2015

How are the dimensions of technology, culture, kinship, and economics and the experience of stress described by African American students who gained weight during their freshman year in college?

Shavon Darden

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HOW ARE THE DIMENSIONS OF TECHNOLOGY, CULTURE, KINSHIP, AND ECONOMICS AND THE EXPERIENCE OF STRESS DESCRIBED BY AFRICAN AMERICAN STUDENTS WHO GAINED WEIGHT DURING THEIR FRESHMAN YEAR IN COLLEGE?

By

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**Dissertation submitted to the School of Nursing
At West Virginia University
in partial fulfillment of the requirements
for the degree of**

**Doctor of Philosophy
in
Nursing**

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2015

Keywords: African American, freshmen, weight gain

Abstract

HOW ARE THE DIMENSIONS OF TECHNOLOGY,
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African American college students are gaining weight at a pace faster than other ethnic groups yet research on this population is lacking. Exploration of freshman weight gain through the cultural lens of an African American student may provide a better understanding of this event. The research question for this study was, "How are the dimensions of technology, culture, kinship, economics, and the experience of stress described by African American students who gained weight during their freshman year in college?." Using Leininger's Cultural Care Theory and Sunrise Model as study frameworks, a qualitative study involving face-to-face interviews was conducted with directed content analysis used to interpret data. The final synthesized themes of this study are: technology is a double edge sword, kinship is a revolving door of relationships, culture is a discordant fit, economics is juggling resources, and stress is a never ending cycle of tension. Leininger's dimensions of technology, kinship, culture, and economics were upheld as useful guides to assess cultural influences of weight gain for this group. Inclusion of stress as a dimension is suggested based on participant reflections. Study results may be applicable in future clinical and educational research focused on weight management for the African American student.

Dedication

Dedicated to my husband, Garret: Without his patience, understanding, support, and, most of all, love the completion of this work would not have been possible.

Acknowledgements

I would like to acknowledge the many people who assisted me along this journey. I would like to thank Dr. Gina Maiocco, my committee chair, for her countless hours of reading, reflecting, and encouraging me and for all of her patience with me throughout the entire process. I am very grateful for my committee members (Dr. Mary Jane Smith, Dr. Laurie Theeke, Dr. Roger Carpenter, and Dr. Bernardine Lacey) who were more than generous with their expertise and precious time.

I would like to acknowledge Veronica Gallo and Courtney Pate who shared in this journey with me. I wish to thank Dr. Terri Hackett whose support was unending. You helped me to survive this experience in many ways.

I acknowledge my family and friends who were there to celebrate the great joys and supported me during my heartbreaking losses I experienced while in this program. I especially thank my mother for pushing me to do my best and for helping me to develop a “failure is not an option” attitude.

Last, but certainly not least, I want to thank all of the students who gave their time and provided me with insight into their experience.

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Chapter 1: Introduction

African American college students are gaining weight at a faster pace than other ethnic groups yet research on this population is lacking (Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007; Adderley-Kelly, 2007; DeBate, Topping & Sargent, 2001). The purpose of this chapter is twofold: first, to present a description of the experience of freshmen weight gain and, second, to describe four socio-cultural dimensions (technology, culture, kinship, and economics) and the experience of stress to weight gain. The socio-cultural dimensions are based on Dr. Madeline Leininger's Cultural Care Theory and Sunrise Model and focuses on the influence of culture on individuals' health and caring behavior (Leininger, 2006, p.315). The use of these four dimensions along with the experience of stress was driven by a pilot study conducted by this researcher and are believed to affect health behaviors and outcomes of weight gain in African American college students. This chapter presents the research question, identifies the methodology to be used, and further describes the theoretical framework that guided the study.

Background of the Problem

Problem Statement

College students are experiencing significant weight gain at a higher rate than their non-college counterparts (Furia, Lee, Strother & Huang, 2009; Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007). The transition to college is a pivotal time in the lives of young adults and a time where students have the opportunity to make their own choices about lifestyle, many of them for the first time (Cason & Wenrich, 2002). Lifestyle changes regarding frequency of exercise, alcohol intake, and diet can result in

weight gain. College freshmen can gain upwards of 15 pounds or more (Carithers-Thomas, Bradfors, Keshock & Pugh, 2010; Racette, Deusinger, Strube, Highstein & Deusinger, 2008; Racette, Deusinger, Strube, Highstein & Deusinger, 2005; Zagorsky & Smith, 2011). The long-term repercussions of such weight gain could include the development of multiple chronic conditions such as metabolic syndrome, diabetes, depression, osteoarthritis, hypertension, heart disease, and other chronic illnesses (Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007).

One element of the problem with college weight gain is the existence of racial disparities. Although racial disparities exist in the diagnosing and treatment of the aforementioned diseases, the role of race and ethnicity in college weight gain is under-examined (Webb, 2012). Although obesity is considered a disease process, studies on multiethnic college residents are lacking (Freedman, 2010). Various researchers have examined the topic of freshman 15 weight gain in the first year of college but their studies have primarily involved Caucasian populations (Hoffman, Policastro, Quick & Lee, 2006; Tope & Rogers, 2013). Few studies have examined weight changes in college by racial/ethnic group (Gillen & Lefkowitz, 2011).

Another issue with college weight gain is cultural influences. For African American students culture influences food preferences, food preparation, perceptions about eating practices and body image, as well as physical activity (Epstein et al., 2012). Environmental forces coupled with cultural norms place enormous pressure on students that can lead to weight gain and the incidence of weight gain is increased in African American college students (Crombie, Ilich, Dutton, Panton & Abood, 2009). African Americans have a broader acceptance of body size, thus they are more likely to be

heavier before considering themselves overweight (Hawkins, 2007). According to Gipson et al. (2005) white women choose a significantly thinner ideal body size than black women and express more concern than black women with weight and dieting. White women also experience greater social pressure to be thin than black women. As a result, African Americans are more likely to be obese and have metabolic syndrome.

A pilot study was done to explore the issue of weight gain in African American college students and the dimensions of technology, culture, kinship, economics, and the experience of stress came from that work. This study builds on the pilot study and is expected to generate new knowledge.

Prevalence of the Problem

Over one-third of all adults in the United States are obese, with African Americans comprising over 47% of these cases (www.cdc.gov, 2014) and young adults with some college education showing the most rapid increase (Furia, Lee, Strother & Huang, 2009). This epidemic is not abating. The increases in the overall prevalence have resulted in national failure to achieve the Healthy People 2010 obesity goal of fifteen percent (MMWR, 2010). Freshmen living on college campuses often engage in unhealthy choices resulting in weight gain, thus the phenomenon is called the “freshmen 15” (Smith-Jackson & Reel, 2012).

An estimated 31% of United States college students are overweight or obese (Sacheck, Kuder & Economos, 2010). Prior studies report a weight gain of up to 46 pounds in the first year of college (Racette, Deusinger, Strube, Highstein & Deusinger, 2008; Racette, Deusinger, Strube, Highstein & Deusinger, 2005). These weight changes cause some of the students to become overweight or obese. Overweight and

obesity have been linked to metabolic syndrome therefore weight gain increases students risk for developing this disorder.

African Americans have a higher predisposition for metabolic syndrome with 31.4% having one metabolic syndrome component and 20.7% having two components (Miller & Silverstein 2006; Tope & Rogers, 2013). Metabolic syndrome increases a person's risk for cardiovascular events and the development of diabetes (Keown, Smith & Harris, 2009) which disproportionately affects African Americans (Watters & Satia, 2009). The prevalence of Type 2 diabetes in African American men is nearly 50% greater than that of White men and almost 100% greater in African American women than in White counterparts (Agodoa & Eggers, 2007). African Americans in the U.S. are diagnosed with hypertension at a rate of 1.5 – 2.0 greater than the Caucasian population (Moulton, 2009). However, African Americans decreased awareness of their diagnosis, affects treatment and blood pressure control (Lackland, 2005) increasing the prevalence of end organ damage, stroke, heart disease, left ventricular hypertrophy, and end-stage renal disease (Moulton, 2009).

Impact of the Problem

Obesity is a disease process. Campo and Mastin (2007) stated obesity is a complex chronic disease that includes interaction of multiple genetic, cultural, socioeconomic, behavioral, physiologic, metabolic, cellular, and molecular influences. Individuals with BMI values greater than 30kg/m² are classified as obese. Obesity is associated with chronic diseases placing a major burden on health care systems (Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007). Approximately 300,000 deaths and \$147 billion in medical expenditures are linked to obesity annually (Morrell, Lofgren, Burke &

Reilly, 2012; www.cdc.gov, 2014). Obesity has also been linked to four out of ten of the leading causes of death; namely coronary heart disease (CHD), cancer, diabetes and stroke, from which African Americans are more likely to die when compared to Caucasian counterparts (www.cdc.gov, 2014).

Obesity induces an inflammatory state and in young adults increases the risk of developing metabolic syndrome. Metabolic syndrome is a combination of risk factors that increase a person's chance of developing diabetes and cardiovascular disease (Brown, Clark, Armstrong, Liping & Dunbar, 2010). Risk factors for metabolic syndrome include abdominal fat, increased triglycerides, decreased high-density lipoprotein (HDL) levels, increased blood pressure, and impaired glucose metabolism (Keown, Smith & Harris, 2009). Metabolic syndrome is diagnosed when three out of five of these risk factors are present.

Being or becoming obese in young adulthood increases the risk of obesity and metabolic syndrome throughout adulthood (Desai, Miller, Staples & Bravender, 2008). In the college population, prevalence is particularly high among African Americans (Ferrante, 2007; Sacheck, Kuder & Economos, 2010; Tope & Rogers, 2013). Therefore, weight gain at a young age can elevate African Americans risk of developing metabolic syndrome and cardiovascular sequelae (26.77% for males and 39.43% for females) (Bhanushali et al., 2013).

African Americans have a unique burden of disease (Singer, 2012). Ethnic disparities exist even in young adults (Tope & Rogers, 2013) with African Americans experiencing CHD earlier, more often, and resulting in poorer outcomes when compared to Caucasians (Taylor et al., 2008). Racial disparities also exist in relation to

lipid control. African Americans with cardiovascular disease are less likely to be tested for LDL-C, less likely to be treated with lipid lowering agents, less likely to have medication dosages altered, and less likely to attain LDL-C goal compared to Caucasian patients (Saffar, Williams, Lafata, Divine & Pladevall, 2012). Therefore, it can be said that obesity is especially detrimental for the African American student.

Major Constituents of the Study

Purpose

Evidence shows African American students gain more weight while in college than other students, thus leading to question the cultural influences. The purpose of this research is to identify how four socio-cultural dimensions (technology, culture, kinship, and economics) and the experience of stress are described by African American students who gained weight their freshman year.

Research Question

The question to be answered by this investigation is: *How are the dimensions of technology, culture, kinship, and economics and the experience of stress described by African American students who gained weight during their freshman year in college?*

Definition of Terms

College weight gain: A gain of fifteen pounds or more after the first year of college that does not occur due to a medical condition.

Technology: The use of electrical, mechanical or physical (nonhuman) objects used in the service of humans (Leininger, 2006, p. 316). For example this includes cell phones and computers.

Culture: The learned, shared, and transmitted values, beliefs, norms, and lifeways of a particular group that guides their thinking, decisions, and actions in patterned ways (Leininger, 1991, p.47).

Kinship and social factors: The family intergenerational linkages and social interactions based on cultural beliefs, values and recurrent lifeways over time (Leininger, 2006, p. 316).

Economic factors: The production, distribution, and use of negotiable material or consumable productions held valuable to or needed by human beings (Leininger, 2006, p. 316).

Stress: “A demand, either internal or external, that results in emotional arousal and requires a change of behavior” (Pedersen, 2012, p. 620). This definition was selected based on responses in the pilot study and previous experience in working with the population.

