HOW FACTORS THAT POTENTIALLY INFLUENCE PERCEIVED SELF-EFFICACY AFFECT THE DIETARY HABITS OF LOW-INCOME, AFRICAN AMERICAN MOTHERS

by

NOZELLA LEE BROWN

B.S., Kansas State University, 1976
M.S., Kansas State University, 2008

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

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Abstract

Nutrition educators traditionally rely on quantitative research to design interventions for Supplemental Nutrition Assistance Program (SNAP) audiences, such a low-income African American mothers. Such studies indicated the dietary behaviors of this population related to increased risk for chronic disease. Few studies explored the factors that potentially influenced the perceived self-efficacy and affected the dietary habits of SNAP learners. This study addressed the gap between quantitative research findings about the dietary habits of low-income African American mothers and their perceptions of factors influencing those behaviors.

A qualitative bounded multi-site case study design was used to explore factors theoretically linked to social cognitive theory (SCT) that affected the dietary habits of low-income African American mothers. The theoretical framework rested on the interaction between SCT and critical race theory (CRT). The research sample included fifteen women, five from each of three public housing sites. The research design included semi-structured interviews supported by multiple data sources. A pilot study took place. Constant comparison was the technique used to analyze the semi-structured interviews and code the findings. The emergent themes aligned with the theoretical framework to answer the research questions. Triangulation helped to ensure the study's quality.

The findings supported the SCT premise that behavioral, personal, and environmental factors interacted reciprocally to influence dietary habits. The findings supported the CRT tenets that race, history, narratives, and interest convergence mattered and influenced dietary habits. The results had implications for adult educators designing effective nutrition programs for diverse learners.

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Dedication

To my mother and father, from whom I inherited my unquenchable love for learning and undying passion to help others. To God be the glory!

Chapter 1 - Introduction

The partnership between Cooperative Extension and the Supplemental Nutrition

Assistance Education Program (SNAP-Ed) had been effective because of commonalities between

the two agencies. Both existed to improve the quality of life of vulnerable, underserved citizens.

Rooted in adult education theories, principles, and practices, Cooperative Extension used

scientific-based research to align their programs with the needs of the population they served.

This research study was an outgrowth of this long-standing partnership. The study findings

added to the body of research that provided insights for extension educators designing effective

SNAP-Ed interventions for low-income audiences.

Created in 1914 by an act of Congress, Cooperative Extension linked the community to

the academy at land-grant universities across the nation, dedicated to improving the quality of

life for the common citizen. Cooperative Extension evolved into a three-pronged organization of

research, teaching, and extension. The mission and vision statement posted on the Kansas State

Research and Extension (KSRE) website reiterates a commitment to the original purpose of

Cooperative Extension: to expand human capacity and encourage healthy communities through

integrated research, analysis, and education (K-State Research and Extension, n.d.).

As a strong proponent of education for common people, Cooperative Extension was a

pioneer in using adult education theories, practices, and principles to provide effective

educational opportunities for communities (Stubblefield & Keane, 1994). KSRE fulfilled this

goal by partnering with federal, state, and county government and civic agencies to provide

educational programs to improve the lives of all citizens. Currently, one federal program

administered by KSRE is the Supplemental Nutrition Assistance Education Program (SNAP-Ed),

the educational component of the Supplemental Food Assistance Program (SNAP).

SNAP, formerly known as food stamps, was the largest food assistance program in the United States (Landers, 2007; Mabli, Ohls, Dragoset, Castner, & Santos, 2013; Simon & Chrisman, 2012). The SNAP program had two primary goals: reduce food insecurity and improve nutrition and fitness. Both goals addressed a fundamental need to improve the quality of life of the most vulnerable segment of the population—the poor. While the program increased the purchasing power of low-income people, initial research suggested this alone did not result in an increase in the consumption of healthful foods (L. Bell et al., 2006; Gleason, Rangarajan, & Olson, 2000; Guthrie, Stomes, & Voichick, 2006; Landers, 2007). Therefore, the Supplemental Nutrition Assistance Education Program (SNAP-Ed) was created to provide nutrition education to those who qualified for SNAP. As a voluntary program, SNAP-Ed existed in every state and reached a diverse population of over 46 million low-income people (U.S. Department of Agriculture [USDA], 2012a).

The SNAP-Ed Food Stamp Nutrition Education (FSNE) Guiding Principles have roots in adult education principles and stress the importance of designing curriculum that equips and empowers the learner to make healthful choices (USDA, 2012a). Although some studies questioned the effectiveness of SNAP-Ed (Landers, 2007), others showed a significant relationship between nutrition education and an increase in nutrition knowledge, attitudes, and behaviors (Blumenthal, 2012). To increase the effectiveness of SNAP-Ed, several reports and reviews of the program recommended designing more learner-focused, theory based, and context sensitive services (Ben-Shalom et al., 2012; U.S. Government Accountability Office [USGAO], 2004; USDA, 2008, 2012a). For extension nutrition educators charged with implementing the SNAP-Ed program, one key to designing effective nutrition education was understanding what

influenced the dietary habits of this diverse population (Anderson, Winett, & Wojcik, 2007; Contento, 2011).

The purpose of this multi-site bounded case study was to examine how factors that influenced perceived self-efficacy affected the dietary habits of low-income African American mothers, an underserved SNAP-Ed audience. Framed in social cognitive theory (SCT) and critical race theory (CRT), the study findings had implications for assisting extension educators in the development of future SNAP-Ed interventions for the target population. This chapter contains an overview of the research study. It contains the background, problem statement, purpose statement, research questions, research design, rationale, significance, researcher background, assumptions, limitations, and key definitions related to the study.

Background

Kansas State Research and Extension

Believing that access to education should be available to the average citizen, Congress passed the Morrill Act in 1862 to provide a land-grant university in every state (Stubblefield & Keane, 1994). A year later, Bluemont College in Manhattan, Kansas was renamed the Kansas State Agricultural College (Teagarden, Johnson, & Graham, 2008). In 1887, Congress passed the Hatch Act to address the agricultural, mechanical, and related problems of its mostly rural citizens that resulted in the creation of the Kansas Agricultural Experiment Station, housed at Kansas State Agricultural College (Stubblefield & Keane, 1994; Teagarden et al., 2008). The Smith Lever Act of 1914 established the Cooperative Extension Service to extend the information and research from the campus laboratories to the local communities (Stubblefield & Keane, 1994). In 1959, the university name was officially changed to Kansas State University of Agriculture and Applied Sciences. A few years later, to increase its effectiveness, the

Cooperative Extension Service and Kansas Agricultural Experiment Station merged to become Kansas State Research and Extension (KSRE) (Teagarden et al., 2008).

KSRE was one of many cooperative extension services in the United States contracted to administer an effective nutrition education program to those who qualified for food assistance (Strayer, Eslami, & Leftin, 2012; USGAO, 2004). As national concern about increasing health risks of citizens and the accompanying high costs dominated headlines, the health of the poorest, most vulnerable people was of great concern (Mabli et al., 2013). Recognizing that the poor were at increased risk of chronic disease, nutrition experts, including extension educators, agreed that understanding the factors influencing dietary habits was a crucial prerequisite to designing effective nutrition interventions (Contento, 2011). However, the cost and effectiveness of SNAP-Ed to effect change sparked debate among local, state, and federal politicians, citizens, and practitioners (Blumenthal, 2012; Landers 2007). Extension educators continually sought to align the programs with current scientifically based information, using reliable adult education principles for delivery of interventions.

Supplemental Nutrition Assistance Program

The Supplemental Nutrition Assistance Program (SNAP) dated back to the Depression era and concerns about farm surpluses. As part of the New Deal, the Agriculture Adjustment Act of 1933 provided farmers with subsidized income and distributed the surplus food to the needy (Blumenthal, 2012; Landers, 2007). In May 1939, the federal government introduced the first food stamp program (FSP), which lasted four years. During the first four years of the program (1939-1943), the federal government spent $3.7 billion, (as adjusted for inflation in 2007 dollars), and provided 20 million people with benefits. For the next 18 years, legislators and the public researched and debated the effectiveness of the FSP.

