study sites included: Jefferson County School District, Greater Faith Fellowship Worship Center, and Waterloo Missionary Baptist Church all located in Jefferson County, Mississippi. The study consisted of adult African American women and men residing in Jefferson County, Mississippi. Non-residents, the illiterate, and individuals under the age of 25 were excluded from the sample. Participants were provided informed consent forms at the beginning of the collection period. Once the individuals indicated an interest in being a participant in the research, they were each given a coded packet and were asked to complete the paper-pen questionnaires. All self-reported data were collected face to face. There were 33 church participants, 15 at Waterloo Missionary Baptist Church and

18 at Greater Faith Fellowship Worship Center. There were 36 participants at the Jefferson County School District. All participants were informed that there would not be any follow up regarding this study.

This research contained four instruments and a demographic sheet. The Binge Eating Scale (BES) was used to assess self-reported perceptions of binge eating behaviors. The BES in this study had a Cronbach alpha of 0.84. The Beck Depression Inventory (Beck, Steer, and Brun, 1996) and the B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups (Kennedy, 2009) were used to measure self-reported perceptions of depression. The BDI in this study had a Cronbach alpha of 0.84 and The Kennedy Depression Inventory had a Cronbach alpha of 0.90. The Body Mass Index (BMI) was used to measure self-reported weight, categorizing participants as underweight, normal, overweight, or obese. The demographic sheet was used to gather pertinent data about participants and culture.

Descriptive and Demographic Characteristics

Descriptive statistics were used to determine the demographic characteristics of the sample. Gender, age, marital status, education, and BMI were the main characteristics of interest. A total of 69 subjects returned completed surveys. Of which 12 (17.4%) were males and 57 (82.6%) were females. All subjects were African American. There were 14 (23.7%) in the age group of 25-35 years of age, 21 (35.6%) were 36-45 years of age, 12 (20.3%) in the age group of 46-55, 16 (27.1%) 56-65 years of age, 5 (8.5%) were of 66-75 age, and 1 (1.7%) was 76 years of age or older.

Of the 57 female participants, the greatest proportions of ages were in the 36 to 45 and 56-65 age groups. There were 24% and 22% who were single or married respectively. Some 89% of the female participants were educated beyond high school. 75% of the female participants were employed. Table 3 shows the frequency distribution of women only. This study was representative of the working class church-attending women in Jefferson County, MS, but not the unemployed poverty stricken women residing in the county.

Table 3

Frequency Distribution of Sample Characteristics Among Women

Characteristics	*n*	%
Age		
25-35	10	18%
36-45	15	26%
46-55	11	19%
56-65	15	26%
66-75	6	11%
Total	57	100%
Marital Status		
Single	24	42%
Married	22	39%
Divorced	5	9%
Widowed	4	7%
No Response	2	4%
Total	57	100%
Education		
Some Education	1	2%
High School Graduate	4	7%
College Graduate	24	42%
Masters/Doctoral Graduate	27	47%
No Response	1	2%
Total	57	100%
Employment Status		
Employed	43	75%
Not Employed	5	9%
Retired	8	14%
No Response	1	2%
Total	57	100%

Results

Both the male sample and female sample did not contain any underweight subjects. In the male sample, there were two (16.7%) healthy, two (16.7%) overweight,

and eight (66.7%) obese. From Table 4, two members of the female sample (3.5%) were healthy, 12 (21.1%) were overweight, and 39 (68.4%) were obese. One female subject did not give her weight or height; one did not give her weight; and two female subjects did not give their height in order to determine their classification (7.0%).

Table 4

*Women's Demographic Characteristics of Perception and Classification of Weight (*n=*57)*

Variables	Classification	*n*	%
Perception of Weight	Healthy (18.4-24.9)	2	3.5
	Overweight (25-29.9)	12	21.1
	Obese (≥30)	39	68.4
	Unclassified	4	7.0

When looking at the BMI, the average BMI for women was 35.3 with a standard deviation of 8.04 (35.3±8.04) and for men was 33.8 with a standard deviation of 10.8 (33.8±10.8). When compared by using Student's *t* test, there were no significant (p=0.05, t=0.5572) differences between the male and female's BMI. 10 out of 12 males (83%) of them were under 40 BMI, one with 45 and the other with 60.3 BMI. In females, 41 out of 53 (44.4%) had less than 40 BMI.

Research Questions

There were three research questions in this study. All three are examined.

Research Question 1

The first research question was, "Is there an association between binge eating and obesity among African American women?"

- H1: There is an association between binge eating and obesity among African American women.
- $H1_a$: There is no association between binge eating and obesity among African American women.

The tool used for this question in the study was the Binge Eating Scale (Gormally, et. al, 1982). From Table 5, only five participants had symptoms of binge eating. Utilizing linear regression, there was no association between binge eating and obesity as self-reported by the women. Using Pearson's formula, the coefficient of determination was 0.00066 (R2) for women and as shown in Table 6, 0.2383 (R2) for both women and men. The *p* value was 0.8556 for women and 0.2195 for women and men. Therefore, the results were not significant at $p < 0.05$ and the null hypothesis was accepted, thus a failure to reject the null. Table 6 provides the statistical analysis results of binge eating and obesity.

BED is a disorder that is not well known in Jefferson County, Mississippi. Also, many of the participants felt that the questions in the BES did not pertain to them. In an effort to gauge eating disorders amongst African American women, there is a need to ask culturally specific questions.

Table 5

*Frequency and Percent of Independent Variables (*n*=69)*

Variables	Classification	*n*	%
Binge Eating	Little to None	63	91.3
	Moderate	5	7.3
	Unclassified	1	1.4

Figure 1 *Body Mass Index and Binge Eating Scale Scatter Plot (*n*=65)*

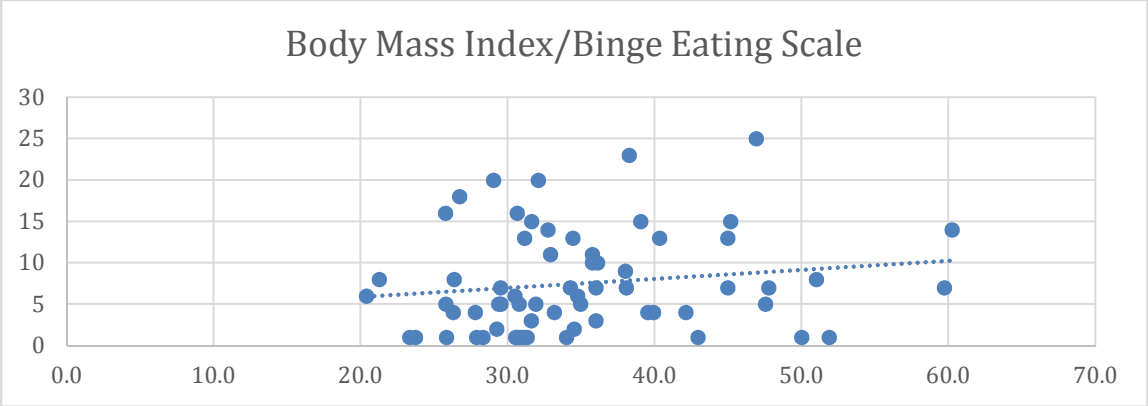


Figure 1. Scatter plot detailing participants' response rates and BMI.