Method

In order to explore weight gain by looking at the socio-cultural dimensions and the experience of stress, a descriptive qualitative study using a purposive sample of African American freshmen students was conducted. A qualitative design was necessary because not much is known about the experience of college weight gain for African American students from a cultural perspective. For this study, the data were analyzed and interpreted using directed content analysis. This method systematically describes the meaning of qualitative material by classifying material categorically using a coding frame (Schreier, 2012, p.1). The main categories were looked at deductively to determine the emerging themes as the students described their experience.

Theoretical Rationale

Dr. Madeline Leininger's Cultural Care Theory serves as the philosophical framework for this study. Leininger founded the Culture Care Theory to more effectively study cultural care. She began to develop this theory in the 1950s after observing pediatric patients of culturally diverse backgrounds. She recognized that "children of different cultures were different and needed a culturally based framework to guide their nursing care" (Leininger, 1988, p. 153). At this time anthropologists were experts about culture but had no knowledge or interest in patient care. Leininger deduced that care and culture were intertwined and she decided to learn about cultures and their core values, beliefs, and needs (Leininger, 2006, p.311) so that she could bridge the gap between care (nursing) and culture (anthropology). This resulted in Leininger pursuing a doctoral degree in anthropology to prepare her to link culture and care and develop the theory.

According to Leininger (2006) the theory's overriding purpose was to discover, document, analyze, and identify the cultural and care factors influencing human beings in health, sickness, and dying and to thereby advance and improve nursing practices. Central tenets to this theory are that care is essential for human growth, development, and survival and human care expressions, patterns, and processes vary among all cultures (Leininger, 2006, p. 315). Health is also defined as a state of well-being that is culturally defined, valued, and practiced and reflects the ability of individuals or groups (Leininger, 2006, p. 315).

Leininger constructed the Sunrise Model to display the whole conceptual picture of the major and interrelated components of the theory (Leininger, 1998). The model

depicts the cultural and structural dimensions and allows the researcher to visualize how the components interface with each other and influence culturally based care (Leininger, 2006). Leininger believes that utilizing this model allows the sun to enter the researcher's mind and leads to the discovery of largely unknown care factors of cultures. "Letting the sun rise and shine offers fresh and new insights about care practices" (Leininger, 2006, p. 319). Leininger's Cultural Care Theory and Sunrise Model laid the foundation for future research. The model is flexible, the researcher can focus on specific areas, and discovery can begin anywhere. This model guides the researcher in exploring seven dimensions that can influence the way a person responds and it can serve as a cognitive guide to assist in visualization and reflection of different factors predicted to influence culturally based care (McFarland, Mixer, and Webhe-Alamah & Burke 2012). The cultural and social dimensions of this model include: technological, religious and philosophical, kinship and social, cultural values; beliefs and lifeways, political and legal, economic, and education.

Once the theory was developed, Leininger went on to educate nurses and students in the new field of transcultural nursing. "Transcultural nursing concepts and Cultural Care Theory gave nurses and entirely new way to understand individuals, families, and cultures" (Leininger, 1988, p. 155). Use of the theory was expected to generate data about care meanings, patterns, experiences, and other aspects of care (1988).

The first transcultural care study took place in New Guinea in the early 1960s and since then Leininger and other researchers have used the Cultural Care Theory to describe the care meanings and experiences of 100 cultures (Leininger, 2006). The

studies have included German American elders in a nursing home, Native Americans who experienced family violence, nursing students in a European American baccalaureate nursing program, generic care of Lebanese Muslim women in the Midwestern USA, and African Americans in a long-term care institution just to mention a few. Nurses' ability to provide culturally congruent care speaks to the strength of this theory. However, other influences such as protective care with fathers emerged when Leininger began her archival work (Clarke, McFarland, Andrews & Leininger, 2009). That leads one to question if other influences exist. Nonetheless, this researcher decided to use this theory because it is specific enough to develop culture-specific care.

Foundational Pilot Study

This researcher conducted a pilot study looking at the feasibility of using the dimensions (technology, religious and philosophical, kinship and social, cultural values; beliefs and lifeways, political and legal, economic, and education) as a part of qualitative inquiry. The researcher used the major dimensions in the Sunrise Model as a guide to develop questions and to obtain desired information during structured participant interviews. IRB approval was obtained to conduct a pilot study with five African American freshman campus residents. The purpose of the pilot was to refine the questions to be used in a research study.

Interview transcripts showed that the dimension of religion, education and politics were of minimal influence to this population, thus they were removed for this study. All five participants did not link these themes with weight gain. Literature supports these findings and the author's action. There is a decline in church attendance and religious affiliation in young adults (Uecker, Regnerus & Vaaler, 2007) and it has also been noted

that younger citizens, ages 18 to 24, do not sufficiently engage in politics and consistently fail to turn out to vote (Quintelier, 2007; Glasford, 2008). Despite health education being taught in high school and participants remaining aware of nutrition and physical activity requirements, they did not necessarily apply this knowledge to their life.

It was also noted during the pilot study that all 5 students experienced a lot of stress during this time. Dusselier, Dunn, Wang, Shelley and Whalen (2005) reported that stress is a part of students' existence and can impact how they cope with the demands of college life. Although not part of the Sunrise Model, many emotional and physical symptoms experienced in the college population can be attributed to stress (Dusselier, Dunn, Wang, Shelley & Whalen, 2005). Research also suggests that stress levels are significantly higher in minority groups when compared to Whites (Lesniak, Rudman, Rector & Elkin, 2006).

Therefore, based on Leininger's culture care theory and Sunrise Model, literature, and the researcher's pilot study, the dimensions of technology, culture, kinship, and economics, and the experience of stress will guide this study. These dimensions are critical to analyze in relation to cultural influences of obesity in the African American population because these dimensions may affect preventive health behaviors, health outcomes, healthcare utilization, perceptions of health and sickness, and behavioral responses to sickness, disease, and stress in this population.

Significance of the Study

Generation of New Knowledge

African American students are underrepresented in research (Coker, Huang & Kashubeck-West, 2009) and research on weight gain in this population is limited. No

comparable studies looking at weight gain, culture, and the African American freshman student population could be identified. This identified gap led to the development of the research question. Exploring the experience of freshmen weight gain through a cultural lens provides a better understanding of their experience. The conduct of a foundational pilot study identified the potential for new knowledge and resulted in the researcher focusing on the socio-cultural dimensions of technology, culture, kinship, economics, and the experience of stress in relation to weight gain as described by African American freshmen.

This study builds on the pilot study and focuses on the dimensions of technology, culture, kinship, economics, and the experience of stress and is expected to generate new knowledge. The application of the four dimensions and the experience of stress for African American students in relation to the freshman 15 have not been studied. However, in a pilot study of five participants, the researcher discovered that television viewing influences food selection, students picture themselves as fat, family is influential, more money is equated to more food, and stress is a strong influence on health behaviors.

Generation of Nursing Knowledge

Newman, Sime, and Corcoran-Perry (1991) define nursing as caring in the human health experience (p.3). "Epistemologically and ontologically care is the essence of nursing and makes the profession what it is" (Clarke, McFarland, Andrews & Leininger, 2009). According to Clarke, McFarland, Andrews and Leininger (2009) Leininger's transcultural nursing perspective has helped to shape and refine the scientific development of the construct of caring in nursing. Leininger's theory guides

nurses to provide culturally congruent care. Therefore, based on directed content analysis, the researcher will be validating/extending Leininger's theory to see if it applies in African American freshmen who gain weight. The study goals are to describe weight gain experiences by this ethnic group and to promote understanding of cultural influences African American students may face so relevant interventions for this population to address weight gain can be further tested.

Contribution to Nursing Practice

Nurses who render care to college students are in a position to address weight and weight related behaviors (Nicoteri & Miskovsky, 2014). However, health-promoting behaviors may differ for African Americans resulting in a dissonance when prescribing health care strategies (Johnson, 2005). Therefore, findings from this study may provide nurses the knowledge needed to incorporate the socio-cultural factors of technology, culture, kinship, economics, and the experience of stress into the plan of care for African American students. The researcher anticipates this new knowledge will lead to a better understanding of the African American college experience which may impact health screening and education and result in improvement in African American college students attaining positive health outcomes. For instance, based on obtaining perspectives on the use of technology by African Americans, population specific interventions can be tested to see if they impact weight and associated behaviors. Cultural beliefs, values, and the influence of kin can be factored into discussions about weight expectations. The students' economic status and stress-related behaviors can also be addressed in terms of health education. It is the hope that nurses who provide care to college-age young adults will be able to educate this population about healthy

eating, weight loss, and share resources in the context of technology, culture, kinship, economics, and the experience of stress.

Summary

The experience of weight gain in college and the resulting detrimental effects of poor health are supported in the literature. However, African American college students experience weight gain at a higher rate than their Caucasian counterparts but this occurrence has not been captured in research. The purpose of this study is to identify how four socio-cultural dimensions (technology, culture, kinship, and economics) and the experience of stress are described by African American students who gained weight in their freshman year. The researcher plans to use a descriptive qualitative directed content analysis design to gather new knowledge on the four dimensions and the experience of stress. Participants of this study belong to a particular cultural group and have gained a significant amount of weight in the first year of college. Studying this population using a descriptive design may help to understand from a cultural framework weight gain in this population.

Chapter 2: Review of the Literature

College weight gain has been studied quantitatively to evaluate the amount of weight gained as well as qualitatively to describe the reasons for weight gain. The purpose of this chapter is to present a synthesis of conceptual, empirical, and methodological findings of college weight gain. The chapter will conclude with a summary of the gaps in the literature and justify researching the phenomenon of weight gain in African American college freshmen.

Literature Search Process

EBSCO Host online research databases were used to conduct the literature search. The following databases were selected: Cumulative Index to Nursing and Allied Health Literature (CINAHL), Education Research Complete, ERIC, Health Source: Nursing/Academic Edition, PsychArticles, PsycINFO, and Medline. Key words used in the search were the subject terms: weight and college resulting in 1,956 articles. Limits were placed to narrow the search to peer reviewed articles in the English language from the years 2000 to present resulting in 736 unduplicated articles. Articles discussing weight loss, weight gain in animals, pregnancy, bulimia, non-United States residents, children, persons with medical reasons for weight gain, and medication use were excluded leaving 67 remaining articles. Eight of the 67 applied to conceptual findings, 19 applied to empirical findings, and 40 applied to methodological findings.

Literature Review

Conceptual

Gaining weight during the first year of college is considered so common that it has been nicknamed the “freshman 15” and has long been associated with the

freshman experience (Malinauskas, Raedeke, Aeby, Smith & Dallas, 2006). For many college students the transition from high school and living at home to a college environment represents a time of risk for weight gain. Dramatic declines in physical activity and healthful eating patterns have been observed (Nelson et al., 2009).

Freshman students likely undergo a period of adaptation in which they adjust to the new environment and associated stressors (Crombie et al., 2009). Stress and unhealthy eating, sleeping, and exercise habits, often exhibited by college students, may influence body weight changes (Gropper et al., 2009). The weight gain experienced by college students is accompanied by unhealthy changes in waist circumference, absolute body fat, and BMI and, in some, an increased risk of health problems (Gropper et al., 2009). It is also notable that there are a significant number of individuals changing from a normal weight to overweight (LaCaille et al., 2011).

Whether college life promotes substantial weight gain is controversial, and some authors state that their data supports the freshman fifteen phenomenon of weight gain, whereas others describe the freshman 15 as a myth (Racette, Deusinger, Strube, Highstein & Deusinger, 2008). An extensive review of the literature conducted by Carithers-Thomas, et al. (2010) validates that weight gain typically and predictably occurs; yet a weight gain of 15 pounds has not been substantiated by most research endeavors. If freshman students are, in fact, at risk of weight gain, then the first year of college may be a period of vulnerability for the development of obesity and deserves attention. On the other hand, if weight gain among college freshman is not significant, then the beliefs associated with the freshman fifteen may perpetuate a fear of weight gain and potentially lead to unhealthy dietary attitudes and behaviors. Nonetheless, the

amount of weight gain experienced is sufficient to warrant research. Weight problems in this population are highly predictive of overweight and obesity later in life. Although weight gain may appear minor, the risks associated with this gain are great as overweight and obesity are related to numerous diseases (Vella-Zarb & Elgar, 2009).