In 1961, John F. Kennedy moved toward reviving the FSP by initiating a USDA pilot FSP in West Virginia (Blumenthal, 2012; Landers, 2007). Within three years, the program expanded into 22 states to serve 380,000 participants. By 1964, the program served four million people at a cost of $360 million. In 1977, amidst cries for reform, the federal government clarified participant requirements, adding the homeless, but restricting students and immigrants. In 1980, a major recession prompted cuts in federal spending for the FSP. Faced with a severe domestic hunger crisis, legislators scrambled to reduce barriers for food-stamp-eligible persons and the FSP underwent changes to address eligibility questions.

In 2008, federal lawmakers renamed the program as the Supplemental Nutrition Assistance Program (SNAP) to emphasize the need for nutrition and to avoid the stigma attached to food stamps (Blumenthal, 2012). SNAP modernized its distribution of funds by using an electronic benefit transfer (EBT) system, and most recently, revamped the funding structure. Households with a monthly gross income of 130% of the poverty level ($2422 for a family four) qualify for SNAP benefits. Seniors and those with disabilities are exempt from the gross income limit but must have assets less than $3,250 (USDA, 2012a). These changes assisted the nearly 46 million SNAP recipients who received an average monthly allotment of $134 a month, at a cost of about $78 billion annually, a shared cost between the federal and state governments (USDA, 2012a). The SNAP participation rate increased from 54% in 2002 to 72% in 2009 (Blumenthal, 2012). Despite the changes in the administration of the FSP, the purpose remained unchanged: reduce insecurity and improve nutrition among the nation's poor (Blumenthal, 2012; USDA, 2012a).

Supplemental Nutrition Assistance Education Program

From the beginning, researchers and politicians raised questions about whether increasing food purchasing power was sufficient to improve dietary habits of low-income people (Blumenthal, 2012). In 1981 when Congress amended the 1977 Food Stamp Act, Congress authorized states to deliver nutrition education voluntarily to those who qualified for food assistance, allowing states to select one or more agencies to develop and administer the education component. A reimbursement arrangement between the federal and state governments resulted in the state governments agreeing to match employee time and public space used (Blumenthal, 2012, Landers, 2007). In the first year, 1992, only seven states participated. By 2011, 50 states participated in what became SNAP-Ed, the Supplemental Nutrition Assistance Education Program (USDA, 2012a). Federal spending grew from $661,000 in 1992 to almost $380 million in 2010. However, in 2010 with the Healthy, Hunger-Free Kids Act, Congress capped federal funding for SNAP-Ed at $375 million in a fiscal year and indexed for inflation in future years. The Act also restructured the SNAP-Ed implementation and funding, increasing the competitiveness between agencies seeking to administer the program.

The Federal Nutrition Service (FNS) had oversight of the USDA program and encouraged collaborations between agencies (Blumenthal, 2012). State cooperative extension services implemented most programs; but in some states, health departments, university centers, and other agencies also provided the food assistance program to SNAP-eligible families, children, adults, and seniors (USDA, 2012a). Emphasis was on providing a state SNAP-Ed program that delivered culturally appropriate nutrition education interventions for individuals of any age, as long as they qualified for food assistance. Federal reviews and reports of the program recommended agencies administering SNAP-Ed, such as state cooperative extension

services, be more deliberate in the program design, service delivery, program monitoring, and evaluation of SNAP-Ed interventions. Specific recommendations included providing developmentally appropriate services; using theory-based, learner-focused educational approaches; and considering the context of the services to focus on low-income populations such as African American mothers (Ben-Shalom et al., 2012; USDA, 2008, 2012a; USGOA, 2004).

Cooperative extension, a pioneer in adult education, traditionally used adult education theories, principles, and practices to design, teach, and evaluate community programs such as SNAP-Ed. Adult education considered SNAP-Ed to be a community-based educational program (Merriam & Brockett, 2007; Merriam, Caffarella, & Baumgartner, 2007). The only prerequisite was the need to offer SNAP-Ed programs where 50% or more of the participants qualified for food assistance (USDA, 2012a). Generally, the voluntary community-based classes were short-term, informal, hands-on, interactive, and learner focused, geared to the interests and experiences of the learners. Educators in community-based learning settings often faced challenges of unpredictable learning environments, time constraints, participant attrition, cultural and language barriers, and limited resources (Merriam & Brockett, 2007). Understanding SNAP-Ed objectives in the context of adult education principles is a beginning step toward mitigating some of the challenges.

SNAP-Ed objectives. The goal of SNAP-Ed was to increase the likelihood that those eligible for SNAP would make healthy choices within a limited budget and choose physically active lifestyles (USDA, 2012a). SNAP-Ed used the Dietary Guidelines for Americans, updated every five years, and MyPlate, which replaced MyPyramid as the primary teaching icon in 2010, as the foundation for defining healthy choices. The 2010 Dietary Guidelines communicated these healthy choices through key messages that encouraged the consumption of more fruits and

vegetables, whole grains, and low-fat or fat-free milk; increased physical activity; and appropriate energy balance during each life stage (U.S. Department of Health & Human Services [USHHS], 2010).

To achieve the goal of developing effective SNAP-Ed nutrition programs, the FNS wrote the *Food Stamp Nutrition Education (FSNE) Guiding Principles*, formerly the *FSNE Framework*, contracting agencies were to use to communicate consistent messages to affect positive dietary changes. Below is a summary of these six principles:

- SNAP-Ed is designed for those eligible for food assistance, not just for those who participate.

- SNAP-Ed is experiential learning intended to encourage the voluntary adoption of healthy food choices within a limited budget.

- SNAP-Ed food targets assistance-eligible women and children because they have the greatest potential to impact the larger eligible population.

- SNAP-Ed, as a science-based, behaviorally focused intervention, maximizes impact by focusing on a few key outcomes, adapted for subsets of individuals.

- SNAP-Ed maximizes outreach when local, state, regional, and national stakeholders coordinate collaboration.

- SNAP-Ed functions optimally when SNAP-Ed agencies and nutrition education providers have defined and applied roles and responsibilities (USDA, 2012a).

SNAP-Ed architects recognized the importance of designing learner-centered programs, as is evident in its *FSNE Guiding Principles*, but they did not provide specific directions. Specific program design was to the responsibility of the local program directors and educators. At this level of program design, extension educators traditionally drew from adult education

principles, practices, and theories for guidance in developing SNAP-Ed programming. Program design begins with understanding the participant, identified by *FSNE Guiding Principles* as primarily low-income mothers.

SNAP participants. One underlying theme reflected in the SNAP-Ed FSNE Guiding Principles and research studies was the importance of tailoring education interventions to the learning and developmental needs of the SNAP participant (Loughrey, Basiotis, Zizza, & Dinkins, 2001; USHHS 2010). Understanding the characteristics of the program participants, their learning and development needs, and the factors that influence dietary habits was necessary. SNAP participants represented a diverse population, with 34% of SNAP households European American; 22% African American; 10% Hispanic American, any race; 4% Native American; and 2% Asian American (USDA, 2012a). According to a 2012 profile of SNAP, 47% of participants were children. In fact, households with children received 71% of the benefits.

African American women have a disproportional representation among low-income individuals. The 2010 U.S. Census reported the poverty rate for African Americans was about three times that of non-Hispanic European Americans. Not only were African Americans at greater risks for chronic health diseases (Centers for Disease Control & Prevention [CDC], 2005; USDA, 2012b), but they also had a greater need for nutrition education because of the disparity between their knowledge of healthful dietary habits, especially adequate dietary intake of fruits and vegetables, and that of the general public (Ben-Shalom et al., 2012; Gleason et al., 2000). Nutrition education research suggested children were likely to adopt the dietary habits of their mothers (Baughcum, Burklow, Deeks, Powers, & Whitaker, 1998). The intent of effective nutrition education interventions was to reverse this trend (Ben-Shalom et al., 2012; Contento, 2011).