Table 6

*Body Mass Index and Binge Eating Scale Statistical Analysis Results (*n=*65)*

Item	Measurement
Slope	0.1094 ± 0.08819
Y-intercept when X=0.0	3.679 ± 3.177
X-intercept when Y=0.0	-33.64
1/slope	9.143
95% Confidence Intervals	
Slope	-0.06692 to 0.2857
Y-intercept when X=0.0	-2.671 to 10.03
X-intercept when Y=0.0	-infinity to 9.575
Goodness of Fit	
R^2	0.02383
Sy.x	6.029
Is slope significantly nonzero?	
F	1.538
DFn, DFd	1.000, 63.00
p	0.2195
Deviation from zero?	Not Significant
Data	
Number of X values	65
Maximum number of Y replicates	1
Total number of values	65
Number of missing values	0

Research Question 2

This question tested whether there was an association between food culture and obesity among African American women.

- H2: There is an association between food culture and obesity among African American women.

- $H2_a$: There is no association between food culture and obesity among African American women.

The data collected via the demographic sheet for food culture were not dense enough to produce statistically significant results. Therefore, linear regression could not be performed. The null hypothesis was neither rejected nor failed to reject.

Research Question 3

The third research question examined whether there was an association between depression and obesity among African American.

- H3: There is an association between depression and obesity among African American women.
- $H3_a$: There is no association between depression and obesity among African American women.

There were two tools used to assess self-reported depression, which included the Beck Depressive Inventory and the Bernice Roberts Kennedy Cultural Depression Inventory to test culture sensitivity. Utilizing linear regression, there was an association between depression and obesity as self-reported by the women in the BDI. Some 38 (59%) of the respondents showed minimal levels of depression, 19 (29%) showed minor, 6 (9%) showed average and 2 (3%) showed severe. Using Pearson's formula, the coefficient of determination was 0.09870 (R2) for women and as shown in Table 6, 0.1081 (R2) for both women and men. The *p* value for women was 0.022039. The *p* value for women and men was 0.0075. The results were significant at $p<0.05$. Therefore, the

null hypothesis was rejected. Table 7 provides the statistical analysis results for Beck Depression Inventory and obesity.

Figure 2. *Body Mass Index and Beck Depressive Inventory Scatter Plot (n=65)*

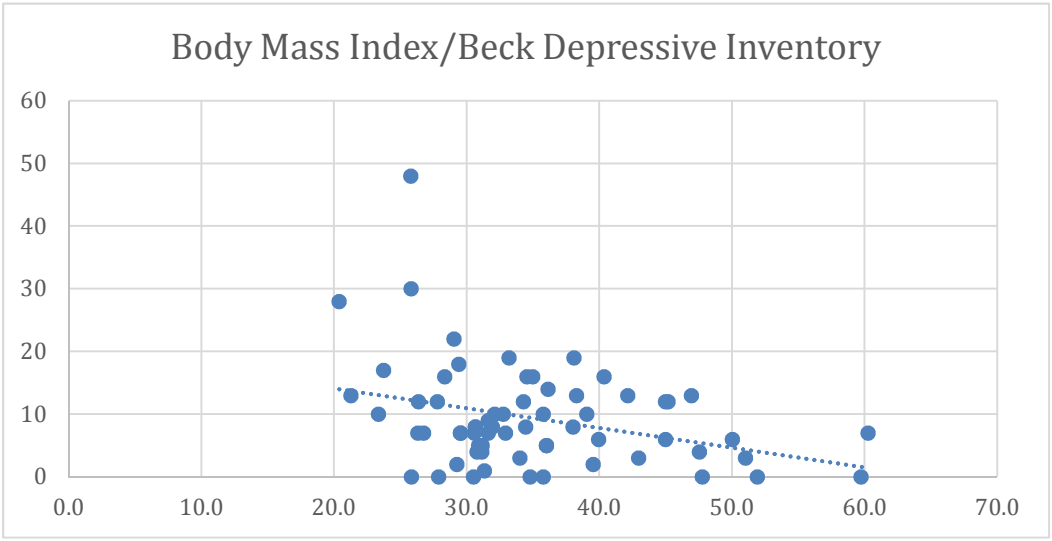


Figure 2. Scatter plot detailing participants' BMI and levels of depression per the Beck Depressive Inventory.

Table 7

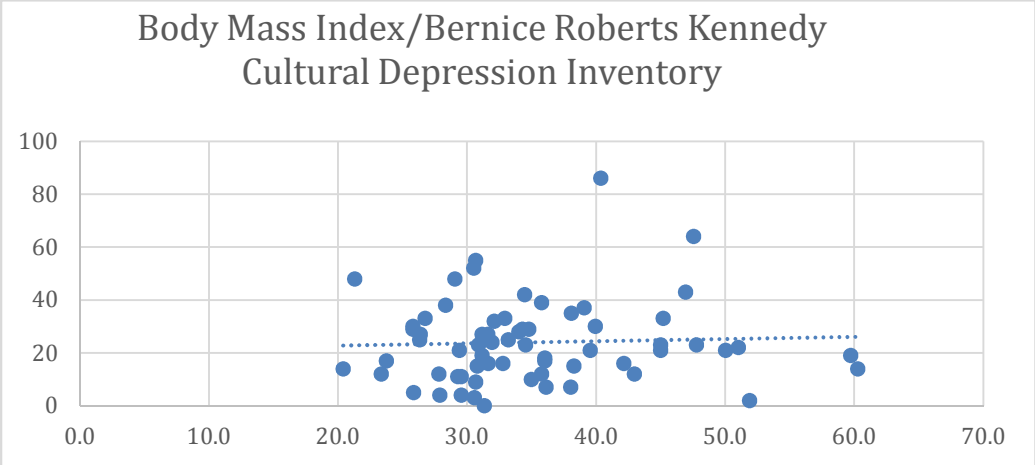
*Body Mass Index and Beck Depression Inventory Statistical Analysis Results (*n=*65)*

Item	Measurement
Slope	-0.3147 ± 0.1139
Y-intercept when X=0.0	20.40 ± 4.103
X-intercept when Y=0.0	64.83
1/slope	-3.177
95% Confidence Intervals	
Slope	-0.5424 to -0.08704
Y-intercept when X=0.0	12.20 to 28.60
X-intercept when Y=0.0	51.45 to 143.7
Goodness of Fit	
R^2	0.1081
Sy.x	7.787
Is slope significantly nonzero?	
F	7.635
DFn, DFd	1.000, 63.00
p value	0.0075
Deviation from zero?	Significant
Data	
Number of X values	65
Maximum number of Y replicates	1
Total number of values	65
Number of missing values	0

The Bernice Roberts Kennedy Cultural Depression Inventory was used as a companion to BDI. Using linear regression, there was no association between depression and obesity as self-reported by the women in the Bernice Roberts Kennedy Cultural Depression Inventory. Some 39 (60%) respondents showed normal depressive states, 22 (33.9%) showed mild depression, three (4.6%) had moderate and one (1.5%) showed severe. The coefficient of determination was 0.00386 (r2) for women and 0.001974 (r2)

for women and men combined as shown in Table 8. The *p* value was 0.658676 for women and 0.7253 for women and men. The results were not significant at $p < 0.05$. Table 8 provides the statistical analysis results for the Bernice Roberts Kennedy Cultural Depression Inventory and obesity. Although not statistically significant at $p < 0.05$ in this study, the Bernice Roberts Kennedy Cultural Depression Inventory provided insight to questions that stimulate responses from African Americans. Such questions covered prayer, church attendance and dressing up when feeling depressed. The knowledge and insight gained from responses to those questions are important when developing culturally sensitive tools for African Americans.