Empirical

The literature identifies factors that can influence weight gain in college. These factors include ethnic tendency, stress, and physical environment.

Ethnic Tendency

The social disparity of being overweight or obese exists in college students (Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007). Gipson and colleagues (2005) reported on 200 African American subjects and noted obesity markedly lessened life expectancy especially among younger adults, with severely obese younger African Americans experiencing a decrease of up to twenty years of life. This is concerning for Adderley-Kelly and associates (2007) found in a predominantly African American undergraduate population, 40 percent of the sample were overweight or obese with a strong positive correlation existing between BMI and a family history of overweight or obesity. Hawkins, Tuff and Dudley (2006) conducted research on 29 African Americans and reported African American females were heavier than white females with significant differences in weight resulting in African American females having a higher BMI than whites. In a study that looked at differences in obesity status and body satisfaction in African American college females at black and white universities, 54 percent of the students reported weight gain (James & Bonds, 2006). Students attending the Historically Black College or University who reported weight gain had higher BMIs than

students at the Predominantly White University who reported weight gain. Likewise, African American students exercise less, watch more television, eat fewer fruits and vegetables, skip meals, and sleep less (Clarke, O'Malley, Johnston, Schulenberg & Lantz, 2009), potentially expediting development of freshmen 15.

Stress

Stress is a strong influence on health behaviors. Chronic illnesses, credit load, degree of comfort living in residence halls, strained relationships with staff/faculty, sexual encounters, and family dynamics have all been linked to experiences of stress in college students (Economos, Hildebrandt & Hyatt, 2008). Increased stress affects dietary selections, alcohol intake, activity pattern, thus increasing the risk of unwanted weight gain and decreased overall health. In a study of 396 subjects, 73% Caucasian, the stress involved in the college transition was thought to explain why eighty percent of the students gained weight. Over 11% of male and 6.7% of female incoming freshmen were overweight or at risk of becoming overweight. Eight months later 16.5% of males and 11.0% of females were in these categories. Weight gain was associated with increased alcohol intake in men and increased workload in women (Economos, Hildebrandt & Hyatt, 2008). Zagorsky and Smith (2011) supported this outcome and explained the effects of stress. In their study, ongoing stress was associated with changes in the body that promoted weight gain. High calorie food intake and heavy alcohol consumption were considered coping mechanisms. Impaired sleep was linked to carbohydrate cravings and the cause of students turning to high calorie caffeinated beverages to stay awake (Zagorsky & Smith, 2011).

Physical environment

Physical environment includes the variables of diet and exercise. In a study that assessed overweight and obesity in college students, 21.6 percent were overweight and 4.9 percent were obese (Huang, 2003). Most of the students were not meeting dietary and physical activity guidelines. According to Kapinos and Yakusheva (2011) in a study of 537, 91% Caucasian, physical environment affected both students weight changes and weight-related behaviors. In studies that considered diet patterns in relation to weight gain, most college students did not meet recommended dietary guidelines. According to Pilner and Saunders (2008) changes in eating habits were a significant independent predictor of weight gain in the 113 subjects of undocumented race. In the Freedman (2010) study of 756 Caucasian, Asian, and Hispanic students, there was a decreased intake of fruits, vegetables, dairy products, and meal frequency. The rationale for not meeting dietary guidelines was not fully explained; however, decreased meal frequency was thought to be due to sleeping late and skipping breakfast as well as increased snacking. In the Mead (2009) study of 141 African American subjects, time and budget prompted students to grab something quick or possibly skip meals. Students chose regular sodas over milk and water, and pizza and fries were the most common food choices. In a study that looked at differences in dietary patterns among college students according to body mass index, students with higher BMIs consumed more saturated fats (Brunt, Rhee & Zhong, 2008). Students with lower BMIs consumed more vegetables. However, there were no differences among the weight categories related to eating fatty, sugary snacks.

In another study of 75 subjects, 98.7% Caucasian, mindfulness, which is awareness of physical and emotional feelings, had an impact on the behaviors that affect weight status. Those who were less mindful had higher waist circumferences when compared to those more mindful (Grinnell, Greene, Melanson, Blissmer & Lofgren, 2011). This idea was reinforced in another study where the more food the students were served, the more they overate (Levitsky & Young, 2004). Although the race of the subjects was not identified, there was no difference found between the actions of the male and female students. In another study of 169 students, 40 percent of the sample was classified as overweight or obese yet only 51 percent viewed themselves as such (Boyle & LaRose, 2008). Boyle and LaRose found this discrepancy to be of concern because the students may not be prepared to take action to improve health if they have not recognized a need to do so.

In studies that considered activity patterns, most college students did not meet recommended exercise guidelines. In one study of 5,144 subjects, 82.5% Caucasian, BMI increased by a statistically significant 0.4kg/m^2 in those who were physically inactive. Those who were physically inactive were also more likely to be overweight (Desai, Miller, Staples & Bravender, 2008). In another study of 3,206 subjects, 78% Caucasian, inactivity was associated with obesity and African American students were more affected (Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007). Young adult women were also noted to exercise less than young adult men in a sample of 9,631 subjects, 73.74% of which were Caucasian (Clarke, O'Malley, Johnston, Schulenberg & Lantz, 2009). In a study that linked overweight and obesity to physical

activity, 16.2% of 564 students of undocumented race were overweight or obese and 60% had elevated body fat percentages (Sacheck, Kuder & Economos, 2010).

Methodological

Quantitative

Many researchers have studied college weight gain in Caucasian populations quantitatively. Previous studies on freshman weight gain reported weight changes in means and medians instead of by range, therefore the phenomenon of the 'freshman 15' is considered by some a myth. This author considers this determination to be misleading because these results omit the students who gain fifteen or more pounds.

Weight gain occurs in the first year of college. In one study of 52 students of undocumented race, approximately two-thirds of the students gained weight. The participants attributed the weight gain to late night snacking, food selection, social eating, irregular schedule, stress, decreased activity, lack of healthy foods, and social drinking. The average weight gained was 10.78 pounds; however, the range was 2 to 28 pounds (Carithers-Thomas, Bradford, Keshock & Pugh, 2010). In another study of 764 participants, 74% Caucasian, seventy percent of the students gained a mean of nine pounds during their freshman year of college however, the range was -29 to +46 pounds. Recommended activity and dietary intake guidelines were not met for many of these students (Racette, Deusinger, Strube, Highstein & Duesinger, 2005; Racette, Deusinger, Strube, Highstein & Duesinger, 2008).

In another study 434 students, 41.1% of which were Caucasian were studied for the freshman 15 weight gain (Gillen & Lefkowitz, 2011). Although average weight gain was 9.37 pounds 11.8% of students gained 15 or more pounds. Students with lower

SAT scores were more likely to experience the freshman 15. According to Gillen and Lefkowitz (2011) these individuals may be less prepared for academic demands which can lead to stress, unhealthy eating practices an inability to set aside time for physical activity.

In a study that evaluated behavior change and the freshman 15, the mean weight gain was 3.08 pounds +/- 8.35 pounds (Jung, Bray & Ginis, 2008). Of the 101 female students, 68% of which were Caucasian, those who gained weight significantly increased in body fat and experienced a trend toward decreased activity. In a study that examined multiple types of dieting to predict weight gain, the average weight gain was 2.1kg (4.6 pounds) (Lowe et al., 2006). Sixty-nine students, 76% of which were Caucasian, participated. According to Lowe and associates (2006) individuals who said they were currently dieting to lose weight gained twice as much (5kg/11 pounds) as former dieters (2.5kg/5.5 pounds) and three times as much as never dieters (1.6kg/3.5 pounds). In another study, 123 students, 88.6% of which were Caucasian, were examined for weight and body composition change (Wagner et. al, 2010). The mean weight change was 2.0 kg (4.4 pounds) +/- 2.6kg (5.7 pounds). BMI and waist circumference also increased.

In a study of 67 primarily Caucasian students, almost three quarters of the participants gained a mean of 7 pounds (Hoffman, Policastro, Quick & Soo-Kyung, 2006). Another study of 144 male students and 244 female students, 91% of which were Caucasian, also focused on weight gain (Kapinos & Yakusheva, 2011). The female students assigned to dormitories with on-site dining halls weighed more, exercised less and gained more weight. The males consumed more meals and snacks

and gained more weight. Adams and Rini (2007) conducted a study on 3,536 students, 79% of which were Caucasian, to predict one year change in BMI. Women in the BMI gain group were more likely to drink alcohol, use poor coping skills, limit fiber intake, partake of caffeine, eat high cholesterol foods, and less likely to be stress free, and to eat vegetables. Physical activity variables were not a predictor of BMI change. In another study, 54 female freshman, 92.68% were Caucasian, participated in a study that evaluated change in diet, physical activity, and body weight (Butler, Black, Blue & Gretebeck, 2004). There were significant gains in body weight, BMI, body composition, and fat free mass. The increase in fat mass and decrease in fat free mass was attributed to a reduction in fitness.

In a study that evaluated 49 students of unknown race for freshman 15 weight gain, weight change ranged from less than 15 pounds to more than 15 pounds (Graham & Jones, 2002). Although 59% of the sample gained weight, the author reported that no significant weight gain occurred. In another study on 135 students, 80.7% of which were Caucasian, most of the participants experienced statistically significantly weight increases (Anderson, Shapiro & Lundgren, 2003). The weight change ranged from -6.2 kg (13.6 pounds) to +11.4 kg (25 pounds). The participants defined as overweight or obese virtually doubled. In another study on freshman weight gain, 68 students, 73% of which were Caucasian, experienced a weight change of -5kg (11 pounds) to 8.5kg (18.7 pounds) (Levitsky, Halbmaier & Mrdjenovic, 2004). The weight gain was associated with buffet-style dining, snacking and eating high fat junk food. In a study that evaluated selected health behaviors that influence college freshman weight gain, 57 % of the 193 predominantly Caucasian students gained weight (Kasperek, Corwin, Valois, Sargent &

Morris, 2008). Although the weight gain ranged from 1 to 35 pounds, the average weight gain reported was 2.5 pounds and the mean weight gain for those who gained weight was 7.1 pounds. The weight gain was associated with decreased fruit and vegetable intake and increased alcohol intake.

Three separate studies were conducted to examine the effects of weight gain during a particular time in the year. In one study, 94 students, 75% of which were Caucasian, were examined for the effect of the Thanksgiving holiday on weight gain (Hull, Radley, Dinger & Fields, 2006). The males gained 0.6kg (1.3 pounds) and the females gained 0.4kg (0.8 pounds). However, overweight and obese participants gained 1.0kg (2.2 pounds). Hull, Hester and Fields (2006) conducted a study on 82 students, 73% of which were Caucasian. The study examined the effect of the holiday season on body weight and composition in college students. The weight change ranged from -8kg (17.6 pounds) to +7 kg (15.4 pounds) and percentage of body fat and fat mass significantly increased. Another study examined the effect of the summer months on body weight and composition in college women (Hull, Morrow, Dinger, Han & Fields, 2007). Sixty-nine students, 87% of which were Caucasian were studied and gained a mean of 1.3kg (2.8 pounds) in the school year and an additional 0.1kg (0.2 pounds) during the summer time.