Related SNAP-Ed research. Questions about the effectiveness of nutrition education in reducing the poor dietary habits of SNAP-eligible participates generated a body of research with ambiguous results. Considering the amount of financial and human resources dedicated to SNAP and SNAP-Ed, numerous research projects continued to monitor the effect of nutrition education on the dietary habits of SNAP-eligible individuals and families (Mabli et al., 2013). In Landers' (2007) literature review, conclusions indicated (a) food stamp participants spent more on food than nonparticipants; (b) the FSP increased availability of protein in energy-poor households, and (c) no consistent evidence indicated that participation affected dietary intake.

A research report assessing SNAP-Ed over 40 years found an insignificant relationship between the intake of nutrients and SNAP assistance (Gleason et al., 2000). The report suggested the study might have had methodological problems, such as inconsistencies in analysis and outdated data sources. However, other concerns in the study raised questions about how and why participants made food choices. Gleason et al. concluded by suggesting circumstantial evidence indicated that nutrition education played a role in increasing the effectiveness of the SNAP. More recent reports began to indicate the effectiveness of nutrition education in reducing food insecurity (Mabli et al., 2013). The findings and implications of the studies were of primary interest to nutrition educators charged with implementing SNAP-Ed interventions locally that could result in favorable outcomes.

Traditionally, nutrition educators designed curriculum based on quantitative research (Sheeshka, Woolcott, & MacKinnon, 1993). The results often cast the dietary habits of low-income, poor mothers as aberrant without considering internal or external factors that may influence their behavior (Ben-Shalom et al., 2012; Gleason et al., 2000). A paucity of researchers explored how factors that potentially influenced perceived self-efficacy affected the

dietary habits of low-income African Americans. Yet, the SNAP-Ed *FSNE Guiding Principles* (USDA, 2012a) recommended tailoring nutrition education interventions to fit the characteristics of the learner to increase the effectiveness of the program, a goal nutrition educators strove to achieve (Contento, 2011).

Theoretical Framework

Contento (2011) noted that nutrition educators often began with social cognitive theory (SCT) as a theoretical framework for interventions intended to increase self-efficacy, self-regulation, and behavior change skills, such as those outlined in the SNAP-Ed *FSNE Guiding Principles* (USDA, 2012a). Originally introduced by psychologist Albert Bandura (1986, 2004) and adopted in adult education, SCT is widely used because it "delineates the presumed sources and mediators of behavior and behavior change" (Anderson et al., 2007, p. 304), all of which help in the design of effective strategies for altering dietary habits. SCT helps educators understand how self-efficacy beliefs about behavioral, personal, and environmental factors influence dietary habits. Behavioral factors include self-regulating skills and food, nutrition and wellness knowledge. Personal factors include thoughts, feelings, and attitudes. Environmental factors include external physical and social influences. Self-efficacy undergirds these three factors because it motivates the confidence of an individual to complete the intended behaviors and defeat barriers to desired habits (Bandura, 1986, 2004).

In an effort to move from merely understanding the social cognitive factors that influence behaviors to influencing behavioral change, nutrition educators added the transtheoretical model and stages of change constructs to their theoretical frameworks (Wright, Velicer, & Prochaska, 2009). The transtheoretical model and stages of change theories were helpful in program design after the educator had a basic understanding of the behavioral, personal, and environmental

factors potentially influencing the learner's perceived self-efficacy as it related to the learner's ability to change (Contento, 2011). The present study was limited to exploring how the factors influencing perceived self-efficacy affected the dietary habits of low-income African American mothers, a prerequisite to understanding the factors that facilitate change in dietary habits.

Race is a social factor with potential influence on the effects of perceived self-efficacy on the dietary habits of SNAP-Ed-eligible women because race is a socially constructed factor. Misperceptions about race resulted in much discussion about the oppression, discrimination, and marginalization of African Americans (Colin, 2010; Sheared, Johnson-Bailey, Colin, Peterson, & Brookfield, 2010). According to the United Nations Human Rights Council Report (2009), racism and racial discrimination continued to profoundly impact all dimensions of American society: historically, culturally, and humanely.

Some educators, such as hooks (1994), contended that for the African American in the United States, all education was rooted in an anti-racist struggle. This belief was the outgrowth of Freire's research on how traditional educational systems transferred knowledge to maintain dominance (Freire, 2009). While many debated hooks and Freire, the implication for SNAP-Ed educators was to be cognizant of how racial biases and assumptions could sabotage educational interventions. To avoid these threats, Sheared (1999) implored educators to create programs allowing for the lived experiences, values, and beliefs of the learner. However, before the educator could make the learner's lived experience part of the educational program, the educator needed to understand how the learner's development and perceptions affected her lived experiences and learning.

Erikson (1963) was a pioneer in developing a phase theory to explain the relationship between an individual's development and social surroundings (Smith & Taylor, 2010). Scholars

criticized phase and stage theories for not addressing factors affecting diverse populations (Bandura, 1986, 2004). The result was the emergence of several adult development theoretical frameworks, including racial identity theories. The racial identity theories were helpful by addressing the racial and ethnic identities considered essential to individual development and a sense of wellbeing (Chavez & Guido-DiBrito, 1999). The learner's position along the racial identity scale may influence engagement with the educational intervention (Smith & Taylor, 2010).

Critical race theory (CRT) challenged the educator to venture beyond the internal effects of racism on people of color. CRT shifted the focus from cognitive internal processes of the learner to systemic external factors in the society contributing to oppression, injustice, or inequality for one segment of society while benefiting another segment of society (Delgado & Stefancic, 2001; Ladson-Billings, 2009; Taylor, 2009; Yosso, 2006). CRT was an appropriate lens for examining factors potentially influencing perceived self-efficacy and affecting the dietary habits of low-income African American mothers.

CRT, an outgrowth of critical legal studies and radical feminism, emerged as a plea for new ways to combat modern racism, the residual fallout of years of institutionalized slavery, discrimination, and oppression (Delgado & Stefancic, 2001). Although CRT began as a strategy for arguing legal cases involving racism, some educators use CRT as a "powerful tool for explaining the sustained inequity people of color experience" (Ladson-Billings, 2009, p. 28). Radical feminism expanded CRT by introducing intersectionality to address how multiple identities experienced oppression because gender, class, and sexuality were also constructs that intersected to define the experiences of African Americans (Zamudio, Russell, Rios, & Bridgeman, 2011).

Bourdieu and Passerson quantified the value of education by arguing that knowledge was social capital or property that was distributed inequitably by offering those in the European American middle class a better quality of life than those in the lower classes (Bourdieu & Passeron, 1977). Kozol (1991) demonstrated how inequities in the physical educational facilities of poor, predominately African American and Hispanic students resulted in disparities in educational outcomes and success (Ladson-Billings & Tate, 2006). The poor communities often lacked other vital resources for a healthy quality of life, such as access to healthy food choices and grocery stores (Blumethal, 2012; Powell, Slater, Mirtcheva, Yanjun, & Chaloupka, 2007). These discussions of inequality highlighted a dynamic interaction between social and environmental factors with potential influence on the capabilities of those in low-income areas to make choices.

As legal scholars began to find critical legal studies inadequate for addressing the strategies needed to correct these inequities, multicultural educators stepped up to question the validity of research done in communities of color without the voices of the studied people (Ladson-Billings & Tate, 2006; Sheared, 1999; Yosso, 2006). As mentioned earlier, nutrition education research traditionally relied on quantitative studies stressing disparities between African Americans and the general population. Using CRT as a lens to view such disparities provided educators with a mechanism for understanding the factors related to the differences between the dietary habits of African American mothers and those of the general population.