Figure 3. *Body Mass Index and Bernice Roberts Kennedy Cultural Depression Inventory Scatter Plot (*n=*65)*



Scatter plot detailing participants' BMI and levels of depression per the Bernice Roberts Kennedy Cultural Depression Inventory.

Table 8

*Body Mass Index and Bernice Roberts Kennedy Cultural Depression Inventory Statistical Analysis Results (*n=*65)*

Item	Measurement
Slope	0.08114 ± 0.2299
Y-intercept when X=0.0	21.21 ± 8.280
X-intercept when Y=0.0	-261.4
1/slope	12.32
95% Confidence Intervals	
Slope	-0.3784 to 0.5407
Y-intercept when X=0.0	4.654 to 37.76
X-intercept when Y=0.0	-infinity to -8.776
Goodness of Fit	
R^2	0.001974
Sy.x	15.72
Is slope significantly nonzero?	
F	0.1246
DFn, DFd	1.000, 63.00
P value	0.7253
Deviation from zero?	Not Significant
Data	
Number of X values	65
Maximum number of Y replicates	1
Total number of values	65
Number of missing values	0

Summary

The purpose of this study was to show the association between obesity, the dependent variable and the independent variables: binge eating, depression and food culture amongst African American women. All research questions were examined. Univariate and linear regression analyses were used in data evaluation. Linear regression showed that the Beck Depressive Inventory scores were statistically significant with a *p*

value of 0.0075 for women and men and 0.0220 for women. The data collected for food culture were not dense enough to utilize linear regression analysis.

The following chapter offers recommendations per the results presented within this chapter. It also presents interpretation of findings, limitations, implications for social change and the conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This quantitative study was designed to determine the correlation between obesity (the dependent variable) and three independent variables: binge eating, food culture and depression. The goal of this research was to gain additional information pertaining to African American women, which was achieved. This culture-centered information obtained is intended for use in improving this population's health and to reduce or prevent chronic and preventative diseases, which could significantly decrease the obesity epidemic. This chapter presents findings from the linear regression analyses documented in Chapter 4; and it also presents a discussion of the data, study limitations, recommendations, and implications for social change.

Interpretation of the Findings

This study has confirmed the need to promote more cultural based and sensitive tools and studies in rural minority populations in religious settings. There is a need for continued research in an effort to gauge and record the perceptions health and obesity amongst the rural, underprivileged, and undereducated African American women in rural populations.

Of the 57 African American women participants, 39 (68.4%) were obese, 12 (21.1%) were overweight, and two (3.5%) were healthy. No one was underweight. Coincidentally, there is a disproportionate prevalence of obesity amongst African American women when compared with white and Mexican American women and men (CDC, 2015). Although this study examined the correlation between obesity and the

independent variables binge eating, depression, and food culture, there was only one statistically significant correlation, which was between obesity and depression. The data collected for food culture were not dense enough and there was no correlation between obesity and binge eating.

Hypothesis 1 and interpretations regarding the association between binge eating and obesity are listed below:

- H1: There is an association between binge eating and obesity among African American women.
- $H1_a$: There is no association between binge eating and obesity among African American women.

I tested this hypothesis using linear regression analysis. There was a failure to reject the null with a statistically insignificant association between obesity and binge eating. Grilo, Lozano and Masheb (2005) found that black women had lower frequencies of BED, but significantly higher BMI values (M = 39.7, SD = .1) than White women (M 35.8, SD = 7.3). This statement is confirmed in this study as 68.4% of the participants were obese, but the association with BED was minimal. Kennedy (2014) stated that African American women may not seek medical or mental health services for binge eating as opposed to Caucasians; Crystal Cook, a nurse from the Jefferson County Comprehensive Health Center, stated that they have not referred patients for Binge Eating Disorder (Cook, 2012). These findings suggest that binge eating is not perceived as severe or susceptible amongst this African American sample. As an observer during

the study, I also overheard participants voice their concerns with the inability to answer questions in the Binge Eating Scale due to inapt questions.

Hypothesis 2 and justifications regarding the association between food culture and obesity are listed below:

- H2: There is an association between food culture and obesity among African American women.
- $H2_a$: There is no association between food culture and obesity among African American women.

The data collected via the demographic sheet for food culture were not dense enough to produce results. Albeit useful data, it was just too sparse for this study. The questioning primarily focused on the actions associated with food and the food preferences. Therefore, linear regression could not be performed. The null hypothesis was neither rejected nor failed to reject.

In retrospect, the demographic sheet should have contained questioning surrounding food preparation and the frequency of soul food consumption. Such questioning could have shed light on the continued usage of the slave diet, which consisted of a great deal of pork and corn, along with salts for food preservation. Today's soul food cuisine may be prepared or preserved differently than it was previously, but it is not clear whether or not the result is healthier. Such revised questions could potentially show an association with obesity.

Hypothesis 3, interpretations and related findings regarding the association between binge eating and obesity are listed below:

- H3: There is an association between depression and obesity among African American women.
- $H3_a$: There is no association between depression and obesity among African American women.

Linear regression analysis was used to determine the association between obesity and depression. The null hypothesis was rejected with a statistically significant association between obesity and depression. African American women may feel guilt when promoting self-development and additional stress while being a caretaker or homemaker, which significantly increases the risk for depression (Watson et al., 2012). The marital status is worthy of mentioning as well as Sohail (2014) found that single mothers have additional stressors, which could contribute to depression. This study demonstrated that single African American women have higher BMI levels at 35% compared to those who are married at 20%.

Theoretical Framework Findings

Rosenstock, Hochbaum, Kegeles, and Leventhal's health belief model (HBM)– was used during this study. I found this to be quite applicable for this study, as it guided with the assessment of barriers. The self-reported data revealed the perceptions of susceptibility, severity and barriers. I found that the demographic questionnaire shed light on the impacts of illnesses plaguing this population, along with the inadequate perceptions of the severity of obesity. Educating the population regarding the benefits and awards of achieving optimal health could further delve into the perceived benefits, which could significantly assist in this population achieving health goals.