Weight continues to increase as school progresses. In a study that reviewed weight changes by semester, 81.7% of the 240 subjects were Caucasian and the range of weight gain was -15.8 to 16.2 pounds for the fall semester and -18.2 to +29 pounds for the academic year (Gropper, et al., 2009). However, a median of less than three pounds was reported for weight gain. Although environmental, behavioral, and lifestyle

habits were assessed in the study by Gropper et al., only anthropometric findings were presented. In another study by Webb (2012) of 134 subjects, 59% of which were Caucasian, 33.4% of the students were overweight or obese and a significant increase in weight, BMI, and body fat was observed at the end of the year. These changes were considered a consequence of stress and lifestyle change experienced in the transition to college (Webb, 2012). In another study by Gropper and associates (2012), weight and body composition changes during the first three years of college were assessed in 240 students, 81.7% of which were Caucasian. The weight change ranged from -25.8 to 46.8 pounds and there were significant gains in BMI, percent body fat, and fat mass. Another study on 48 females, 90% of which were Caucasian, evaluated body weight and composition changes during the sophomore year there was a mean weight change of 0.2kg (0.4 pounds) (Hull, Morrow, Dinger, Han & Fields, 2007).

Weight gain has also been explored by looking at gender differences. In a quantitative study that dichotomized the sample of 8,984 by gender, 70% Caucasian population, the weight change in female freshman was -20.9 pounds to +36.2 pounds (Zagorsky & Smith, 2011). Males experienced a range of weight changes of -25.8 to +30.0 pounds. However, a median of 2.5 to 3.5 pounds was reported. The theories for these weight changes were high calorie foods, no parental oversight, strained budgets, stress, decreased sleep, and decreased physical activity.

In a study on 379 students, 83% of which were Caucasian, 62% of the participants gained weight (Cluskey & Grobe, 2009). Females gained 0.45kg (0.9 pounds) to 6.82kg (15 pounds) and males gained 0.23 kg (0.5 pounds) to 12.73 kg (28 pounds). Students attributed weight gain to challenges in adapting to healthy eating and

physical activity behaviors in college. Male students were less concerned about weight and utilized fewer strategies to prevent weight gain than females. Another study on 328 students, 85.8% of which were Caucasian, evaluated the associations among eating regulation and body mass index, weight, and body fat (Gropper, Arsiwalla, Lord, Huggins, Simmons & Ulrich, 2014). The students exhibited significant gains in weight, BMI, and body fat. Significant associations between eating regulation and BMI, weight, and/or percentage body fat were shown mostly in females.

A study of 924 students, 75% of which were Caucasian, evaluated participants for freshman 15 weight gain and the possible predictors and explanations (Holm-Denoma, Joiner, Vohs & Heatherton, 2008). The mean weight gain was 3.5 pounds for men and 4.0 pounds for women. In men exercise and strained relationships with parents predicated weight gain. In women strong relationships with parents predicated weight gain. Another study compared college weight gain between students at a private and public university (Lloyd-Richardson, Bailey, Fava & Wing, 2009). Of the 904 students at the public university, of which 91.3% were Caucasian, the average weight gain was 3.5kg (7.7 pounds) in males and females. Of the 382 students at the private university, 63.5% of which were Caucasian, the average weight gain was 1.6kg (3.5 pounds) in females and 2.5kg (5.5 pounds) in males.

In another study, 125 students, 84.8% of which were Caucasian, participated in a study evaluating the reality of the freshman fifteen (Mihalopoulos, Auinger & Klein, 2008). The weight change ranged from -5 to +20 pounds. About half of the students gained weight. Men gained more than women and weight gain was 5.5 times greater than expected in the general population. In a study that investigated the freshman 15,

the average weight gain was 2.1 pounds (Simmons et al., 2011). There was decreased body satisfaction for the female subjects who gained weight. The male subjects did not show a significant change in their body satisfaction level. Two hundred and ten students participated, 81.7% of which were Caucasian. In another study that evaluated peer effects on body weight, there was a significant peer influence for females but not for males (Yakusheva, Kapinos & Eisenberg, 2014). The participants included 751 males, 74% of which were Caucasian, and 845 females, 76% of which were Caucasian. The weight gain averaged 1.65 pounds for males and 2.42 pounds for females. In a study that examined college freshman stress and weight changes, 80 % of the students gained weight (Economos, Hildebrant & Hyatt). The average weight gain was 8 pounds for males and 7.6 pounds for females. The reasons for such weight gain was increased alcohol in males and increased workload in females. 396 students participated, 73% of them were Caucasian.

Interventions

In one study students participated in a 16 week randomized double-blind placebo-controlled parallel-group dietary soy protein/isoflavone intervention trial (Berger et al., 2014). The experimental group received soy protein/isoflavone- based meal replacement and the control group received a casein-based meal replacement. Both groups gained a significant amount of weight (0.5kg/ 1.1 pound) over the course of the study.

Another randomized control intervention trial of 45 students, 77% of which were Caucasian, evaluated preliminary efficacy and acceptability of two interventions to prevent weight gain (Dennis, Potter, Estabrooks & Davy, 2012). One intervention

focused on improving outcome expectations and self-efficacy within a social cognitive framework (SCT) by providing knowledge about healthy eating, physical activity and the associated benefits. The other intervention furthered the SCT while focusing on self-regulation skill training (SCTSR). Body weight increased in both groups.

In another study of 170 first year students, 53.8% of which were Caucasian, an online intervention was performed in hopes of preventing the freshman 15 (Gow, Trace & Mazzeo, 2010). Students were randomized into four groups: no treatment, online intervention, weight and caloric feedback only via email, or combined feedback and online intervention. The combined intervention group experienced lower BMIs than the other three groups.

Another intervention study explored the feasibility of an online behavioral weight management program for college students (Harvey-Berino, Pope, Gold, Leonard & Belliveau, 2012). A 12-week one credit online course was conducted for 336 students of unknown race. The course met weekly and calorie and fat gram recommendations, daily food logs, and exercise guidance was provided. As a result, the weight range of the students ranged from -29 to +12 lbs. with 23% of the sample losing greater than 5% of baseline weight.

Another intervention study evaluated the health and wellness benefits of Wii fit on university students (Jacobs et al., 2011). Five students, 2 Caucasian, 2 Asian, and 1 Mexican, were randomized into 3 groups: typical activity, Wii fit individually (singles), and Wii fit with a participant (doubles). The two participants in the singles group experienced significant weight loss, and one student in the doubles group lost an insignificant amount of weight while the other student gained weight.

In a weight loss intervention conducted by Jozkowski (2007), twelve students of unknown race were evaluated. 33.3% of the subjects were overweight, 60% were obese, and 6.7% were severely obese. The intervention focused on healthy diet habits and increased physical activity. Although nine students lost weight, and three students gained weight, neither weight change was statistically significant.

A quasi-experimental intervention study monitored freshman students' weight daily in hopes of blocking weight gain (Levitsky, Garay, Nausbaum, Neighbors & DellaValle, 2006). The 34 students of unknown race served as the control group and experienced a weight gain of 1kg (2.2 pounds) to 8kg (17.6 pounds). The 33 students also of unknown race served as the experimental group experienced a self-reported range of weight change of -8kg (17.6 pounds) to +2kg (4.4 pounds).

Another interventional study on 246 students, 74.4% of which were Caucasian, involved peer delivered weight management (Mailey et al., 2012). No significant intervention effects on weight or physical activity were noted. In another study, Matvienko (2001) offered a one semester college nutrition science course as an intervention to prevent weight gain in college freshmen. Twenty-one of the forty students were a part of the experimental group and as a result of the dietary changes they reported, they maintained their baseline body weight.

Middleton and Perri (2014) conducted a randomized controlled trial investigating the effects of a brief lifestyle intervention on freshman year weight gain. Ninety-five students, 43.2% of which were Caucasian participated in a five-session, four-week intervention that taught self-regulatory skills for weight management. The intervention

was not considered effective because the intervention group lost 2.07 kg (4.5 pounds) but regained 1.05kg (2.3 pounds) at follow up 13 to 15 weeks after baseline.

In another study, Napolitano (2013) used Facebook and text messaging to deliver a weight loss program. Fifty-two students, 57.7% of who were Caucasian, participated in the study. The participants were grouped into three arms: Facebook, Facebook and text messaging and personal feedback, and control. The group with the greatest weight loss (-2.4kg (5.2 pounds) +/- 2.5kg (5.5 pounds)) was the intervention group with text messaging and personal feedback.

Although the studies utilized different interventions in hopes of achieving a similar goal, there were limitations. The greatest limitation was the use of predominately Caucasian females. Many of the studies either started out with a small sample size or due to attrition ended up with a small sample. Concerns about influencing results were also noted in studies using health related courses, intact groups, and giving course credits for participation

Qualitative

A limited number of qualitative research studies have been conducted on college weight gain. In a qualitative study of 49 students, 94% of which were Caucasian, weight related behaviors were determined by motivation, self-regulation as well as the social environment in college (LaCaille, Dauner, Krambeer & Pedersen, 2011). Six focus groups were conducted and qualitative software was used to analyze the data. Kicklighter, Koonce, Rosenbloom and Commander (2010) reported on a peer lead focus group of 34 participants, 50% of which were Caucasian, and discussed the effectiveness of nutrition education. The nutrition education resulted in an increased

knowledge of food portions and healthier food choices among the group participants (Kicklighter, Koonce, Rosenbloom & Commander, 2010). Another qualitative study on 30 students, 28 of which were Caucasian, used a semi-structured interview design to consider the perspectives on prevalence and causes of college weight gain (Smith-Jackson & Reel, 2012). The participants attributed weight gain to change in eating habits due to food independence and influence of friends and family (Smith-Jackson & Reel, 2012).

In another qualitative study on 50 students, 86% of which were Caucasian, 48% of the participants gained weight (Nelson, Kocos, Lyte & Perry, 2009). Six focus groups and one-on-one interviews were conducted. A specific thematic approach was used to identify consistently appearing themes. The themes that emerged on the perceived influences were: availability of food on campus, snacking and late night eating, alcohol, lack of time, fast food and other restaurants, negative experiences using campus recreation resources, eating for other reasons than hunger, and food in dorm rooms. A qualitative study conducted by Childers, Haley & Jahns (2011) sought to discover how college freshmen make good decisions. In the sample of 102 freshmen, 19% African American, 41.6% of the students gained weight. Data were gathered by: (1) participants keeping an audio diary of their thoughts and feelings about food choices for 2 weeks; (2) keeping a daily written journal of how food fit into their daily activities for the same 2 weeks; and (3) a purposeful sample of 36 participants taking part in one of five focus groups. Data were analyzed inductively (Childers, Haley & Jahns, 2011). The themes that emerged in regard to weight gain were: campus life, emotional issues,

parental and family factors, accessibility of food, consistency in consumption, and desire for weight control.

The objective of another qualitative study was to identify barriers and enablers for healthful weight management among college students. Sixteen online focus groups were conducted to accommodate 115 participants of unknown race. More barriers than enablers were given and they included: not exercising, not eating healthfully, temptation and lack of discipline, boredom, stress, social situations, time constraints, and food served at cafeteria, ready access to unhealthful food, lack of access to healthful food, and high monetary costs associated with healthful behaviors. Enablers of healthful weight management included: regulating food intake, being physically active, having a high metabolism, social support, the university's dining services making it possible to eat healthfully, and the university's environment supporting physical activity (Greaney et al., 2009). There were no qualitative studies on college weight gain involving primarily African American freshmen.

Summary

Findings from the research reveal that freshman weight gain is not a myth. Qualitative and quantitative studies provide evidence that the transition to college can be viewed as a stressful event, affecting students' choices and decisions on dietary intake and physical activity, putting them at risk for becoming overweight or obese. Research also shows that the imbalance in stress, diet and activity can lead to weight gain with long-term repercussions.

Nonetheless, despite the limited number of studies on African American students, the literature clearly shows this population gains more weight than their non-

minority counterparts (Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007).