Of significance to the present study, CRT challenged educators, including nutrition educators, to understand the experiences of underserved populations situated in a racialized society before designing and delivering educational programs (Baker, Schoolman, Barnidge, & Kelley, 2006; Yosso, 2006). Besides providing a legal avenue for attacking discriminatory laws

that oppressed marginalized groups while rewarding privilege and power to the dominant culture, CRT also provided a framework for educators to develop methodologies to identify and dismantle power, privilege, and oppression within the educational environment (Ladson-Billings, 2009). According to CRT educators, oppression maintains a political system allowing adult educators to believe they know what is best for learners without giving those learners a voice in the process (Rocco & Gallagher, 2004; Sheared, 1999).

Because much quantitative nutrition research relied heavily on national databases and surveys (Ben-Shalom et al., 2012; Gleason et al., 2000; Strayer et al., (2012), researchers and educators might ignore how factors that potentially influence perceived self-efficacy affected the dietary habits of those studied, which could lead to false assumptions during curriculum development. The educators might have adopted a deficit approach rather than a strength-based approach when designing educational interventions (Yosso, 2005). However, SCT challenged educators to consider the attitudes, beliefs, and values about personal, behavioral, and environmental factors that potentially influenced the learner's self-efficacy regarding dietary habits (Bandura, 2004). CRT further challenged educators to unearth sources of privilege and oppression, first in their own belief systems and then in the institutions they represented (Dixson & Rousseau, 2006; Taylor, Gillborn & Ladson-Billings, 2009; Yosso, 2005, 2006). These theories together could provide a framework for educators to design, teach, and evaluate educational interventions that are free of biases and assumptions about the dietary behaviors of the learners. The intent of this study thereby was to equip nutrition educators to be better prepared to design effective, learner-focused, and culturally appropriate interventions.

Problem Statement

A reoccurring theme within nutrition research literature was a need for effective educational interventions that addressed the internal and external factors influencing the dietary habits of individuals who qualified for SNAP. Government reports and reviews of the SNAP-Ed program recommended educators focus on improving program design, delivery, and evaluation. The recommendations included finding ways to provide developmentally appropriate services and learner-focused, theory-based educational approaches considerate of the context of the services (Ben-Shalom et al., 2012; USDA, 2008, 2012a; USGAO, 2004). While quantitative data extracted from surveys and national nutrition databases described what low-income individuals ate and should eat the literature revealed little information about how behavioral, personal, and environmental factors potentially influencing perceived self-efficacy affected the dietary habits of low-income African American mothers. This research addressed the gap between what the quantitative nutrition research showed regarding the dietary habits of low-income African American mothers and their perceptions of factors potentially influencing their dietary habits. The study findings provided a portrait of the population in the context of their lived experience, using their voices, to assist extension nutrition educators in designing, teaching, and evaluating effective SNAP-Ed programs.

Purpose Statement

The purpose of this multi-site bounded case study was to explore factors theoretically linked to self-efficacy that affected the dietary habits of low-income African American mothers, a high-risk SNAP-Ed sub-population (USDA, 2012b). The study findings captured the personal perceptions of the mothers regarding behavioral, personal, and environmental factors that affected their dietary habits. The study included application of the triadic reciprocality of the

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behavioral, personal, and environmental determinants of Bandura's social cognitive theory (SCT) and exploration of how four tenets of critical race theory (CRT) interfaced with SCT to explore the dietary habits of low-income African American mothers. The findings had implications for designing effective interventions for diverse learners, such as those that qualified for the SNAP-Ed.

Research Questions

The following research question guided this study: How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? The primary research question had three sub-questions (SQ).

SQ 1. What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 2. What personal factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 3. What environmental factors do low-income African American mothers perceive as influencing their dietary habits?

Research Design

This was a qualitative bounded multi-site case study. A qualitative research design was superior because qualitative research allowed the capture of the personal experience of participants, determination of how meanings formed through culture, and discovery rather than testing of variables (Corbin & Strauss, 2008). In this study, the goal of the guiding research question, subquestions, and data collection methods was to explore the experiences of low-income African American mothers who described perceptions of factors theoretically linked to self-efficacy and affecting their dietary behavior. The theoretical framework of this study was

the triadic reciprocality of social cognitive theory (SCT) and four tenets of critical race theory (CRT) to explore factors that potentially affected the dietary habits of low-income African American mothers (Bandura, 1986, 2004; Delgado & Stefancic, 2001). Although SCT suggests that behavioral, personal, and environmental factors potentially influence self-efficacy, this study did not measure self-efficacy. Instead, these findings provide insights into the factors that the sample population perceived as affecting their dietary habits.

The sample for this research study was from the population of all low-income African American mothers in an urban Midwestern city. Women comprised the sample because educators designed most SNAP-Ed curriculum for low-income mothers (USDA, 2012a). Sites within the jurisdiction of the public housing agency were appropriate because this population qualified for SNAP-Ed. The three sites selected from seven potential sites had a significant percentage of low-income African American residents and were suitable for conducting the study.

A pilot study took place with one participant from each site to test the interview protocol and two additional participants from a different site to test the windshield tour protocol. The feedback from the pilot study was useful to modify the methodology before each phase of the research study. Because of the difficulty in reaching the study population, limited time, and limited resources, a purposeful convenience sampling of African American women living in public housing was optimal.

Five participants from each of the three public housing sites, totaling 15 participants, comprised the study sample. Multiple sources provided information during two phases. Phase 1 included semi-structured interviews supported by participant information screenings and behavior checklists. Phase 2 included windshield tours of the sites. Additional data were from

geographic maps as well as researcher field notes, memos, and reflections. Multiple data sources increased validity through triangulation (Creswell, 2007; Merriam, 2009; Stake, 2006; Yin, 2008).

Constant comparison inductive data analysis was the technique used to code the data until themes emerged to answer the research questions. Presentation of the interview findings appeared in data summary charts, with comparison to the supporting data from the participant information screenings, behavior checklists, windshield tours, and researcher field notes, memos, and reflections to provide narrative profiles of the participants and sites. Alignment of the emergent themes with constructs and categories and the theoretical framework helped to answer the research questions. The chosen research design fit Creswell's (2007) explanation:

> Case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information . . . and reports a case description and case-based themes. (p. 73)

Rationale

The SNAP-Ed *FSNE Guiding Principles* and government reports evaluating SNAP-Ed indicated the importance of designing interventions to address the specific needs of diverse SNAP populations, with specific emphasis on mothers (USDA, 2012a; USGOA, 2004). However, little information documented in the research was available to guide extension educators who provided SNAP-Ed services to the African American mother who qualified for food assistance. The public housing agency in one Midwestern urban county collaborated with the local extension SNAP-Ed coordinator to provide nutrition education for the residents, of whom 63% were African American (E. Shroud, personal communication, January 16, 2014).

Created to improve the quality of life of citizens through education, cooperative

extension services were early adopters of adult education theories, principles, and practices (Van

Hise, 1915). Using a community-based format, the cooperative extension services designed

educational experiences to address the needs of the community, recognizing differences in

diverse adult and child development and learning. Because of broad experience in adult

education and respect and presence in communities, extension was a natural conduit for

administering the federal SNAP-Ed program (USGAO, 2004). However, because SNAP-Ed was

a public program relying on government dollars, the program required mechanisms of

accountability documenting outcomes to justify its existence. As mentioned earlier, government

reports and reviews of SNAP-Ed recommended providers focus on improving program design,

delivery, and evaluation. The recommendations included providing developmentally appropriate

services; learner-focused, theory-based educational approaches; and context-sensitive services

(Ben-Shalom et al., 2012; USDA, 2008, 2012a; USGAO, 2004). These goals aligned with adult

education theories, practices, and principles and the cooperative extension mission and vision. A

paucity of research existed to provide insights into how to address the programmatic needs, and

even less research existed to assist extension educators seeking to provide interventions for low-

income African American mothers.