Limitations of the Study

The limitations predicted in Chapter 1 were upheld by the actual research data. The study was self-reported, which may account for participants misinterpreting some questions. Ethnocentrism, the assumption that a person's way of doing things are correct and preferred (Ferguson & Brown, 1991), could also validate the way in which questions were answered. The lack of knowledge and education surrounding binge eating was prevalent during data analysis of Research Question 1. This could be attributed to the inadequate awareness of BED and the lack of medical referrals to address eating disorders in this population. Not only did this study present low levels of BED, according to Grilo, Lozano, and Masheb (2005), black women had lower frequencies of BED, but significantly higher BMI values (M = 39.7, SD = .1) than White women (M = 35.8, SD = 7.3). The data collected were only representative of rural African American populations. Additionally, the data were representative of the working class church-attending population, but the unemployed and poverty-stricken within the population were not adequately represented in this study. Lastly, the culture and belief system heavily influenced perceptions relative to obesity, familial influences, and eating disorders.

Recommendations

This research recorded depression amongst rural obese African American women. However, there is a gap in literature relative to the effective treatments for African Americans diagnosed with depression. Holistic treatments have been beneficial and the influence of religion has proven to be quite effective (Sohail et al., 2014). Prayer, religious involvement and regular church attendance are common coping responses

(Cummings, Neff, & Husaini, 2003; Sohail et al., 2014) for depressed African Americans. They have found refuge and power in the Black church. They found effective ways, especially through prayer and singing, to deal and cope with their depressive states. Such a practice produced a coping mechanism that initiated hope for change and better days.

This research confirmed the importance of church involvement through the Bernice Roberts Kennedy Depression Inventory and the demographic questionnaire. In responding to Question 23 of the Bernice Roberts Kennedy Depression Scale, 88.5% of the participants responded that would pray or attend religious services; and in Question 25, 98.5% answered that they would continue to pray or be encouraged despite being depressed. Researchers should capitalize on the impact of church and the power of prayer in the African American culture. Additionally, prayer coupled with spirituality may contribute to the health provider's ability to adequately assess depression in African American women.

African American women in underserved communities have been labeled without sensitivity to their culture, psychological, biological, and social influences (Broome, 2003). Culture is vitally important and according to Broome (2003), it is imperative to accept the ethnic diversity in the United States and recognize the special needs of each culture without biases. It plays a significant role in attitudes, perceptions and knowledge in regards to obesity and being overweight and the effects thereof. With such an outlook, culturally dissonant messages can be targeted to meet the needs of a specific culture. To address food in the African American population is to understand the close-knit ties

between slave food and soul food. Educating African Americans on the somewhat healthy diets of the first slaves, who arrived in Jamestown in 1619 could be a productive undertaking as it may influence healthier diets (Collins, 2007). Their diets consisted of okra, black-eyed peas, millet, porridge, and peanuts which is much healthier than what is consumed today (Collins, 2007).

There is a belief that there are unique stressors that affect African American women, which is primarily due to their distinctive traditions and practices (Broome, 2003). Increased involvement in educating and encouraging medical professionals to ask more questions relative to mental stability when treating patients would be beneficial. Such a prompter allows for treatment and referrals to therapists and mental health clinics. African American women have visited mental health agencies over 3 million times each year (Sohail et al., 2014). Now that BED is listed in DSM-5, practitioners have the ability to recognize symptoms, diagnose and refer patients. The results of this study confirm the importance of practitioners asking more questions about eating behaviors and linkage to obesity.

Implications

The opportunity, via this research, to collect and assess data surrounding barriers, behaviors, competencies and culture in an effort to promote improved health was most beneficial for the African American population. That is, despite all predictors not being significant.

Implications of social change were discussed in Chapter 1. There is a need to assess health promotion barriers in underserved communities and acknowledge the

complexities attendant to self-defeating behavior and psychosocial impacts. Assessing depression and cultural influences amongst African Americans could heighten the awareness of the need for further research specific to psychosocial influences. Moreover, such an assessment and acknowledgement could prompt health practitioners and researchers to create and implement individualized health promotion campaigns and interventions that fit with community realities that could effectively address the obesity and poor health epidemic in rural African American populations.

To further bring about social change, I plan to use the results of this study to strengthen the foundation of the Holistic Wellness Program (HWP). The HWP is Spirit-based and promotes optimal health by utilizing religious affiliations and social facts to address psychosocial impacts with the intent to reduce and possibly eliminate unhealthy behaviors. Participants in HWP will: receive individualized attention; learn about the impact of unhealthy and self-destructive behaviors; and be encouraged to adopt strategies to reduce and eliminate such self-defeating behaviors. The HBM will be integrated in the health coaching sessions of the program as it effectively gauges perceptions. Based on the effectiveness of HWP in the church and school community, there will be a plan in place to introduce the program to local health centers and community groups. Overall, HWP's goal is to propose a salutogenic approach, which supports human health and well-being.

Conclusion

The newness of culture-sensitive research delving into psychosocial impacts is creating possibilities for more effective programs. The contribution of this study is significant as it sheds light on perceptions and behaviors relative to obesity, depression,

and food culture in the rural African American culture. The HBM was quite appropriate for this study as it addresses perceived susceptibility of illness, the severity of the effects of obesity and the psychosocial barriers, which were revealed in the data collected.

Current literature presented in this study sheds light on the need to make the "one size fits all" approach obsolete. The literature presented, along with the findings in this study substantiate the need to address the causes of obesity in rural African American populations within the United States. There are psychosocial and cultural elements that have not been considered when addressing the obesity epidemic in rural minority populations. It is imperative to include psychosocial components in research and develop programs and interventions with cultural specificity in an effort to promote optimal health. Future and continued research should further delve into the significance and effects of culture as it plays a pivotal role in the attitudes, perceptions and knowledge in regards to obesity amongst African Americans.

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Appendix A: Waterloo M.B. Church Permission to Conduct Research

WATERLOO M.B. CHURCH
Highway 552W
Lorman, MS 39096

December 7, 2014

Walden University
Institutional Review Board

Dear Members of the Institutional Review Board Committee:

On behalf of Waterloo Missionary Baptist Church, I am writing to formally indicate my awareness of the research proposed by Tracee T. Smith, a student at Walden University. I am aware that Ms. Smith intends to conduct her research by administering a written survey to members of my congregation.

As pastor, I am the shepherd over my members and hereby grant Tracee T. Smith permission to conduct her research at our church.

If you have any questions or concerns, please feel free to contact me on my cell at (601)807-0894.

Sincerely,

Rev. Leon Howard

Rev. Dr. Leon Howard, Pastor
Waterloo M.B. Church

Appendix B: Greater Faith Worship Center Permission to Conduct Research

Greater Faith Worship Center

303 Guice Road ◆ Post Office Box 1174 ◆ Fayette, Mississippi 39069

July 1, 2015

Walden University
Institutional Review Board

Dear Members of the Institutional Review Board Committee:

On behalf of Greater Faith Worship Center, I am writing to formally indicate my awareness of the research proposed by Tracee T. Smith, a student at Walden University. I am aware that Ms. Smith intends to conduct her research by administering a written survey to members of my congregation.