Although culture impacts decisions and behaviors, the influence of race and ethnicity in relation to college weight gain has not been fully explored (Webb, 2012). Given this disparity and limited research in the African American population, future research on freshman weight gain should be done. This gap in the literature supports the need for this current qualitative study that seeks to answer this research question: How are the dimensions of technology, culture, kinship, and economics and the experience of stress described by African American students who gained weight during their freshman year in college?

Chapter 3: Methodology

The research question in this study was: How are the dimensions of technology, culture, kinship, and economics and the experience of stress described by African American students who gained weight during their freshman year in college? A review of the literature related to college weight gain revealed two gaps regarding the role of ethnicity in college weight gain. The first gap is the underrepresentation of African Americans as subjects in research on college weight gain. The second gap is the omission of cultural variables in previous Freshman 15 weight gain research. Given the gaps, a qualitative research study using open inquiry via face-to-face interviews was conducted. This chapter describes the research methods including human rights considerations, study design, sample recruitment, data collection procedures, and data analysis methods.

Methods

A descriptive qualitative research design using directed content analysis serves as the basis for this study's methodology. The goals of directed content analysis are to provide understanding and knowledge of the phenomenon under study, as well as to validate or extend a conceptual theoretical framework or theory (Hsieh & Shannon, 2005). For this study, the researcher considered the applicability and expansion potential of Leininger's Cultural Care Theory and Sunrise Model to African American students within an academic setting. The dimensions of the Sunrise Model, along with stress, provide structural guidance to assist the researcher in describing the experience of Freshman 15 weight gain for African American students. This study addresses the culture of African Americans and extends to an experience not studied in the literature.

The review of data followed directed content analysis procedures. This method makes “replicable and valid inferences from data to their context, with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action” (Elo & Kyngas, 2007, p. 108). Dimensions from the Sunrise Model (technology, economics, kinship, and culture) and the experience of stress, served as the initial groupings. The initial groupings were then placed into categories after deductive review. Data that did not pertain to the initial groupings were analyzed to determine if a new category or a subcategory was needed. Once redundancy occurred, data saturation alerted the researcher to discontinue new interviews.

Human Rights Considerations, Institutional Review Board (IRB)

Institutional Review Board (IRB) approval was obtained from both West Virginia University (WVU) and the Northeastern university where the research was conducted, with the research site identified as the lead institution. After IRB approvals were obtained, the recruitment process was initiated. The sample was specific to African Americans since there is a gap in the literature related to this ethnic group. The volunteer participants were provided a description of the study, information about their right to refuse to participate in the study, and an explanation on how their privacy was protected. Informed consent was obtained prior to the interview after the study had been explained and all questions were answered. To maintain confidentiality, participants were assigned an identification number and all identifying information was locked in a separate file cabinet. Only the coded number appeared on the interview transcript and demographic form. The interview took place in a private area and participants could refuse to participate or withdraw from the study at any time.

Since flagrant misconduct in clinical research has often centered on ethnic and minority populations, the researcher ensured the protection of participants by adhering to ethical guidelines formulated for conduct of the research (Greaney et. al., 2011). Since the focus was on the African American college student population there was a need to ensure that the ethical principle of justice was upheld. Health disparities involving different racial groups are the lived realities in American culture underscoring the timeliness and necessity of this study (Carmack, Bates & Harter, 2008). According to Carmack, Bates and Harter (2008) the uneven distribution of economic resources along racial lines, under-representation of African Americans as health care providers, and African Americans' distrust and suspicion of dominant medical establishments all contribute to health disparities among racial groups. Therefore, since African American college students are disproportionately affected by obesity they needed to be included in research in order to gain insight on how culture influences their weight changes. The researcher minimized the risks incurred to the participants by fully explaining the rationale for limiting study participants to African Americans. Although there may be no direct benefit to participants in this study, selection of participants was considered fair since those recruited for the study were members of the group who may benefit from describing their weight gain (Phillips, 2011).

Sample Recruitment

The health center at the Northeastern university was the research site. The health center provides health care to campus residents, thus enabling the researcher to recruit African American students for this study. Approximately 3,500 students attend this school and the majority of the student population is African American. Recruitment

of participants was achieved by the receptionist at the health center distributing an advertisement flyer to all students who entered the health center and by word of mouth. The advertisement flyer listed the qualifications requested to participate in the study and the contact information of the researcher for anyone desiring to participate in an interview. The inclusion criteria for the study were African American non-athlete freshman campus residents with a BMI greater than 24 who self-report a weight gain of 15 or more pounds and did not have medical reasons for the weight gain.

The first day that the advertisement flyers were distributed, seven African American freshmen females expressed interest in volunteering to participate in the study. By the third day of distributing the advertisement flyers, nine more African American freshmen expressed interest in volunteering to be interviewed. Of the sixteen volunteers fourteen were female and two were male. Both an email address and phone number were left as a means of contact for eight of the interested participants. A phone number was left for five of the interested participants and an email was left for one interested participant. No contact information was obtained for the final interested participant since she accompanied another participant to the interview and volunteered to participate in the study.

The researcher sent emails to all of the volunteers who provided an email address briefly describing the study, reiterating the qualifications, and requesting a day and time to schedule a tentative interview date. Each of the volunteers who provided phone numbers were called, provided with information about the study, asked about their qualifications, and scheduled for a tentative interview date. The participants were assured that they could cancel or reschedule the interview at any time. Two participants

were excluded from the study because they did not meet the qualification of gaining fifteen or more pounds. Two other participants scheduled interviews but did not show or contact the researcher to schedule another interview date. A final total of 12 participants were recruited for the study.

Data Collection

Both qualitative (interviews) and demographic data were collected. Qualitative data was gathered by means of structured face to face interviews. Each participant chose the interview location. Eight of the interviews took place in a private room in the health center. Three interviews took place in the privacy of the group room in a dormitory as requested by these participants. One interview took place in the living room of the participant's dormitory room and she was accompanied by her friend/suitemate per the participant's request.

Each interview began the same way with the researcher presenting the background of the study. The interview process was then described, and the transcription and analysis process was explained. The participants were then handed the consent form to read. Any questions were answered before the participant signed and dated the form. The participants all received copies of the consent form for the study. Each participant was then given a demographic form (refer to Appendix A) to complete. The demographic form included the participant's age, gender, past medical history, employment status, and household income. Since a higher amount of error exists in self-reported heights and weights, a height and weight were obtained by the researcher so that BMI could be calculated and recorded on the demographic sheet (Johnson, Bouchard, Newton, Ryan & Katzmarzyk, 2008).

The researcher conducted the interviews over the course of two weeks. The interviews averaged forty minutes. The researcher asked the participants the same scripted open-ended questions about the dimensions of technology, culture, kinship, economics, and the experience of stress. Appendix B lists all questions asked. Nonverbal expressions and emotions were observed and moments of silence were noted. The researcher said “tell me more” to participants in order to gather more information on questions when it was needed. Clarifying questions were also asked when it was necessary for the researcher to gain further understanding. At the end of the interview the participants were given an opportunity to mention anything else that they wanted to add to the discussion. Each participant agreed to be contacted if further clarification was needed during the analysis phase.

A second interview with participants was conducted with eight of the twelve participants for clarification of statements. The participants were also asked about their desired body weight as well as what they believed to be the strongest contributor to their weight gain. The ninth participant had recently undergone a tonsillectomy and asked for the questions to be emailed to her and she responded via email. Of the three remaining participants, one participant did not respond to the request, the phone number of the second participant was no longer in service, and the researcher did not have any contact information for the third participant.

The recordings were transcribed into Word documents by the researcher with the assistance of Dragon Software. The researcher then reviewed the transcriptions against the recordings and corrections were made. After transcription, a person on the research

team not involved in initial transcription reviewed the interviews for transcription accuracy prior to data analysis.

Data Analysis

Various approaches for interpreting qualitative data exist. For this study, the researcher followed directed content analysis procedures to build upon a current theory. The researcher adapted Leininger's Cultural Care Theory to validate the applicability of the model and to extend the cultural framework to this study. By using this method, the researcher sought to discover themes and patterns among the themes that emerged in the interview transcripts. The recorded interviews were listened to several times to familiarize the researcher with the data as a whole. The side margin of the transcript was widened and a line by line analysis was conducted separately by the researcher and the PhD faculty member for each interview

Data analysis began after the interviews were transcribed. Each interview was reviewed and key phrases were highlighted. The key phrases were arranged into groupings. The groupings were then arranged into categories. The categories were reread and refined until themes emerged. The themes were checked against the statements for accuracy. Data saturation was reached after twelve interviews were conducted and themes and categories in the data became repetitive and redundant.

Methods to Assure Rigor

Rigor was maintained by adhering to the standards of conduct in research. Rigor is the way a researcher establishes trust or confidence in the findings (Thomas & Magilvy, 2011). The rigor of this qualitative study was upheld by maintaining credibility, dependability, and conformability of the research. Credibility was attained by doing

member checks, the act where participants provide feedback on study themes. Member checks are considered to be the most important provision to bolster a study's credibility (Shenton, 2004). The researcher met dependability by describing in detail the research design, implementation, and data gathering in the final report to allow study to be repeated. Confirmability was met by establishing an audit trail. A notebook was kept detailing how and why decisions were made throughout the research process and data analysis. The analysis process described above is the basis for the audit trail. The audit trail was established through interview notes and maintained by tracking the data-analysis to provide transparency.

Summary

This descriptive qualitative study brings to the literature an understanding of weight gain in college freshmen from an African American perspective. Directed content analysis was used to build on Leininger's culture care theory. The question that was explored with the participants was: How are the dimensions of technology, culture, kinship, and economics, and the experience of stress described by African American students who gained weight during their freshman year in college? The study included interviews with twelve African American freshmen over 18 years of age volunteer participants who self-reported a weight gain of 15 pounds or more in their first year of college. The researcher ensured that the participants' rights were protected. The recorded interviews were transcribed verbatim and reviewed for accuracy prior to data analysis. The analysis process began with predetermined categories and resulted in identification of themes. The standards of conduct in research were maintained throughout the study.

Chapter 4: Presentation of Findings

The purpose of this study was to describe four socio-cultural dimensions (technology, culture, kinship, and economics) and the experience of stress for African American college students who gained weight their freshman year at an Northeastern HBCU college. Eleven females and one male were interviewed over a two week period. Eight participants were interviewed a second time to clarify comments. The audio recordings and transcripts were continuously reviewed to familiarize the researcher with the data. Directed content analysis was used to interpret the findings. This chapter presents the description of the participants, outline of the process of data analysis, and study findings for each dimension and the experience of stress.

Description of Participants

Twelve African American freshmen over 18 years of age who reported a weight gain of 15 pounds or more in their first year of college volunteered to participate. The participants were asked to complete a demographic form and the researcher obtained a weight and height on them so that their BMI could be accurately calculated. The participants experienced a weight gain ranging from 15 to 28.4 pounds. Their BMI ranged from 25 to 37 with six of the participants considered overweight and six considered obese. Six of the participants were 18 years of age, five were 19 years of age, and one was 21 years of age. Eleven of the participants were female and one was male. Eight of the participants did not have any significant medical history, three had a history of asthma, and one had a history of migraine headaches. Three of the participants had jobs on campus and one worked off campus. Four of the participants were unsure of their household income, one reported household income of \$30,000 –

49,999, two reported \$50,000 – 74,999, another two reported \$75,000 – 99,999, two more reported \$100,000 – 150,000, and one reported a household income of over \$150,000.

Description of the Data Analysis Process

Applying directed content analysis principles, data analysis began when the first interviews were transcribed. The process for data analysis for this study was:

1. Each interview was reviewed and key comments were highlighted
2. Participant comments were listed for each dimension and for the experience of stress
3. The comments were arranged into topical groups
4. Topics were coded into conceptual categories
5. Conceptual categories were divided or collapsed into themes
6. Themes were further refined and synthesized

The results of this process for each dimension and the experience of stress are described below.