Significance

Research on SNAP-Ed programs loosely fell into two categories: quantitative studies that

statistically measured the physical characteristics of participants and qualitative studies that

recorded the perceptions of participants' characteristics. Few of the studies addressed the

specific perceptions of African American mothers who qualified for SNAP (Satia, 2009), a

significant population of concern for the extension educator charged with supplying SNAP-Ed

interventions for community agencies such as the public housing agency in the present study. The findings of this study had implications for providing insights into factors that potentially influenced the dietary habits of low-income African American mothers. Findings indicated how factors potentially influenced perceived self-efficacy and affected the dietary habits of the sample with the intent of assisting educators charged with designing culturally appropriate, learner-centered SNAP-Ed interventions.

Researcher Background

The researcher joined KSRE in 2003 as a nutrition educator hired to teach SNAP-Ed nutrition programs to SNAP-Ed adults an urban Midwestern city. Currently, she is a Family and Consumer Science county extension faculty who coordinates that SNAP-Ed program in the county and supervises SNAP-Ed nutrition educators. From the beginning of her tenure with this program, she struggled to find appropriate educational materials that addressed the unique cultural needs of low-income African American mothers. Using evaluations, personal conversations, and available research and curriculum, she began designing programs more appropriate for the audiences she served. She established a working relationship with agencies that provided services to SNAP-Ed audiences in the county, among which public housing was one of the larger agencies. While the SNAP-Ed outreach grew, the request for more culturally appropriate nutrition resources also continued to grow. As a researcher trained in adult education principles, the researcher desired to understand the perceptions of the learners regarding their dietary habits to help improve the educational interventions.

While the background of the researcher allowed her access to the population, it also had the potential to introduce researcher bias. Selecting participants from sites where the researcher had not personally provided direct nutrition education for the last five years minimized the

concern. The researcher also used bracketing (setting aside personal experience) and reflexivity (critically reflecting on self) to uncover any biases or assumptions potentially threatening the integrity of the study (Creswell, 2007; Merriam, 2009).

Assumptions

Several assumptions formed the foundation of this study. Based on Bandura's (1986) social cognitive theory, self-efficacy is associated with healthful dietary habits, and perceptions of behavioral, personal, and environmental factors reciprocally influence self-efficacy. A primary assumption was that tailoring a nutrition education program to the unique characteristics of the learners would increase the effectiveness of the program (Contento, 2011). The second assumption was the cultural context and experiences of the participants would influence their perceived self-efficacy or confidence in their ability to make healthy dietary choices. The final assumption was the participants would provide honest and open responses during all phases of the study.

Limitations

Limitations to this study included the conditions that potentially could weaken the research (Bloomberg & Volpe, 2012). For this study, the study included only low-income African American mothers who resided in public housing in an urban Midwestern city where about 26% of those receiving SNAP benefits were African American. The findings of this study cannot be generalized to all African American women or to all SNAP-Ed participants because of the small purposive sample of a unique population in a localized geographic area. CRT warns that marginalized persons are complex with multiple identities intersecting, known as intersectionality (Delgado & Stefancic, 2001). These findings may be useful as a catalyst to assist educators in identifying factors that may influence the self-efficacy of diverse learners.

Researcher bias presented the possibility of a limitation. The researcher was a life-long community member and the extension nutrition educator who coordinated the SNAP-Ed program in the county. On one hand, her personal history and community involvement provided credibility for gaining access to and building trust with participants. In contrast, her position potentially introduced researcher bias toward participants and their communities. Therefore, she used bracketing through field notes, memos, and reflections to mitigate the concern.

Despite the researcher's position in the community, the resident presidents (gatekeepers) needed to arrange the meetings with the participants, resulting in a controlled form of snowball sampling. The resident presidents were respected leaders at each site and were able to identify "information-rich" participants best suitable for the study (Creswell, 2007, p. 12). Participant responses were perceptions, not facts, and told only the story they believed to be true and wanted to reveal about their experiences (Bloomberg & Volpe, 2012). The researcher used the assurance of anonymity and an interview protocol designed to encourage participants to freely answer with honesty and frankness. The final limitation was that the study was theory-driven and the data analysis began with the theoretical framework, not the raw data collected (Yin, 2008).

Definitions of Key Terminology

Adult. According to Knowles (1970, 1980, 1989), an adult meets the following two criteria: (a) the person is in the role of an adult, or a role that has been seen as an adult role, such as a parent, and (b) when the concept of self changes from dependence to autonomy, the person becomes an adult (Knowles, Holton, & Swanson, 2011).

Adult education. Merriam and Brockett (2007) defined adult education as "Activities intentionally designed for the purpose of bringing about learning among those whose age, social roles, or self-perception define them as adults" (p. 8).

African Americans. These persons have origins in any of the Black racial groups of Africa (Rastogi, Johnson, Hoeffel, & Drewery, 2011). This includes people who indicate their race as Black, African American, or Negro, or provide written entries such as African American, Afro-American, Kenyan, Nigerian, or Haitian.

Behavioral factors. According to social cognitive theory (SCT), behavioral factors include knowledge and skills that one possesses and that potentially influences perceived self-efficacy (Bandura, 1986, 1994). In nutrition education this includes factual information (food and nutrition knowledge), procedural information (how-to knowledge), and behavioral skills (meal planning, purchasing, and preparation ability) (Contento, 2011).

Convenience/gasoline shops. These are small stores stocking goods consumers purchase often, immediately, and easily (Lee et al., 2010; Powell et al., 2007).

Dietary habits. Contento (2011) defined these as automatic or routine behaviors that comprise one's food choices, such as meal planning, food purchasing, meal preparation, money management, and consumption behaviors.

Discount dollar stores. These are neighborhood discount stores that stock packaged food and other items (Lee et al., 2010; Powell et al., 2007).

Discount supermarkets. These are small to medium sized, low-cost, limited inventory supermarkets (Lee et al., 2010; Powell et al., 2007).

Environmental factors. In SCT, environmental factors include external social and physical factors that potentially influence an intended behavior (Bandura, 1986, 1994). In nutrition education environmental factors include social structures (family and cultural systems) and physical structures (built environment, financial resources, and food accessibility) that influence dietary habits (Contento, 2011).

Food desert. According to the USDA (n.d.), a food desert is an urban neighborhood or rural town that lacks access to fresh, healthy, and affordable food. Food deserts are low-income communities with a poverty rate of 20% or greater or a median family income at 80% of the area median income. The term includes low-access urban communities with a population who live more than one mile from a supermarket or large grocery store. For non-metropolitan communities, the population lives more than 10 miles from a supermarket or large grocery store.

Grocery stores. These are neighborhood stores located in small to medium sized market areas (Lee et al., 2010; Powell et al., 2007).

Large supermarkets. These full-service grocery stores include a pharmacy, meat department, salad bar, full-service bakery, and deli/meal departments; are 50,000-92,000 square feet in size, and are usually in large retail shopping areas (Lee et al., 2010; Powell et al., 2007).

Low-income. These are individuals eligible for SNAP, the Supplemental Food Assistance Program. Eligibility is based on gross income. Households with a monthly gross income of 130% of the poverty level ($2422 for a family four) qualify for SNAP benefits. Seniors and those with disabilities are exempt from the gross income limit but must have assets less than $3,250 (USDA, 2012a). (Eslami, Filion, & Strayer, 2011; Landers, 2007; USDA, 2012a).

Nutrition education.

 Nutrition education is defined as any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food- and nutrition-related behaviors conducive to health and well-being and delivered through multiple venues, involving activities at the individual, institutional, community, and policy levels." (Contento, 2011, p. 14)

People of color. According to APA manual supplemental material, *non-White* implies a standard of comparison and is imprecise ("Supplemental Material," n.d.). Using *minority* as a substitute is pejorative. For this study, *people of color* is more appropriate, recognizing that not all people of color universally prefer the term (Milner, Pearman, & McGee, 2013).