As pastor, I am the shepherd over my members and hereby grant Tracee T. Smith permission to conduct her research at our church.

If you have any questions or concerns, please feel free to contact me on my cell at (601)807-7277.

Sincerely,

Rev. Dr. J.L. Hammitte, Pastor
Greater Faith Worship Center

Appendix C: Jefferson County School District Permission to Conduct Research

JEFFERSON COUNTY
SCHOOL DISTRICT
Tracy M. Cook, Superintendent of Education

Cassondry Tenner
Business Manager
Margie Buie-Scott
Payroll/Employee Benefits
Shumeki Glass
Administration
Accounts Payable Clerk
Gloria Belton
Business Office Assistant

December 7, 2014

Walden University
Institutional Review Board

Dear Members of the Institutional Review Board Committee:

As Superintendent of the Jefferson County School System, I am writing to formally indicate my awareness of the research proposed by Tracee T. Smith, a student at Walden University. I am aware that Ms. Smith intends to conduct her research by administering a written survey to members of my staffers.

As Superintendent, I hereby grant Tracee T. Smith permission to conduct her research at our school district.

If you have any questions or concerns, please feel free to contact me on my cell at 601.597.2884.

Sincerely,

Tracy M. Cook
Superintendent of Education

Appendix D: Binge Eating Scale

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Oct 24, 2015

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Binge Eating Scale

The BES is a 16-item questionnaire assessing the presence of certain binge eating behaviors which may be indicative of an eating disorder.

Below are groups of statements about behavior, thoughts, and emotional states. Please indicate which statement in each group best describes how you feel.

1.

- ○ I do not think about my weight or size when I'm around other people.
- ○ I worry about my appearance, but it does not make me unhappy.
- ○ I think about my appearance or weight and I feel disappointed in myself.
- ○ I frequently think about my weight and feel great shame and disgust.

2.

- ○ I have no difficulty eating slowly.
- ○ I may eat quickly, but I never feel too full.
- ○ Sometimes after I eat fast I feel too full.
- ○ Usually I swallow my food almost without chewing, then feel as if I ate too much.

3.

- ○ I can control my impulses towards food.
- ○ I think I have less control over food than the average person.
- ○ I feel totally unable to control my impulses toward food.
- ○ I feel totally unable to control my relationship with food and I try desperately to fight my impulses toward food.

4.

- ○ I do not have a habit of eating when I am bored.
- ○ Sometimes I eat when I am bored, but I can often distract myself and not think about food.
- ○ I often eat when I am bored, but I can sometimes distract myself and not think about food.
- ○ I have a habit of eating when I am bored and nothing can stop me.

5.

- ○ Usually when I eat it is because I am hungry.

○ Sometimes I eat on impulse without really being hungry.
○ I often eat to satisfy hunger even when I know I've already eaten enough. On these occasions I can't even enjoy what I eat.
○ Although I have not physically hungry, I feel the need to put something in my mouth and I feel satisfied or only when I can fill my mouth (for example with a piece of bread).

6. After eating too much:

○ I do not feel guilty or regretful at all.
○ I sometimes feel guilty or regretful.
○ I almost always feel a strong sense of guilt or regret.

7.

○ When I'm on a diet, I never completely lose control of food, even in times when I eat too much.
○ When I eat a forbidden food on a diet, I think I've failed and eat even more.
○ When I'm on a diet and I eat to much, I think I've failed and eat even more.
○ I am always either binge eating or fasting.

8.

○ It is rare that I eat so much that I felt uncomfortably full.
○ About once a month I eat so much that I felt uncomfortably full.
○ There are regular periods during the month when I eat large amounts of food at meals or between meals.
○ I eat so much that usually, after eating, I feel pretty bad and I have nausea.

9.

○ The amount of calories that I consume is fairly constant over time.
○ Sometimes after I eat too much, I try to consume few calories to make up for the previous meal.
○ I have a habit of eating too much at night. Usually I'm not hungry in the morning and at night I eat too much.
○ I have periods of about a week in which I imposed starvation diets, following periods of when I ate too much. My life is made of binges and fasts.

10.

○ I can usually stop eating when I decide I've had enough.
○ Sometimes I feel an urge to eat that I cannot control.
○ I often feel impulses to eat so strong that I cannot win, but sometimes I can control myself.
○ I feel totally unable to control my impulses to eat.

11.

- ○ I have no problems stopping eating when I am full.
- ○ I can usually stop eating when I feel full, but sometimes I eat so much it feels unpleasant.
- ○ It is hard for me to stop eating once I start, I usually end up feeling too full.
- ○ It is a real problem for me to stop eating and sometimes I vomit because I feel so full.

12.

- ○ I eat the same around friends and family as I do when I am alone.
- ○ Sometimes I do not eat what I want around others because I am aware of my problems with food.
- ○ I often eat little around other people because I feel embarrassed.
- ○ I'm so ashamed of overeating, I only eat at times when no one sees me. I eat in secret.

13.

- ○ I eat three meals a day and occasionally a snack.
- ○ I eat three meals a day and I usually snack as well.
- ○ I eat many meals, or skip meals regularly.
- ○ There are times when I seem to eat continuously without regular meals.

14.

- ○ I don't think about impulses to eat very much.
- ○ Sometimes my mind is occupied with thoughts of how to control the urge to eat.
- ○ I often spend much time thinking about what I ate or how not to eat.
- ○ My mind is busy most of the time with thoughts about eating.
- ○ I seem to be constantly fighting not to eat.

15.

- ○ I don't think about food any more than most people.
- ○ I have strong desires for food, but only for short periods.
- ○ There are some days when I think of nothing but food.
- ○ Most of my days is filled with thoughts of food. I feel like I live to eat.

16.

- ○ I usually know if I am hungry or or not. I know what portion sizes are appropriate.
- ○ Sometimes I do not know if I am physically hungry or not. In these moments, I can hardly understand how much food is appropriate.
- ○ Even if I knew how many calories should I eat, I would not have a clear idea of what is, for me, a normal amount of food.

Score my Answers

Sources

1. J Gormally. *The Assessment of Binge Eating Severity Among Obese Persons*. 7(1): ADDICT BEHAV 47-55. 1982.

Appendix E: Beck Depressive Inventory

Sandoval, Diana <diana.sandoval@pearson.com> Oct 8

to Tracee , me , Dannette

Tracee Smith,

Thank you for providing this information.

The "Rural Obese African American Women: The Effects of Depression, Culture and Binge Eating" research study has been approved to receive a 50% research discount on the following assessments: BDI-II.

If you require additional materials for this study, please reference the following information on your next order: The name of the study, Agreement Code "RES", 50% discount, Account #1809410 and your Bernice Kennedy as the qualified P.I.. This discount is valid until November 30, 2015 or the $5000 (full retail value) cap has been reached. The available amount for this study is $4918.40 ($81.60 has been subtracted from the amount of your first order).