Technology

The initial comments for the dimension of technology were listed. After listing of participant comments on technology, descriptions were grouped into the following topics: What they look at, what is familiar, how often look at it, effect (reality), and eating or I want or I need. Next, the topics were coded into conceptual categories. These categories were: Skims in and through social media, continuous lifeline to others, and seduced by food advertising. The conceptual categories were then collapsed into the following themes: Skims in and through technological applications, continuous

lifeline to others, seduced by food advertising, and hindering versus helping. Further refinement led to final theme results: Skims in and through technological applications, continuous attachment to media, seduced by food advertisement, and hindered in decision making.

A synthesis of the themes in this study on the technological dimension is that weight gain is a double edged sword that includes skimming in and through technological applications, continuous attachment to media, seduced by food and advertisement, and hindered in decision making. Examples of participant statements supporting this finding are listed below:

Skims in and through technological applications

- I'll check my FB like 3 times a day Twitter like 5 times a day and I probably go shopping online probably like twice a week
- I go on a lot of shopping sites probably not to buy anything but just look to see what's there. I go on Forever 21 probably like 5 times a week just to see
- Media takeout, like to look at the blogs, what's going on, I like to go on H&M, Forever 21 every time I get on the computer, footlocker. Well I'm from NJ so I check back on the news to see what's happening in NJ
- When I look at social media I just think oh that person did this or that person did that
- Social networks and celebrity bodies influence if I want to lose weight or if I want to eat
- I researched like ways to lose weight while still eating what you're eating and I found a video of this girl she just exercised a lot but she still kind of ate what she

ate not too heavy she didn't have to change your diet or anything it didn't work out for me

Continuous attachment to media

- A way for me to communicate with the people I need to communicate with, catch up on what I'm missing I guess when I'm inside doing my work, what's going on outside
- I don't let my phone go dead because it's always in my hand I use my phone for everything
- I stay on the computer like consistently probably the whole well there is never a day that I'm not on the computer I'm always on social media, YouTube like I'm addicted to You Tube
- I'm on my cell phone 24/7. I'm on Twitter, IG, FB all that everyday all the time
- I use technology a lot like I use my phone 24/7 yeah IG, texting, calling, everything. I watch TV all the time I make sure I don't miss my shows but when I do I always tried to catch it back on
- It's a way to interact with people I believe it's like I don't know it gives you a chance to say things you would not say to people
- Honestly I don't know what I would do without my laptop or cell phone so they are like major factors in my life right now

Seduced by food advertisement

- It makes me want it now

- I use to watch food network sometimes I don't know why it's like don't you know like Drivers, dinning and dine yeah I used to like that. That use to make me just go to the store that night and go eat something
- If I'm hungry then I'll get more hungry and want to go to McDonalds or something
- Makes you want to be like I want to get that
- I feel sometimes like force me like you should eat it then I say no- I just want it because I see it
- When it's like a restaurant like Red Lobster, Ruby Tuesday's, Chili's when they have commercials like that yeah I want their food

Hindered in decision making

- It hinders me a lot because it doesn't make me think, it doesn't make me read a book
- It does influence you know you kind of don't realize but when you think about it I guess so
- Instead of exercising I'm on technology
- It makes me want to buy stuff that I don't have money for
- I think it's important because nowadays you don't really go to the books like you don't really see a lot of people in the library as much and not saying that they don't study but it's all on the computer so it's more convenient I like it I hope it keep progressing
- It definitely makes me waste time

Kinship

Initially, comments for the dimension of kinship were listed and grouped into the following topics: Together, warning, cooking/food, friends/associates, and dynamics/childhood. Next, the topics were coded into conceptual categories. These categories were: Forged bonds with others, following careful instruction, type of cooking, friends/associates, and dynamics/childhood. The conceptual categories were then collapsed into the following themes: Forged ties, following careful instruction, choosing friends versus associates, and growing up at home. Further refinement led to final theme results: Forged ties on campus, advised with careful instruction, chosen friends and associates, and attached to family.

A synthesis of the themes in this study on the kinship dimension is that weight gain is a revolving door of relationships that include forged ties on campus, advised with careful instruction, chosen friends and associates, and attached to family. Examples of participant statements supporting this finding are listed below.

Forged ties on Campus

- We go to the café together all the time
- My friends on campus okay during the weekday we make sure that we do our work and if we have free time we go into the classroom and either watch TV you can watch TV also in the classroom or we will watch a movie but on the weekend we would go out and when we would go out we would eat we would go to the mall, the harbor, I would go to PG because everybody in my suite is from PG except for me. We would go back home and I know for me when I would go to my roommate's house her mom would cook for us because she knows that we

were always eating out so she would cook for us Sunday and then we would go to the movies skating or bowling shopping and we would go to eat

- We go out to parties together we chill in the room together would eat together all the time
- We would watch movies together we would go to the mall or we would go out to eat, we've been to the harbor a couple times, stuff like that or we'll order pizza or order anything
- We all go to the café around the same time and then we go to any social events on campus , we went to the mall, we went to the harbor, we went to the movies and we went out to eat
- We always go (to the café) it's always with somebody it's not just one person going alone

Advised with careful instruction

- She was like I should do it too because I'm starting to gain weight. She would always say you need to pay attention to what you are eating you need to start working out more. Then she made me do it basically it wasn't like oh I want to do this but then I started wanting to do this once I started seeing my weight loss
- I mean she has a thyroid problem so she's always been big she's always been bigger from a child but for me she just tells me like be real careful with weight because she says like she's big and on my father side they tend to be bigger so she tells me like you should work out and eat right because they have a lot of health issues on that side of the family and she wants me to stay like smaller and fit

- Sometimes my mom used to be like okay vegetables eat them but that was like once a month
- My mom she always tells me like when I was gaining weight but I wouldn't listen to her
- She cooks like not organic my mom she has some kind of fancy like we had our groups she made sure we didn't just eat fatty things growing up and I'm not like growing up I wasn't too big of a snacker like my mom would make sure like she'd make meatloaf spaghetti like seafood pasta and grill chicken things like that collard greens we always had something green like salad she made sure that she was working a lot my mom worked a lot but she always made sure she cooked
- How we used to eat okay we used to eat like fast food all the time but now my parents are on this health kick they want to lose weight. They want everybody to lose weight so it's like baked chicken every night baked fish every night, it's not good

Chosen friends and associates

- My parents are my friends and my sisters and brothers I don't consider people I go to school with I consider associates I really don't consider them friends because it's like I've been in college and I've noticed that by this being a smaller campus I'm not going to be rude but people are a little bit closed minded
- I have a mentor and she has friends I would consider I am just like associated with them because she's my mentor but I wouldn't really call them friends because I don't talk to them personally or anything.

- My dad always told me you don't have friends you have associates and your true friend I guess is people who are always there for you also that's there to support me when I'm not believing in myself and just having a hard time they are there to bring me back up or motivate me
- My current friends from home I don't really talk to them as much now because I have friends that are here
- Well actually my suitemates here I'm a freshman but we've been with each other since last semester so we're all pretty good friends
- My friends would be I guess people that I be with every day so I guess my suitemates my roommate people on campus my friends back at home and ones away at school

Attached to family

- I had a good childhood actually. We always went places. I would get just about everything I wanted
- While growing up it was just me and my mom.....she did everything on her own oh and my godmother she helped too until she passed away she helped my mom out a lot too
- They got divorced and my dad now he's like my stepdad he's not my biological dad so I just call him my dad but now it's like he has been in my life so I just look at him as my dad, he's always there they are just happy with each other so I'm okay with it
- I look at my cousins as adult figures not as cousins because they're all older than me

- The only child of my mom's side so I'm spoiled rotten it was only me and my mom my mom did everything for me I'm close to my dad but I'm not as close to my dad as I am with my mom
- I grew up in a house with my mom my grandma and my grandpa and then my mom and dad got married when I was seven moved in with them and then they got divorced move back in with my grandparents and then we got our own house

Culture

Participant comments for the dimension of culture were placed into the following topical groups: My body, thoughts, ideal, and clothes/shopping. Next, the topics were coded into conceptual categories. These categories were: Recognition of societal and cultural expectations and clothing size matters. The conceptual categories were further divided and refined into the following final themes: acknowledged body size, compared self to societal standards, and determined satisfaction with body by clothing size.

A synthesis of the themes in this study on the culture dimension is that weight gain is a discordant fit that includes acknowledged body size, compared self to societal standards, and determined satisfaction with body by clothing size. Examples of participant statements supporting this finding are listed below.

Acknowledged body size

- I don't like my size at all. I don't like my weight at all. At all. I want to be smaller since I'm short I don't want to look like compact. I want to actually be smaller
- I feel that I'm obese being only 5'1" I feel that my goal weight is 155 I've been trying it seems like the more I try the more weight I gain the less I tried then I lose a lot of weight. So I've tried like supplements I've tried cutting out carbs I've tried

cutting out meat I'd eat fruit all day. I lost 6 pounds fasting for Lent but other than that no

- I don't know where the 20 pounds went so I don't know I still don't like my size my width with my height
- Yeah I think I should be at least 140 between 140 and 150
- I don't think others can tell I've gained weight but I have gained weight so when I look at old pictures I see yeah I have gained weight. Now before I came here I didn't know how much I weighed it's really no other facilities to weigh yourself except in the PEC that's kind of really on display and you don't want to do that
- Oh I think my weight should be back to 220, 215 because I'm overweight but I know people like my suite mates they say for my height it's fine because I guess I'm not short but they say I just need to tone my stomach up and I'd be fine

Compared self to societal standards

- No I don't necessarily think that being skinny is the best thing to be but in shape is the best thing to be I want to be in shape not more so skinny
- I guess how healthy you are that's how society has it made out but I know you can be bigger and be healthy still but how society makes it out you need to be thin you know thinner
- I feel like I need to lose weight
- When I was in middle school I went to school with a lot of white people and they are all skinny so I kind of felt like I had to stay skinny but I was always active so I was always a good size

- I don't think body size matters I just don't want to be like I just want to be healthy and maybe lose my stomach area I don't really I'm not really like I want to be skinny I don't want to be fat I just want to be healthy and be a good size

Determined satisfaction with body by clothing size

- You know like going shopping and you really want this particular thing but you can't fit it it's too small you have to try it on but your you already know it is too small for you but you want to try it on anyway and then seeing like the things my sister gets because she's smaller than me she wears prettier clothes because she's smaller I feel like I need to lose weight in order to wear those clothes
- Sad because like I don't want to buy clothes because I know. It makes you not want to buy clothes. I always am not going to buy anything new until I lose weight because I don't really want to buy this big size. It makes you feel bad
- When I go to the store and try to try some stuff on. It's really hard for me to find jeans it's a little frustrating to go to the store because I'm like tall and then I'm like thick in that area it's that either the jeans is high waters or it's you know it's too big on the side or something like that or like these I have to always buy like the name brand jeans like I remember when back-to-school shopping during the high school season or whatever my sister my mom would give us the same amount of money or something like that and my sister would be like I'm going to forever 21 or something like that whatever and by like five jeans with her money and I would have to go in like American Eagle because they are the only people that had like I don't know stuff that fit me perfectly or something like that and I was paying the

same money for one or two jeans and she would have a lot of clothes and I would be like yeah that was very frustrating

- Body size, being able to fit in clothes that you would like to wear (silence) yeah just being able to fit into clothes that you would like to wear
- A lot honestly I'm not used to being this big I'm used to being 105, 110 at the most so to gain more weight it kind of hurt my feelings especially to start ripping pants and stuff
- Since I've gained the weight. When I was younger it was easier. I'd be like too I wear this size. Now I actually have to go in the store and look through shirts and see if they're going to fit. I just can't go to the register and buy it I actually have to try it on and it is disappointing when you really want something and you can't get it cause it can't fit

Economics

Participant comments were initially listed then placed into topical groups. Topics included: view of food, cost, and what I know/what I'm used to. Topics were then coded into conceptual categories. These categories were: Emotionally attached to food, choosing of meals dictated by cost, and sticking to what I know to prevent waste. With further review of categorized comments, it was decided to move the category, emotionally attached to food, under the experience of stress. Following this decision, the conceptual categories were then collapsed into the following themes: choosing of meals dictated by cost and sticking to what I know to prevent waste. Further refinement of themes resulted in the following: Choosing of meals dictated by cost and selecting familiar foods to prevent waste.