Perceived self-efficacy. This refers to

People's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses. (Bandura, 1986, p. 391)

Personal Skills. According to SCT, personal skills include cognitive processes, such as attitudes, beliefs, values, and emotions (Bandura, 1986, 1994). In nutrition education personal factors include thoughts and feelings about expectations and outcomes from engaging in a dietary behavior (Contento, 2011)

Resident president. In this study, he resident president is elected by peers at a public housing site to serve as the leader of the resident association that addresses issues within the housing complex. The resident president also represents the local unit on the housing administration governing board.

Small supermarkets. These full-service grocery stores have 40,000-63,000 square feet and are in highly populated areas (Lee et al., 2010; Powell et al., 2007).

Soul foods. According to Kittler and Sucher (2008), such foods include "Southern Black cuisine, such as pork ribs and greens" (p. 5). In this study, soul foods also included chittlins (pork intestines), hog maw (pork stomach), pig ears and feet, neck bones, fried foods, rolls/cornbread, sweet potato dishes, fish, and pies and cakes made from scratch.

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Supplemental Nutrition Assistance Program (SNAP) eligibility. Calculation of eligibility for food assistance requires use of the federal poverty line. To qualify in 2012, a single person had to have income under $11,170 annually or under $23,050 for a family of four (Simon & Chrisman, 2012).

Wholesale clubs. These are grocery stores with full-service departments, such as pharmacy, bakery, and floral, and that sell bulk items at discount prices but require purchase of a membership (Lee et al., 2010; Powell et al., 2007).

Windshield tour. A windshield tour is a drive through a neighborhood, that enables the researcher to observe and record from the vehicle, environmental information that might influence a phenomenon (McGuirt, Jilcott, Vu, & Keyserling, 2011).

Women, Infants, and Children (WIC). This is an entitlement program for low-income pregnant women and women with infants and children up to age five who are considered to be at risk nutritionally. WIC participants receive vouchers for approved food items redeemable only at approved stores (USGOA, 2004).

Summary

This chapter was an overview of the qualitative bounded multi-site case study exploring factors theoretically linked to self-efficacy that affected the dietary habits of low-income African American mothers. The chapter had explanations of the background of the study rooted in the partnership between Cooperative Extension and SNAP-Ed. Discussion included the background, problem statement, purpose statement, research questions, research design, rationale, significance, researcher background, assumptions, limitations, and definitions of key terminology related to this study. The next chapter contains a review of the literature informing this study.

Chapter 2 - Literature Review

The purpose of this multi-site bounded case study was to explore factors theoretically linked to self-efficacy that affected the dietary habits of low-income African American mothers, a high-risk SNAP-Ed sub-population. Framed in social cognitive theory (SCT) and critical race theory (CRT), the study had implications for assisting extension educators in the development of future SNAP-Ed interventions for the population. According to Roberts (2010), the goal of the literature review is to provide the historical context of the study by locating, analyzing, and organizing previous research related to the study.

Two segments in this literature merged to frame the context of the study: (a) nutrition education research, theory, and practice, and (b) adult education research, theory, and practice. A review of the nutrition literature provided an understanding of the context, history, structure, rules, and regulations guiding the design of SNAP-Ed interventions for the population. The adult education literature provided the context for understanding what factors the African American low-income learners perceived as influencing their self-efficacy regarding their dietary habits. During this examination of relevant nutrition and adult literature, the review was an exploration of the interconnectedness between the potential factors influencing the dietary behaviors of low-income African American mothers and their perceived self-efficacy, thus informing the theoretical framework that guided the study.

Nutrition Education Research

In response to national concerns about the relationship of obesity to increased chronic disease, nutrition scholars have examined the dietary habits of the general public and subpopulations with socioeconomic, ethnic, and racial differences. According to the Healthy Eating Index, only 10% of Americans regularly eat diets recommended by the U.S. Dietary

Guidelines, and low-income African Americans have the highest obesity rates and the lowest Healthy Eating Index scores (Basiotis, Carlson, Gerrior, Juan, & Lino, 2002). Current researchers began to address disparities in health and wellness among members of the population, factors that influenced positive dietary habits, and strategies to improve the educational interventions encouraging healthy lifestyle behaviors (Bahr, 2007; Ben-Shalom et al., 2012; Satia, 2009).

As the racial and ethnic demographics of the United States shifted, concern about health and disease disparities among people of different races, ethnicities, and socioeconomic brackets became a focus of public health and nutrition research, practice, and policy (Adler & Rehkopf, 2008). During the 2008-2050 year period, projections suggest the Hispanic portion of the U.S. population will rise from 15% to 30%; Asians from 5% to 9%; American Indians and Alaskan Natives from 1.6% to 2%, and African Americans from 14% to 15% (Satia, 2009). Despite the long history of racial oppression for African Americans in U.S. society and their significant percentage of the population, little research addressed factors that affected the dietary habits of the African American population. Much of the research had a basis in studies that collected survey data measuring variables of dietary behaviors to understand the dietary behaviors of people (Bahr, 2007; Ben-Shalom et al., 2012; Strayer et al., 2012).

The National Health and Nutrition Examination Survey (NHANES), from which many nutrition research studies, educational practices, and policies emerged, was a cross-sectional nationally representative survey of the U.S. civilian, non-institutionalized population. The survey was the most comprehensive approach for national dietary surveillance in the U.S. (Nebeling, Yaroch, Seymour, & Kimmons, 2007). The Behavioral Risk Factor Surveillance System, (BRFSS), also widely used, was a telephone survey conducted regularly by state health

departments in collaboration with the CDC (Kansas Department of Health and Environment, 2010). The BRFSS provided states with estimates of behaviors related to the leading causes of death among adults in the United States (Blanck, Gillespie, Kimmons, Seymour, & Serdula, 2008). Using the surveillance tools, researchers identified patterns in African American dietary habits that potentially placed them at greater risk for chronic illness (CDC, 2005, 2007).

According the BRFSS, only 21.3% of African Americans consume fruits and vegetables five or more times a day, the lowest of any U.S. racial or ethnic group (Satia, 2009). According to the NHANES, non-Hispanic Blacks were 43% less likely than were European Americans to meet the USDA fruit and vegetable guidelines (Satia, 2009). Adequate intake of fruits and vegetables reduces the risks of chronic diseases (Basiotis et al., 2002; USHHS, 2010). These results raised concern about disparities in health and diet-related issues. The first legal definition of health disparities was in the Minority Health and Health Disparities Research and Education Act, which authorized the National Center for Minority Health and Disparities to identify health disparities. The following definition guided the identification: "A population is a health disparity population if there is a significant disparity in the overall rate of disease incidence, prevalence, morbidity, mortality, or survival rates in the population as compared to the health status of the general population" (Pub L No 106-525, 2000).

Dietary disparities are a significant factor in health disparities and have links to higher morbidity and mortality rates, increased chronic disease, and obesity (Adler & Rehkopf, 2008; Mabli et al., 2013). The 2010 Healthy People initiative set out to tackle these disparities as its primary goal (USHHS, 2000). Although the national studies such as NHANES, Healthy Eating Index, and BRFSS show clear disparities in the dietary habits of African Americans, some

researchers questioned the validity of using the data as the primary source for developing nutritional interventions (James, 2004; Satia, 2009).

Satia (2009), who has conducted several studies on African American populations, warned that nutrition educators must recognize the complexity of factors that contribute to disparities before designing nutrition education programs and policies. Racial inequality, age, sex, employment status, education, income, and family structure all have influenced dietary habits with varying outcomes (Eyler, Haire-Joshu, Brownson, & Nanney, 2004; Kayrooz, Moy, Yanek, & Becker, 1998; McClellan, Demark-Wahnefried, Mustian, Cowan, & Campbell, 1998). Some of the studies concentrated on the differences within the African American population.