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On Wed, Oct 7, 2015 at 5:01 PM, Tracee Smith <traceesmith39@gmail.com> wrote:
Thanks for your prompt response. My mailing address is:

156 Stampley Road
Fayette, MS 39069

Should you have questions, feel free to contact me.

Thank you,

Tracee

On Wed, Oct 7, 2015 at 8:37 AM, Sandoval, Diana <diana.sandoval@pearson.com> wrote:

Tracee Smith,

Thank you for your recent request for a research discount. Your request has been forwarded to our Review Board for approval.

While we are waiting for a decision to be made, please provide a physical ship to address where the materials are to be shipped. Regretfully, we do not ship to PO Boxes.

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Instructions:
This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today.** Fill in the circle on the answer sheet for the statement you have picked. If several statements in the group seem to apply equally well, fill in the circle for the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. **Sadness**
   - **0** I do not feel sad.
   - **1** I feel sad much of the time.
   - **2** I am sad all the time.
   - **3** I am so sad or unhappy that I can't stand it.

2. **Pessimism**
   - **0** I am not discouraged about my future.
   - **1** I feel more discouraged about my future than I used to be.
   - **2** I do not expect things to work out for me.
   - **3** I feel my future is hopeless and will only get worse.

3. **Past Failure**
   - **0** I do not feel like a failure.
   - **1** I have failed more than I should have.
   - **2** As I look back, I see a lot of failures.
   - **3** I feel I am a total failure as a person.

4. **Loss of Pleasure**
   - **0** I get as much pleasure as I ever did from the things I enjoy.
   - **1** I don't enjoy things as much as I used to.
   - **2** I get very little pleasure from the things I used to enjoy.
   - **3** I can't get any pleasure from the things I used to enjoy.

5. **Guilty Feelings**
   - **0** I don't feel particularly guilty.
   - **1** I feel guilty over many things I have done or should have done.
   - **2** I feel quite guilty most of the time.
   - **3** I feel guilty all of the time.

6. **Punishment Feelings**
   - **0** I don't feel I am being punished.
   - **1** I feel I may be punished.
   - **2** I expect to be punished.
   - **3** I feel I am being punished.

7. **Self-Dislike**
   - **0** I feel the same about myself as ever.
   - **1** I have lost confidence in myself.
   - **2** I am disappointed in myself.
   - **3** I dislike myself.

8. **Self-Criticalness**
   - **0** I don't criticize or blame myself more than usual.
   - **1** I am more critical of myself than I used to be.
   - **2** I criticize myself for all of my faults.
   - **3** I blame myself for everything bad that happens.

Go on to the next page.

9. **Suicidal Thoughts or Wishes**
   - **0** I don't have any thoughts of killing myself.
   - **1** I have thoughts of killing myself, but I would not carry them out.
   - **2** I would like to kill myself.
   - **3** I would kill myself if I had the chance.

10. **Crying**
   - **0** I don't cry any more than I used to.
   - **1** I cry more than I used to.
   - **2** I cry over every little thing.
   - **3** I feel like crying, but I can't.

11. **Agitation**
   - **0** I am no more restless or wound up than usual.
   - **1** I feel more restless or wound up than usual.
   - **2** I am so restless or agitated that it's hard to stay still.
   - **3** I am so restless or agitated that I have to keep moving or doing something.

12. **Loss of Interest**
   - **0** I have not lost interest in other people or activities.
   - **1** I am less interested in other people or things than before.
   - **2** I have lost most of my interest in other people or things.
   - **3** It's hard to get interested in anything.

13. **Indecisiveness**
   - **0** I make decisions about as well as ever.
   - **1** I find it more difficult to make decisions than usual.
   - **2** I have much greater difficulty in making decisions than I used to.
   - **3** I have trouble making any decisions.

14. **Worthlessness**
   - **0** I do not feel I am worthless.
   - **1** I don't consider myself as worthwhile and useful as I used to.
   - **2** I feel more worthless as compared to other people.
   - **3** I feel utterly worthless.

15. **Loss of Energy**
   - **0** I have as much energy as ever.
   - **1** I have less energy than I used to have.
   - **2** I don't have enough energy to do very much.
   - **3** I don't have enough energy to do anything.

16. **Changes in Sleeping Pattern**
   - **0** I have not experienced any change in my sleeping pattern.
   - **1** I sleep somewhat more than usual.
   - **2** I sleep somewhat less than usual.
   - **3** I sleep a lot more than usual.
   - **4** I sleep a lot less than usual.
   - **5** I sleep most of the day.
   - **6** I wake up 1–2 hours early and can't get back to sleep.

17. **Irritability**
   - **0** I am no more irritable than usual.
   - **1** I am more irritable than usual.
   - **2** I am much more irritable than usual.
   - **3** I am irritable all the time.

Go on to the next page.

18. **Changes in Appetite**
    - **0** I have not experienced any change in my appetite.
    - **1** My appetite is somewhat less than usual.
    - **2** My appetite is somewhat greater than usual.
    - **3** My appetite is much less than before.
    - **4** My appetite is much greater than usual.
    - **5** I have no appetite at all.
    - **6** I crave food all the time.

19. **Concentration Difficulty**
    - **0** I can concentrate as well as ever.
    - **1** I can't concentrate as well as usual.
    - **2** It's hard to keep my mind on anything for very long.
    - **3** I find I can't concentrate on anything.

20. **Tiredness or Fatigue**
    - **0** I am no more tired or fatigued than usual.
    - **1** I get more tired or fatigued more easily than usual.
    - **2** I am too tired or fatigued to do a lot of the things I used to do.
    - **3** I am too tired or fatigued to do most of the things I used to do.

21. **Loss of Interest in Sex**
    - **0** I have not noticed any recent change in my interest in sex.
    - **1** I am less interested in sex than I used to be.
    - **2** I am much less interested in sex now.
    - **3** I have lost interest in sex completely.

Turn the page and follow the directions to complete the additional information.

BDI-II

Q Local

ADMINISTRATOR:
AFTER THE QUESTIONNAIRE IS COMPLETED, DETACH THIS PAGE BY CAREFULLY TEARING ALONG THE PERFORATED LINE. THEN DISCARD PAGES 1 THROUGH 8 AS YOU WOULD OTHER CONFIDENTIAL DOCUMENTS.

DIRECTIONS

1. Write your identification number in the box below. Then find the circle below each space that has the same number and blacken it. In a similar way, complete the Birth Date and Test Date boxes.
2. Blacken the circle for either male or female.