A synthesis of the themes on the dimension economics is that weight gain is juggling resources that includes choosing meals dictated by cost and selecting familiar foods to prevent waste. Examples of participant statements supporting this finding are listed below.

Choosing meals dictated by cost

- If I have money I tend to if it's dinner time and it is like 7:30 and the Café closes at eight I'll make a decision to go to Subway and get a sub, a foot long and chips and stuff like that. If I don't have money I really will make the café I'll try to get their whenever I can or I'm going to be hungry at night. Say if I don't make the cafe my cousin I mean my friend has a car down here, we'll go to McDonald's. The money does influence it. If I don't have money than I'll just starve and that's really hard all just go find some change in my room and go to the snack machine and get chips
- When I go to McDonald's I try to get the dollar menu cause it's cheap and I'll get like a McChicken and fries and a sweet tea. It's very high in calories, I know its high in calories
- I would try to get something cheap like say like a dollar McChicken or like a dollar McDouble
- I get sale items
- It has everything because even though I do what do you call it work study that money goes so fast so and it's like you the subway sandwich I told you eat once a week that's like \$8.50 and that's a whole \$10 for a sandwich so that's why I limit it to once a week because before I used to do it Friday's and Sundays

because I feel like Sunday I should treat myself because it Sunday and then Friday because like thank God it's Friday but that's \$20 a week and then you see how that decreases your bank account amount so that really influences and before like last semester I used to go across the street to get the Chinese food and the Popeye's but this whole semester I haven't been over there for food because I noticed when I eat food from over there like the next two hours and hungry again and it's not really filling me so then I would go probably to the corner store and probably get some chicken tenders for four extra dollars later on in the night so I just stopped completely doing that because I like money more than I like food so yes it has an influence

- It does I was just talking about this because the reason why we eat at McDonald's or Popeye's or Sonic's is because it cost less I was like it costs less to eat unhealthy than healthier when you think about it if you go into the shoppers and buy produce or fruits if you buy a bag of oranges cost like six dollars but a meal at McDonald's cost six dollars which one would you pick you know some people pick McDonald's most people would pick McDonald's it costs to eat healthy especially in college people don't have the time and it's really not that convenient

Selecting familiar foods to prevent waste

- When I go to the restaurant I like to get things that I'm used to getting or things that I have experience with instead of just saying Oh I want to try this. Because I don't have time for saying oh I don't like that send it back but say if where in Fridays I'll always get chicken tenders and fries I've only been to cheesecake

factory once and I got a cheeseburger like I don't tend to get healthy choices when I go out to eat

- When you go to a restaurant you've kind already portioned out your money cause you ready expect like if I go to cheesecake factory you already expect to spend X amount of money so I'll get something good like some pasta you know something worth going to the cheesecake factory for not a burger or anything you know because you could get a burger from the spot
- Every time I go to restaurants I just get pasta, yeah I normally get pasta
- If I go to Red Lobster I know exactly what I want real easy
- I usually stick to the basics at restaurants pasta or chicken fingers
- I usually stick to what I know I don't like to try something new and then regret it so I hardly go to restaurants but I will get probably I mean I like shrimp and I like pasta so I'll probably get shrimp pasta but if they don't offer that I'll probably get like chicken wings or something that I know

Stress

The initial comments for the experience of stress were listed and descriptions were grouped into the following topics: a lot, expectations/things due, and how I deal. Next, the topics were coded into conceptual categories. These categories were: being overwhelmed with grades, money, and friends and coming full circle with cultural dimensions. The conceptual categories were then collapsed into the following themes: being overwhelmed with grades, money, and friends and a never ending cycle involving multiple dimensions. The theme, "emotionally attached to food" was added after being

moved from the economic dimension. Further refinement led to final themes: Emotional attachment to food and being overwhelmed with grades, money, and friends.

The experience of stress in this study is that weight gain is a never ending cycle of tension that includes emotional attachment to food and being overwhelmed with grades, money, money, and friends. Examples of participant statements supporting this finding are listed below.

Emotional attachment to food

- Food is everything to me
- If I'm feeling sad food makes me feel better
- Food is everything, it's love, it's there's so many it just satisfies me when no one else can
- I don't know of course food means a lot because if you don't eat food you're not going to be alive but food I don't know I get really happy when I have food I'm like okay for some reason when I do my work and stuff I was like okay I'll reward myself and just go eat something later on I would be like okay just finish this work and go order something later on but food I've always liked a lot
- I know I use food when I'm bored but I stopped I keep getting in and out of that habit to eat when I'm bored
- I love food nothing about food is wrong unless you cooked it wrong or it's under seasoned

Being overwhelmed with grades, money, and friends

- When I can't get things done in a timely manner or where I'm dealing with a lot of things at one time if I can't focus I just have so much going on around me

- School trying to work trying to have a social life that's all stressful together
- Grades for one, money
- My stressors money people wants and needs my future
- I feel like we're all going to have stress daily hassles are going to just come it's nothing you can do about it and I just got a roll with it. I was at a point of because I've stress so much like this semester my hair fell out like because I stress so much I'll think about oh this paper is do I think about okay if you don't get a good grade your parents are going to feel some kind of way if you don't get good grades you might not get an allowance or you might not get this you might not get that or what are they going to think about you when you get Cs. Because if I bring a C home I'm average I'm not different so I'm dealing with all of that stress on top of just this one paper so then I can't really write the paper because I just don't with all the stress from my parents so I end up not even doing good on the paper because I'm worried about that
- I guess stress is just when you're overwhelmed you start to feel like sometimes like you're not going to be able to complete it like as far as me I'm kind of stressing this semester because last semester I didn't do so well I might end up with a 2.0 this semester and then I won't be able to come back because it's just the cost of being all the way on the other side of the country I mean the school as far as itself is not that cost because I have financial aid but the cost of my parents constantly sending me money and stuff like that and already took out a loan my mom took out a \$10,000 loan she told me she not doing that again so this semester I've been kind of worried about my finals and how my grades going to

come out my GPA because college GPA is just so hard to bring back up so
hopefully I do good

Summary

The research question for this study was: How are the dimensions of technology, culture, kinship, and economics and the experience of stress described by African American students who gained weight during their freshman year in college? Data was analyzed using directed content analysis. The synthesized themes of this study are: technology is a double edged sword, kinship is a revolving door of relationships, culture is a discordant fit, economics is juggling resources, and stress is a never ending cycle of tension. Chapter 5 discusses implications for nursing practice resulting from this study.

Chapter 5: Discussion

To explore weight gain by looking at the socio-cultural dimensions (technology, culture, kinship, and economics) and the experience of stress described by African American college freshmen students, a descriptive qualitative study was conducted. Using directed content analysis to evaluate data and Leininger's culture care theory as the philosophical underpinning, the research question explored was: *How are the dimensions of technology, culture, kinship, and economics and the experience of stress described by African American students who gained weight during their freshman year in college?*

The themes that emerged were: technology is a double-edged sword, kinship is a revolving door of relationships, culture is a discordant fit, economics is juggling resources, and stress is a never ending cycle of tension. The purpose of this chapter is to discuss how the study's findings relate to Leininger's culture care theory, how synthesized themes relate to the literature, why adaptation of Leininger's Sunrise Model should occur, implications for practice, and implications for research.

Application to Leininger's Cultural Care Theory

Four dimensions of Leininger's Sunrise Model from the culture care theory were used to assess weight gain in the African American student freshmen population in this study. Those four dimensions were: (a) technology, (b) kinship, (c) culture, (d) and economics. The experience of stress is not included in Leininger's Sunrise Model therefore it will be discussed later in this chapter.

Technology plays an important role in everyone's life and was found to be a critical communication tool for study participants. Leininger defined technology as the

use of electrical, mechanical, or physical (nonhuman) objects in the service of humans (Leininger, 2006). For this dimension, study participants relied heavily on technological gadgets like cell phones and computers and were connected to social media like Facebook and Twitter on a continual basis to communicate with friends and family. This is not uncommon for the majority of African American college students have been found to be more likely to use cell phones and the internet (McGrath 2011), have a Facebook account (Lee, 2011), and use Twitter disproportionately more than any other demographic group (Pempek, Yermolayeva & Calvert, 2009). Conversely, it was not used to manage health and weight in this study.

Kinship was another Sunrise Model dimension explored. Kinship refers to family intergenerational linkages and social interactions based on cultural beliefs, values, and recurrent lifeways over time (Leininger, 2006). Family interaction is key to the African American culture and is an avenue in which cooking and meals are shared (Jarrett, Jefferson, & Kelly, 2010). Eating in this culture is viewed as a way to show love and bond with the family (Capodilupo & Kim, 2013). In this study both family and friends influenced eating habits. Family was a source of financial support and often proffered instruction on maintaining weight and eating healthy foods. Classmates influenced food choices based on group consensus, which most often involved fast food meals at diverse times throughout the day.

Another dimension examined was culture. Culture in this study is defined as the learned, shared, and transmitted values, beliefs, norms and lifeways of a particular group that guides their thinking, decisions, and actions in patterned ways (Leininger, 1991). African Americans find value in being overweight/obese (Thomas, Moseley,

Stallings, Nichols-English, & Wagner, 2008) and as a culture; they are more accepting of larger size women (Gibson et al, 2005; Robinson, 2008). As noted in chapter 4, participants gained up to 28.4 pounds their freshmen year with eleven of twelve considered overweight and/or obese. Despite not meeting societal standards of ideal body weight, participants were okay with their weight (not size). Ability to fit into clothes not the numerical weight was of importance.

The last dimension appraised in this scholarly project was economic factors. Leininger (2006) defined economic factors as the production, distribution, and use of negotiable material or consumable productions held valuable to or needed by human beings. Eating patterns change in school as time and budget become constrained. Likewise, healthy food is often more expensive and out of reach for economically struggling students. Participants made food decisions based on the amount of money they had and, with less currency, they ate cheaper, high calorie fare from dollar menus.

In summary, the dimensions of technology, kinship, culture and economics were upheld as a useful guide to assess cultural influences of weight increase in this study. The focus upon technology and economics gave insight into how African American freshmen participants spent time and money whereas looking at the dimensions of culture and kinship aided in discerning how weight gain was interpreted and how friends influenced eating.

Application of Synthesized Themes to Literature

Technology

Technology is a double-edged sword, meaning the use of technology can be both positive and negative. Positive results were obtained by Thomas and colleagues

(2010) when wireless technology was used to deliver a Hip-Hop based program containing cultural cues to influence African American students to obtain an HPV vaccination. Authors concluded the program was effective because of the culturally sensitive program content and the delivery method because most students had access to cell phones (Thomas, Stephens, & Blanchard, 2010).

Conversely, use of technology can have a negative impact. Excessive television watching, playing online video games, or texting friends can deter physical activity. A sedentary lifestyle increases risk for cancer, increases adiposity, and reduces cardiovascular health (Health Educator, 2005). African American students, especially women, watch more television than any other ethnic group, an action putting them at higher odds for being overweight or obese (Tirodkar & Jain, 2003).

Kinship

Kinship is a revolving door of relationships. African American families include a wide variety of kin related through blood, marriage and friendship (Jarrett, Jefferson & Kelly, 2010) and, with transition to school, renegotiation of family relationships occur as the student strives to become more independent (Paul & Brier, 2001). This research supports work by Paul and Brier (2001) for relationships change as students move from an established network of friends and family members to a new environment where new networks are formed.