In a study of the intake and risk of coronary heart disease, Lancaster, Watts and Dixon (2006) found cultural differences in the dietary habits between African Americans born on U.S. soil and African Americans born on foreign soil. Participants in their study born on U.S. soil had higher intakes of energy, fat, protein, meat, added sugars and sodium and lower intakes of fruits, fiber, and most micronutrients (Lancaster, Watts & Dixon, 2006). Immigrant participants in the same study had lower chronic disease risk factors (Lancaster, Watts & Dixon, 2006). Other studies concentrated primarily on understanding the factors influencing dietary choices.

Stewart, Hyman, Frazão, Buzby, and Carlson (2011) found that low-income individuals could afford the daily recommended fruits and vegetables only if they had the motivation and skills to carefully budget for such foods. Gibson (2012) examined the impact of limited access to supermarkets on the food purchases of SNAP recipients. She found that those who lived in neighborhoods with a high density of small convenience shops and grocery stores spent more of the food budget at grocery stores and fast food restaurants. These residents also made less major grocery shopping trips, and had a greater likelihood for obesity. On the other hand, those who

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lived in neighborhoods with a high density of supermarkets and restaurants made more major shopping trips, made less fast food purchases, and had a lower likelihood of obesity (Gibson, 2012).

Besides demographic, cultural, and physical environmental factors, researchers also suggested psychosocial factors contributed to the dietary habits of African Americans. Studies found the knowledge of dietary recommendations, beliefs about self-rated health, and belief in a correlation between diet and disease influenced dietary choices (Campbell et al., 1998; Satia, 2009; Satia, Galanko, & Siega-Riz, 2004; Van Duyn et al., 2001; Watters, Satia, & Galanko, 2007). Perceived self-efficacy gained attention as researchers explored how confidence in the personal ability to make healthy choices had links with actual fruit, vegetable, and fat intake (Campbell et al., 1998; Campbell et al., 1999; Van Duyn et al., 2001; Watters et al., 2007; Watters, Satia, & Kupper, 2008). Most of these studies relied heavily on quantitative data, with less emphasis on listening to the voices of the people as they described the values, beliefs, and attitudes that undergirded their reported behaviors.

Nutrition researchers traditionally based program recommendations on various theoretical models used to help identify factors that influenced the dietary habits of African Americans (Contento, 2011). Nutrition educators applied the transtheoretical model, health belief model, and stage change theories to develop interventions encouraging positive dietary practices (Contento, 2011). Such theories concentrated on how to encourage behavioral change and positive outcomes. Other researchers, concerned about the unique characteristics of African Americans, drew from other theoretical models to understand the dietary habits of the population.

For instance, using the PEN-3, which centralizes culture as the main reason for health behavior and the main consideration for health interventions, James (2004) concluded that African Americans needed more nutrition knowledge and skills and educators should develop programs for churches, neighborhood grocery stores, and local restaurants. Thrasher, Campbell and Oates (2004) used the optimal matching theory to examine how emotional and social support might influence the health behaviors of African Americans, concluding that self-efficacy was mostly independent of social support, and understanding the support systems would aid in program development. The objective of these studies, however, was not to understand factors that potentially influenced perceived self-efficacy and how these factors affected dietary knowledge, skills, or social support.

Consideration of disparities and sensitivity to factors influencing dietary habits led other researchers to study the impact of specific interventions on the dietary habits of African Americans. Over two years, following a 20-month intervention, The Black Churches United for Better Health Project, involving 50 churches in 10 North Carolina counties, recorded an increase in fruit and vegetable consumption among rural African Americans (Campbell et al., 1999). The Body & Soul National Cancer Society-approved intervention recorded initial success in increasing fruit and vegetable intake among African Americans. However, dissemination of the program through African American churches, without the researchers' support, did not achieve the same impact (Allicock et al., 2012). Both these studies addressed only specific geographic locales and recommended additional research to understand the unique characteristics and complex situations of African Americans before designing nutrition interventions, especially community-based programs.

A significant amount of nutrition education programs sponsored by the USDA occurred in community settings, of which cooperative extension was a key program provider. Some educators approached nutrition education from an information dissemination perspective, disregarding internal or external factors potentially influencing behavior (Contento, 2011). Other nutrition educators acknowledged the role external factors played in the adoption of healthy practices and recognized the reciprocal relationships among personal, behavioral, and environmental factors that influenced dietary habits (Bandura, 1994, 2004; Sheeshka et al., 1993). The explanation of the concept was in Contento's (2011) definition of the nutrition educator's role as providing any "combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food- and nutrition-related behaviors conductive to health and well-being and delivered through multiple venues" (p. 14), including community-based programs such as SNAP-Ed. When nutrition educators acknowledged the disparities existed, the tendency was to place all the responsibility for change on the learner, creating a blame-the-victim culture (Bahr, 2007; Contento, 2011; Yosso, 2005).

Most authorities agreed on the need for multiple strategies to address the disparities because of the diversity of the learners receiving nutrition education, particularly SNAP-Ed interventions. As mentioned earlier, African American mothers were disproportionately represented among the poor, were at greater risk of chronic disease, and reported inadequate intakes of healthful foods (Bahr, 2007; Ben-Shalom et al., 2012). The grim statistics tempted educators to use a deficit approach when developing SNAP-Ed programs. To avoid the deficit approach when developing programs for adults, Merriam et al. (2007) recommended considering the social context of adult learning, the learning environment, and the adult learner.

For the low-income African American mother, the social context of learning consisted of personal (lack of financial and human supports), behavioral (lack of knowledge or skills), and environmental (racial or economic barriers and geographic locations) factors (Rogers & Hansman, 2004). According to Bandura (2004), all such factors influence the learner's perceived self-efficacy and confidence in making dietary choices. The implication suggested strategies to improve dietary outcomes must address the internal and external factors influencing the learner's perceived self-efficacy and confidence in the ability to make positive dietary choices. In other words, the educator should attempt to understand the potential factors that influenced the perceived self-efficacy of the learner before designing a nutrition education intervention.

Merging Nutrition and Adult Education

Adult education theories and practices traditionally address the learning and development of diverse learners (Hoare, 2006). The theories provide a foundation for understanding factors that potentially influence perceived self-efficacy and affect the dietary habits of the low-income African American mother (Stubblefield & Keane 1994). Contento (2011) explained the importance of theory in nutrition education appropriate for community-based nutrition education. Nutrition education needs theory to guide its work. Theory provides nutrition educators with a mental map derived from research evidence to help them design strategies likely to be effective.

Historically, nutrition educators used a collection of theories, such as the trans-theoretical model, health belief model, and change theories garnered from different disciplines to address specific goals and audiences. As members of the public health community, nutrition educators developed within the healthcare arena apart from the adult education community that developed in the education and psychology disciplines (Daley, 2011). However, today the two fields are

viewed as complementary and necessary to address the increased health disparities (Coady, 2013). According to Hill and Ziegahn (2010),

> The field of adult education is critical to the creation of learning environments in which members of communities, poor and rich alike; scientists, and health care providers and policy makers can engage in dialogue at many levels to disentangle the layers of social, economic, and scientific factors that influence health and wellness. (pp. 296-297)

The following discussion reviews the adult education principles, theories, and practices related to the learning and development of African American mothers. Maslow (1970), the father of humanist psychology, believed that humans have basic needs they must meet before they can mature or be self-actualized. On Maslow's hierarchy of needs, the person must perceive that physiological needs—hunger and thirst—are met before the person can move up the hierarchy to belonging and love, self-esteem, and finally self-actualization. The creation of SNAP and SNAP-Ed grew from the assumption of food security as a basic need of the poor (Landers, 2007; Mabli et al., 2013). The intent of providing food security was to meet this basic need and improve the quality of life of those most vulnerable in society.

Early SNAP research showed that increasing the purchasing power of food did not increase consumption of healthy foods among low-income populations (L. Bell et al., 2006; Gleason et al., 2000; Guthrie et al., 2006; Landers, 2007). SNAP-Ed creators assumed that education would improve the dietary habits of SNAP recipients. Recommendations for those administering the program included designing theory-based, learner-focused, culturally sensitive programs (USGOA, 2004; USDA, 2012a). Nutrition educators designing curriculum reached into adult education principles to address the recommendations.