IDENTIFICATION NUMBER

NAME (Optional)

GENDER
① Male
② Female

BIRTH DATE
MONTH DAY YEAR

TEST DATE
MONTH DAY YEAR

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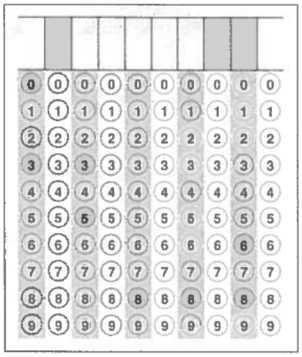

Custom 2 (optional)

Custom 3 (optional)

Custom 4 (optional)

Appendix F: B. R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups

Bernice Roberts Kennedy, PhD, APRN, PMH-CNS, BC
BRK Global Healthcare Consulting Firm, LLC
P.O. 90899, Columbia, South Carolina, 29290
803-353-2082
brkhealthcare@gmail.com

09/23/2015

RE: B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups

Tracee T. Smith
P.O. Box 482
Lorman, MS 39096

To whom it may concern,

I am giving Tracee T. Smith permission to use my scale on *B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups* for her dissertation on *Rural Obese African American Women: The Effects of Depression, Family Practice and Binge Eating.* If you have any questions about the scale, I can be reached at the contact information provided.

Sincerely,

Bernice R. Kennedy

B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups

Please make a check mark in the block to your response for each statement:
4=Always
3=Most of the Time
2=Some of the Time
1=Seldom
0=Never

	Always 4 Points	Most of the Time 3 Points	Some of the Time 2 Points	Seldom 1 Point	Never 0 Points
1. I feel sad, weary and have the blues all of the time.					
2. I am tired and have no energy.					
3. The sadness, blues, weary feelings, and lack of energy interfere with work and/or school and social life.					
4. I feel sad and weary related to completing tasks.					
5. I feel sad and wary related to health problems.					
6. I noticed when I am sad and wary I have more bodily aches and pain.					
7. I noticed when I am sad and weary I have an increase in appetite and tend to eat more.					
8. I feel discouraged about the future for minorities.					
9. The limited opportunities for minorities cause me to feel down or depressed.					
10. The limited opportunities for minorities cause me to feel irritable or angry.					

11. The limited opportunities for minorities decrease my interest in work and seeking a job.					
12. I feel like I am being punished for some reason.					
13. I am disappointed in myself and the lack of accomplishments.					
14. I have thoughts of killing myself.					
15. I have thoughts of hurting others.					
16. I am tearful and cry a lot.					
17. I have no interest in social events, etc.					
18. I find it hard making decisions concerning my life.					
19. I have difficulties sleeping at night.					
20. I over-indulge when I am feeling depressed with one of the following: eating, drinking alcohol, sex, etc.					
21. I have no interest in sex.					
22. I will dress up regardless even though I feel down or depressed.					
23. I will pray, attend religious services even when I feel down or depressed.					
24. The racism, inequality and discrimination that I experience cause me to feel hopeless about the future.					
25. I continue to pray or be encouraged even though I feel depressed or sad.					

Appendix G: Greater Faith Worship Center Demographic Sheet

Code #_____

Greater Faith Worship Center
Demographic Sheet

Please answer the questions below. Turn this sheet in with your other surveys. Please do not write your name on the sheet.

Age

____25-35
____36-45
____46-55
____56-65
____66-75
____75 years and older

Gender: ____Male ____Female

Marital Status:____Single
____Married
____Divorced
____Widowed

Race: ____White
____Black
____Hispanic
____Asian or Pacific Islander
____American Indian or Alaskan Native
____Other

Education: ____ Some education
____ High School Graduate
____ College Graduate
____ Masters or Doctoral Graduate

Employment: ____ Employed
____ Not Employed
____ Retired
____ Laid Off

Children (at home with you)?____0 ____1 ____2 ____3 and more
Are you a caretaker of someone other than your children? ____Yes____No
If so, please circle who you take care of: mother, father, sister, brother, grandmother, grandfather, other?

Are you or have you ever been ill with the following diseases? Check all that apply.

____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

Did/does your mother have any of the following diseases? Check all that apply.
____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

Did/does your father have any of the following diseases? Check all that apply.
____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

How much do you weigh? _____

How much do you want to weigh? _____

Do you feel that you weigh _____
(1) not enough (2) just enough (3) too much?

Does your spouse/significant other/family member feel that you weigh _____
(1) not enough (2) just enough (3) too much?

How tall are you? _____

Are you a member of this church? ____Yes ____No

How often do you attend this church?
____ Once a month
____ Twice a month
____ Over twice a month

Do you come to this church for spiritual uplifting? ____Yes ____No

Do you come to this church to socialize? ____Yes ____No

Do you have any relatives at this church? ____Yes ____No

Do you work at the same company with anyone at this church? ____Yes ____No

Do you ever eat at this church? ____Yes ____No

Do you sit down to eat in the Dining area? ____Yes ____No

Do you take any food/leftovers home? ____Yes ____No
(Carry-out plate/plate with aluminum foil)

Do you prefer fried foods over baked or grilled? ____Yes ____No

Do you use pork to add seasoning to vegetables? ____Yes ____No

Do you eat meat every day? ____Yes ____No

Do you eat vegetables every day? ____Yes ____No

Do you eat fruit every day? ____Yes ____No

Would you come to this church if the following life classes were offered during the week?

Cooking	____Yes	____No
Good Health	____Yes	____No
Disease Prevention	____Yes	____No
Stress Management	____Yes	____No
Biblical Fasting	____Yes	____No
Exercise	____Yes	____No

Would you be willing to go to your local school if the following life classes were offered during the week?

Cooking	____Yes	____No
Good Health	____Yes	____No
Disease Prevention	____Yes	____No
Stress Management	____Yes	____No
Exercise	____Yes	____No

Appendix H: Waterloo Missionary Baptist Church Demographic Sheet

Code #_____

Waterloo M.B. Church
Demographic Sheet

Please answer the questions below. Turn this sheet in with your other surveys. Please do not write your name on the sheet.

Age

____25-35
____36-45
____46-55
____56-65
____66-75
____75 years and older

Gender: ____Male ____Female

Marital Status:____Single
____Married
____Divorced
____Widowed

Race: ____White
____Black
____Hispanic
____Asian or Pacific Islander
____American Indian or Alaskan Native
____Other

Education: ____ Some education
____ High School Graduate
____ College Graduate
____ Masters or Doctoral Graduate

Employment: ____ Employed
____ Not Employed
____ Retired
____ Laid Off

Children (at home with you)? ____0 ____1 ____2 ____3 and more

Are you a caretaker of someone other than your children? ____Yes____No
If so, please circle who you take care of: mother, father, sister, brother, grandmother, grandfather, other?

Are you or have you ever been ill with the following diseases? Check all that apply.

____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

Did/does your mother have any of the following diseases? Check all that apply.
____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

Did/does your father have any of the following diseases? Check all that apply.
____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

How much do you weigh? _____

How much do you want to weigh? _____

Do you feel that you weigh _____
(1) not enough (2) just enough (3) too much?

Does your spouse/significant other/family member feel that you weigh _____

(1) not enough (2) just enough (3) too much?