In this study, family and friends were of great importance. Family provided encouragement and instruction as needed. Once at school, participants spent a great deal of time with friends eating, shopping and participating in off campus activities. The participants' food and activity choices were influenced by friends they were spending

time with despite parent guidance on eating healthy. Dynamics were constantly changing.

Culture

Culture is a discordant fit. In one hand, appearance meant a lot to participants even though they did not like their current weight. Conversely, participants did not desire to conform to societal standards. This cultural perspective is upheld by research. Davis, Clark, Gray & Cooper (2005) conducted focus groups to gather weight loss experiences from African American women and noted in one theme, family influences and societal expectations, African American participants received pressure from family members to accept being overweight and believed societal expectations difficult to achieve. Learned African American cultural influences such as settings (church, sorority meetings), cultural food types (collard greens, fried chicken), and beliefs and expectations about food (the focus of social gatherings) complicate weight management (Davis, Clark, Gary & Cooper, 2005). Therefore, race-specific standards of attractiveness exist within cultures thus African American women may be affected less by social pressure to be thin and have higher levels of satisfaction with their body image (Annesi & Gorjala, 2010).

Economics

Economics is juggling resources. Minority students have common experiences like financial problems, strained budgets, and lack of parental encouragement that differ from those of nonminority status (Lindsey, Reed, Lyons, Hendricks, Mead, & Butler, 2011; Walpole, 2007). The personal wealth of African Americans is behind Caucasian counterparts (McGrath, 2011) thus resources available to African American students at

school may not be vast. Because of limited budgets and time, most college students skip meals and partake in a diet that is limited in fruits, vegetables, and dairy products and high in fat, sodium, and sugar (Brunt & Rhee, 2008).

Findings of this study support literature in that money equates to choice. Participants made their food decisions based on the amount of money they had. The more money they had, the more money they spent on food outside the school café. The less money the participants had resulted in them choosing what they considered cheaper food from dollar menus.

Experience of stress

Stress is a never-ending cycle of tension. Despite stress not being a dimension in Leininger's Cultural Care Theory, it was expressed by study participants that it had the strongest influence in their weight gain. Stress in this study is defined as a demand, either internal or external, that results in emotional arousal and requires a change in behavior (Pedersen, 2012). Demands placed upon these participants included meeting academic responsibilities (technological theme), adjusting to life in the residence hall (economic theme), interacting with faculty (culture theme), romantic experiences (kinship theme), forging new friendships (kinship and culture themes), and being aware of family dynamics at home (kinship and culture themes).

People react to stress in different ways. When participants were stressed, they coped by turning to what they knew to ease the tension: cell phone, computer games, shopping with friends, and eating. Several studies suggest coping plays a mediating role in the relationship between stress and eating, which can result in weight gain and serve as a barrier towards healthy eating. (Economos, Hildebrandt, & Hyatt, 2008;

Wichianson, Bughi, Unger, Spruijt-Metz & Nguyen-Rodriguez, 2009; Bennett, Greene & Schwartz-Barcott, 2013). Bennett and associates (2013) go on to note that emotional eating is in response to negative emotional cues and is associated with weight gain (Bennett et al, 2013). Heavy alcohol consumption and high calorie food intake are common coping actions taken by college students (Zagorsky & Smith, 2011).

All cultures experience stress and, as we have seen in this study, stress can influence unhealthy behaviors. Because of the influence stress had on weight gain for this cultural group, this researcher believes Leininger's cultural care model could be updated to include stress as one of the dimensions.

Inclusion of stress as a dimension into Leininger's Sunrise Model of Cultural Care Theory is supported by Bidney's anthropologic work. The concept of cultural crisis identified by Bidney (1946) describes crisis as the direct result of some dysfunction inherent in the very form and dynamics of a given form of culture. Cultural crisis may be regarded as a state of transition, as an unstable or passing condition (Bidney, 1946, p. 538). Change is stressful and may in turn inspire cultural invention or acculturation (Bidney, 1946, p. 541).

The participants in the study were in a state of transition, a change from one stage of adjustment to another. Moving from their childhood home to college for the first year of college is believed to be the most difficult period of adjustment a student faces (Paul & Brier, 2001). Adjustment processes involve disruption of interpersonal bonds through separation and loss resulting in emotional distress (Paul & Brier, 2001). Students attempt to adapt to this transition by acculturating to the school environment.

Acculturation is when a culture transitions into a new environment (Pope-Davis, Liu, Ledesma-Jones & Nevitt, 2000).

One may also consider the inclusion of stress into specific dimensions. For instance, the themes of culture, kinship, and economics all showed a connection to stress in this population. For the dimension of culture, experiencing a “disconnect” in body size with clothing size was stressful. In terms of kinship, the participants experienced stress in their relationships. Economic limitations also resulted in the experience of stress.

In this study, the freshmen African American participants experienced stress from multiple sources: Grades, money, and friends, and the emotional attachment to food. Stress was key to understanding freshmen weight changes in these participants and thus may also play a significant role in other cultures. Therefore, the addition of stress into the Sunrise Model or consideration of stress as an element of certain dimensions can add depth into the study of cultural care factors that are necessary for delivery of culturally congruent care.

Implications for Practice

Nurses must be culturally competent and have an understanding of a populations’ knowledge base, perceptions, and priorities related to weight in order to successfully change health behaviors. Cultural differences must also be understood by the nursing profession in order for caregivers to respond adequately to health care needs. “Nurses are challenged to convert so-called barriers into opportunities through authentic communication to understand cultural stressors and their variations, given that culture defines who we are” (Millender, 2012).

Results of this study need to be shared with nurses and APRNs so they are aware of weight gain triggers for this population and how this population perceives weight gain. Nurses must tailor their care and education so what is presented is meaningful, meets the needs of the African American college student, and assists them in achieving and maintaining a healthy weight. Needs for African American college students based study results include use of group interventions (kinship theme), use of up-to-date technologic programs (technology theme), and use of culturally sensitive perspectives (kinship, culture and economics themes) in addressing weight issues.

One strategy that has been found to be effective in college settings that can be implemented is the use of peer educators. This action is supported by the synthesized theme; kinship is a revolving door of relationships. Peer health education is the teaching or sharing of health information, attitudes, values, and behaviors by members of groups who are similar in age or experience (White, Park, Israel & Cordero, 2009). Informal networking is unique to peer health educators because their student status places them in situations that are inaccessible to university administrators and health professionals. These informal relationships allow peer health educators to closely identify with the experience of their peers.

Peer educators counsel, inform, and participate in outreach programs and have been found to play an important role in health promotion in various area including eating and nutrition (White, Park, Israel & Cordero, 2009). Because college students support the use of peer educators and college friends played an important role in this study under the kinship dimension, the incorporation of peers into practice may be beneficial for weight management. This action also supports policy put forward by Michelle

Obama in her “Let’s Move” campaign which focuses on weight management for young people.

Implications for Research

First, research needs to be conducted to confirm the efficacy of an adapted Cultural Care Theory that is inclusive of stress as a dimension. Basic questions like “how do different cultures experience stress” or “how is stress defined and dealt with by diverse cultures” could be posed. Additionally, to advance this current study’s focus, research evaluating culturally sensitive stress management methods, like cultural infusion, is warranted. “Curriculum infusion is an educational approach by which content is drawn from several subject areas to focus on a particular topic or theme” (Mitchell et al., 2012). Developing class activities and assignments that tie in the concept of stress and weight may provide African American students with a better understanding of how to identify stress and ways to cope with the transitional experience.

A second area of research can focus on educational interventions. Currently, many colleges and universities offer freshman orientation seminars to assist students in campus transition. Freshman seminars are offered to enhance freshman success and increase retention and graduation rates by improving study skills and knowledge of campus resources (Howard & Jones, 2000). One university utilized this opportunity to conduct a thirty-minute nutrition workshop. A *Jeopardy!* game format was used and the goals of the workshop were to orient incoming students to the food environment and provide them with options to maintain a healthy body weight (Freedman & Waldrop, 2011). Using results of this study, categories of the *Jeopardy!* game can be technology,

kinship, culture, economics and stress with questions under each section specific to each dimension. Although this program has not been formally evaluated, the participants report an increase in their knowledge.

Third, from a healthcare perspective, future research at the university level can focus on promoting a healthier lifestyle. As stated in Chapter 1, obesity and metabolic syndrome is a complex disease and therefore a multidimensional approach for treatment and prevention is required. Combining the profession of nursing with other professions like physical education or sports therapy may facilitate weight loss or maintenance and may improve health outcomes for the African American freshmen. For example, by partnering with the wellness/physical education department and by longitudinally assessing dietary intake, stress levels, and the impact of physical activity over the freshmen year, an increased knowledge about nutrition and healthier behaviors can be promoted for the African American student. It is expected that utilizing this method will incorporate all of the cultural dimensions as well as the experience of stress in using a multidisciplinary approach. Success of intra-professional projects as stated may impact university policy concerning student life on campus.

From a methodology perspective, researchers may want to consider using group interventions and not just focus on the individual. Results of this study show African American participants liked to be with their friends and like to function as a group. Likewise they “loved” technology so an intervention directed at the students as a group using technology, such as an activity/calorie application, may be beneficial in helping students maintain a healthy weight. Utilizing the campus instructional technology

department to develop, implement, and provide feedback in this activity will help make this possible.

Summary

This descriptive qualitative study involving interviews of African American college students adds to the knowledge on the use of Cultural Care Theory. Four of five themes were directly related to the model. The fifth theme related to stress offers a fresh cultural perspective and should be considered for integration into the Leininger model. The study addresses gaps in the literature concerning the lack of African American representation in research on college weight gain and the omission of cultural variables in Freshman 15 weight gain research. Results of this study may serve as the foundation for future studies on weight gain in African American college students.

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Appendices

Appendix A. Demographic Form

Demographic form

Code # _____

1. Age: _____
2. Gender: _____
3. Past medical history: _____
4. Employment status: _____
5. Household income: _____ less than \$10,000
_____ \$10,000 – 19,999
_____ \$20,000 – 29,999
_____ \$30,000 – 49,999
_____ \$50,000 – 74,999
_____ \$75,000 – 99,999
_____ \$100,000 – 150,000
_____ more than \$150,000
_____ unknown
6. Height: _____
7. Weight: _____
8. BMI (to be calculated by researcher): _____

Appendix B. Interview Questions

Interview Questions

1. Technology

- A. Describe for me your use of technology: television, cell phone, internet, social media, and apps.
- B. Describe for me the type of shows you watch on television.
- C. How does what you watch on television influence when, how, and what you eat?
- D. Give me a description of the sites you visit on the internet.
- E. What do you experience when you view these sites?
- F. What does the use of technology mean to you?

2. Kinship

- A. Who do you consider family? Who do you consider friends?
- B. Describe for me your family dynamics and childhood.
- C. Give me a description of the way you and your family ate and types of physical activity you engaged in.
- D. Tell me about your friends on campus and describe what you do together.
- E. Describe your current relationship with your family and friends.
- F. Describe for me your most memorable experience with family/friends?

3. Cultural

- A. What are your thoughts about your body or your weight?
- B. What does body size mean to you?
- C. Describe any experience you have had that had to do with weight or body size.

Appendix B. Interview Questions, Continued

4. Economic

- A. What does food mean to you?
- B. Describe for me how money/cost influence how/what you eat.
- C. What has been your experience in shopping for food?
- D. What has been your experience in selecting food to order at fast food places?
- E. What has been your experience in selecting food to order at restaurants?
- F.

5. Stress

- A. What does stress mean to you?
- B. What has been your experience with stress?
- C. Describe your stressors.
- D. Give me a description of the things you do to deal with stress.