How tall are you? _____

Are you a member of this church? ____Yes ____No

How often do you attend this church?
____ Once a month
____ Twice a month
____ Over twice a month

Do you come to this church for spiritual uplifting? ____Yes ____No

Do you come to this church to socialize? ____Yes ____No

Do you have any relatives at this church? ____Yes ____No

Do you work at the same company with anyone at this church? ____Yes ____No

Do you ever eat at this church? ____Yes ____No

Do you sit down to eat in the Dining area? ____Yes ____No

Do you take any food/leftovers home? (Carry-out plate/plate with aluminum foil) ____Yes ____No

Do you prefer fried foods over baked or grilled? ____Yes ____No

Do you use pork to add seasoning to vegetables? ____Yes ____No

Do you eat meat every day? ____Yes ____No

Do you eat vegetables every day? ____Yes ____No

Do you eat fruit every day? ____Yes ____No

Would you come to this church if the following life classes were offered during the week?

Cooking	____Yes	____No
Good Health	____Yes	____No
Disease Prevention	____Yes	____No
Stress Management	____Yes	____No
Biblical Fasting	____Yes	____No
Exercise	____Yes	____No

Would you be willing to go to your local school if the following life classes were offered during the week?

Cooking	____Yes	____No
Good Health	____Yes	____No
Disease Prevention	____Yes	____No
Stress Management	____Yes	____No
Exercise	____Yes	____No

Appendix I: Jefferson County School District Demographic Sheet

Code #_____

Jefferson County School District
Demographic Sheet

Please answer the questions below. Turn this sheet in with your other surveys. Please do not write your name on the sheet.

Age

____25-35
____36-45
____46-55
____56-65
____66-75
____75 years and older

Gender: ____Male ____Female

Marital Status: ____Single
____Married
____Divorced
____Widowed

Race: ____White
____Black
____Hispanic
____Asian or Pacific Islander
____American Indian or Alaskan Native
____Other

Education: ____ Some education
____ High School Graduate
____ College Graduate
____ Masters or Doctoral Graduate

Children (at home with you)? ____0 ____1 ____2 ____3 and more

Are you a caretaker of someone other than your children? ____Yes____No
If so, please circle who you take care of: mother, father, sister, brother, grandmother, grandfather, other?

Are you or have you ever been ill with the following diseases? Check all that apply.

____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

Did/does your mother have any of the following diseases? Check all that apply.
____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

Did/does your father have any of the following diseases? Check all that apply.
____high blood pressure ____kidney failure/disease

____heart attack/heart disease ____stroke

____diabetes/sugar ____cancer

____anemia ____none

How much do you weigh? _____

How much do you want to weigh? _____

Do you feel that you weigh _____
(1) not enough (2) just enough (3) too much?

Does your spouse/significant other/family member feel that you weigh _____
(1) not enough (2) just enough (3) too much?

How tall are you? _____

Are you a member of a church? ____Yes ____No

How often do you attend church?
____ Once a month
____ Twice a month
____ Over twice a month

Do you go to church for spiritual uplifting? ____Yes ____No

Do you go to church to socialize? ____Yes ____No

Do you have any relatives at your church? ____Yes ____No

Do any of your coworkers attend the same church you attend? ____Yes ____No

Do you ever eat at church? ____Yes ____No

Do you sit down to eat in the Dining area of your church? ____Yes ____No

Do you take any food/leftovers home? (Carry-out plate/plate with aluminum foil) ____Yes ____No

Do you prefer fried foods over baked or grilled? ____Yes ____No

Do you use pork to add seasoning to vegetables? ____Yes ____No

Do you eat meat every day? ____Yes ____No

Do you eat vegetables every day? ____Yes ____No

Do you eat fruit every day? ____Yes ____No

Would you go to your church during the week if the following life classes were offered?

Cooking	____Yes	____No
Good Health	____Yes	____No
Disease Prevention	____Yes	____No
Stress Management	____Yes	____No
Biblical Fasting	____Yes	____No
Exercise	____Yes	____No

Would you be willing to stay after work if the following life classes were offered at your school?

Cooking	____Yes	____No
Good Health	____Yes	____No
Disease Prevention	____Yes	____No
Stress Management	____Yes	____No
Exercise	____Yes	____No

Appendix J: The Jefferson County Adult Perception of Wellness

Recruiting Announcements

You have been invited to participate in a study at the end of our church service today. Participation in this study is anonymous and voluntary. This study aims to collect data from African American/Black individuals who are 25 years of age or older, English speaking and a resident of Jefferson County, Mississippi. This study is not associated with our church nor is it a part of our church program today.

Ms. Tracee Smith, the researcher, will read the consent form and provide instructions to you after our church services.

Thank you.

The Jefferson County Adult Perception of Wellness

Recruiting Announcement

You have been invited to participate in a study at the end of our meeting today. Participation in this study is anonymous and voluntary. This study aims to collect data from African American/Black individuals who are 25 years of age or older, English speaking and a resident of Jefferson County, Mississippi. This study is not associated with our school district's official business.

Ms. Tracee Smith, the researcher, will read the consent form and provide instructions to you after our meeting today.

Thank you.

Appendix K: The Jefferson County Adult Perception of Wellness

Consent Form

You are invited to participate in a research study of adult wellness in Jefferson County, Mississippi. You were invited as a participant because you are: an African American/Black adult whose age is 25 years or more; English speaking; and a resident of Jefferson County, Mississippi. Please read this form and ask any questions prior to agreeing to be a participant in this study. This study is conducted by Tracee Smith, a doctoral candidate at Walden University.

Background Information: The purpose of this study is to gain an understanding of the perceptions and influences contributing to your health.

Procedures: If you are willing to participate in this study, please remain seated. You will then receive a study packet with a demographic sheet and three questionnaires. The demographic sheet consists of information about you. The Binge Eating Scale consists of 16 items and will be used to assess your relationship with food. The Beck Depression Inventory contains 21 items and will be used to assess behavioral, cognitive and motivational aspects. The B.R. Kennedy Cultural Sensitive Depression Inventory Scale for Minority Groups contains 25 items and will be used to assess cultural depressive moods. Please complete the questionnaires to the best of your ability without consulting or talking to another participant.

Benefits and Risks: You may not directly benefit from this study, however your community may benefit from potential wellness campaigns. The risks associated with this study are minimal.

Confidentiality: All records in this study are anonymous and will be kept confidential. All data that may be published resulting from this study will not include any identification of a participant. All research records will be kept in a locked file and only the researcher, Tracee Smith, will have access to them. Upon completion of data analyses, the forms will be destroyed.

Voluntary Nature of the Study: You are not required to participate in this study. It is

voluntary. There is no compensation for this study. If you choose not to participate it is your decision. You may keep this consent form.

Contact Information: Should you have questions pertaining to your rights as a participant, please contact a Walden University representative at 612-312-1210. Walden University's approval number for this study is 12-30-15-0028617 and it expires December 29, 2016. Your researcher may be contacted at:

Tracee T. Smith
P.O. Box 482
Lorman, MS 39096
601-807-4356

This has been approved by the Institutional Review Board of
as acceptable documentation of the informed consent process and is valid for one year after the stamped date.
2015.12.3 0 16:23:44 -06'00'