Andragogy, one of the oldest traditions in adult education, recognized that adults learned differently than children (Knowles, 1970, 1980, 1989). Knowles established four assumptions, which he later expanded to six. The six assumptions have undergirded most theories, approaches, and perspectives in adult education.

1.   Adults are self-directed;

2.   Adults bring a reservoir of experiences to the learning environment;

3.   Adult learning must be relevant;

4.   Adult learning must be problem-centered, not subject-centered;

5.   Adults are internally motivated; and

6.   Adults need to know why they need to learn something (Knowles, 1970, 1980, 1989; Merriam et al., 2007; Pratt, 1993).

The central theme of andragogy was that the internal and external experiences of the adult learner influenced the effectiveness of the learning experience. The experiences the learner brought to the classroom affected motivation, initiative, and engagement. The learners' experiences might be personal, social, or environmental. For African American learners, experiences could involve using "indigenous learning" (Merriam et al., 2007, p. 33) by incorporating cultural forms of learning into the program. For example, storytelling is a common teaching tool in African American tradition and adult educators have used storytelling as a springboard to engage reluctant learners and increase participation (Johnson-Bailey, 2010). Brennan (1997) provided a four-stage process for recognizing and applying indigenous learning for effective educational experiences.

1.   Identify techniques relevant to the learning and development of the adults,

2.   Classify these techniques into a system other educators can understand and apply,

3.	Advocate for a broader understanding of the indigenous system, and

4.	Develop a more detailed learning system for the cultural group.

Currently, no recommended SNAP-Ed interventions apply indigenous learning strategies for African American learners, although such interventions exist for Native American children (SNAP-Ed Connection, 2013). SNAP-Ed asked educators to incorporate strategies such as indigenous learning into programs and interventions and share the outcomes with others. One venue for sharing was the SNAP-Ed Connection website at http://snap.nal.usda.gov/.

Some adult educators believed listening to the learner was the first step to providing culturally sensitive, learner-focused nutrition interventions. Recognizing the power of knowledge to spark change in individuals and communities, Freire (2009) used dialog to raise awareness about social factors limiting transforming behavior. He challenged educators to abandon the "banking" method of dispersing knowledge for the "problem-posing" method that enlisted the learner's rich experiences (Freire, 2009, p. 79). Sheared (1999) expanded on this concept by encouraging educators to give voice to low-income African American women. Vella (2002) used dialog in over a dozen settings as a pathway to identify the values and symbols that defined a culture and enhanced learning. Norris (2003) translated these adult education principles into a guide that trained community educators, including SNAP-Ed paraprofessionals, to use a dialogue approach to teaching.

Other adult educators warned that delving into teaching, even while engaging in dialog with learners, was premature. Caffarella and Daffron (2013) recommended nutrition educators conduct an extensive needs assessment that could include dialog with learners but would also include planning, developing, implementing, and evaluating the educational program. For diverse audiences such as low-income African American mothers, Wlodkowski (2008) suggested

program developers use a motivational framework to design culturally responsive educational programs. The framework included strategies built into the lesson design to ensure successful outcomes for the learner and included establishing inclusion, developing attitude, enhancing meaning, and engendering competence.

The framework also considered the external factors that might influence motivation. Theoretically, a SNAP-Ed educator who understood the economic and social characteristics of the learner and approached program development with a culturally responsive mindset had a good foundation for developing a SNAP-Ed program to meet the needs of the low-income African American mother. However, neither Caffarella and Daffron (2013) nor Wlodkowski (2008) addressed how the educator could learn to understand the behavioral, personal, and environmental factors that influenced and motivated the adult learner. The educator needed to know such information before designing an educational intervention. Understanding factors that affect the basic characteristics of adult learners is a prerequisite to designing educational programs to address the needs of audiences (Contento, 2011; USDA, 2012a).

The health belief model was one of the earliest conceptual models to address health behavior because it proposed that individual readiness to act was rooted in personal beliefs and convictions about health (Contento, 2011). Recognizing that intentions are thoughts of doing an action and motivation is the internal force that results in the action, research showed that strong intentions must be present to motivate people to eat more healthfully (Anderson et al., 2007; Bandura, 2004). For example, a person changed a dietary habit because she believed it was a threat to her health. Many emotions and beliefs compete with intentions and the health belief model does not consider other internal or external explanations for the behavior of learners, such as motivation (Contento, 2011). On the other hand, the theory of planned behavior suggested

intentions determined behaviors that were influenced by attitudes, social norms, and control over behavior; thus increasing motivation. Both of the theories espoused behavior change as occurring from the inside outward, generated internally. However, they did not address factors that potentially influenced the attitudes, beliefs, and values affecting behavior change. Planning educational programs based on conceptual models and educational approaches ignored what might affect the readiness of the learner to learn.

According to Hoare (2006), "Adult development means systematic, qualitative changes in human abilities and behaviors as a result of interactions between internal and external environments" (p. 8). Years ago, experts believed physical, mental, and social development occurred only during childhood. More current research confirmed that development continues throughout the life span (Hoare, 2006). Change and growth are individual, unique, and varied and researchers developed numerous theories, approaches, and strategies to explain the phenomenon. Merriam et al. (2007) summarized three perspectives to the developmental characteristics of adults that applied to this study: (a) biological, (b) psychological, and (c) sociocultural and integrative, and then loosely grouped theories, models, and approaches within these perspectives.

Biological Perspective

First, the biological perspective focused on the role of nature in human development and the physical and biological changes that occur during the life span. Numerous theories attempted to explain the aging process: why it affected some differently than others. The theories also attempted to understand the biological characteristics of people in different cultures (Merriam et al., 2007). Although SNAP-Ed guidelines preferred prevention interventions rather than disease-specific education, biological characteristics are important when nutrition educators teach dietary

habits that prevent or retard degenerative diseases such as osteoporosis, macular degeneration, and memory loss.

Biological characteristics also applied for nutrition educators teaching African Americans, who tended to have higher rates of hypertension and diabetes (CDC, 2005; USDA, 2012b). However, some researchers have dismissed the belief that genetics primarily determine racial differences in health and nutrition (Hayward, Crimmins, Miles, & Yang, 2000; Kong, Kong, & McAllister, 1994). Less than 1% of deaths among African Americans result from heredity characteristics (Leigh, 1995), so the biological perspective is questionable as an effective approach for designing, implementing, and evaluating nutrition programs for African American populations. SNAP-Ed educators need to avoid biases that result in deficit-driven educational interventions rather than strength-based programs (Bahr, 2007; Yosso, 2005).

Psychological Perspective

Second, the psychological perspective included the most frequently studied developmental theories focused solely on the internal process of development. Erikson's (1963) eight-stage linear theory of development is the most popular. The theory begins at birth and offers opposing issues that require choices influencing an individual's positive progression to the next stage. According to the theory, the African American mother is in either Stage 5, identity vs. role confusion, or Stage 6, intimacy vs. isolation (Merriam et al., 2007). This information about stage placement for African American mothers provides few clues about perceptions of factors that might influence their dietary habits.

Recognizing race as a factor that influenced attitudes, actions, and behaviors, Cross (1971), a pioneer in studying how racial identity affected behavior, developed an African

American racial identity model. Several identity models later emerged to explain the well-being of racialized populations. In general, the models shared the following similar characteristics:

1. In a supportive environment, identity moves toward a positive self-image based on parents' worldview;

2. Upon realization of marginalization, a negative self-concept emerges;

3. Questioning dominant culture assumptions leads to resistance, anger, or hostility;

4. Redirected resentment leads to reclaiming culture and rejecting dominant culture, and

5. A complex identity emerges that blends racial identity with other social identities (Smith & Taylor, 2010).

According to proponents of racial identity models, the learner's position along the racial identity scale influenced behaviors and interpersonal relationships. In a SNAP-Ed program, the perception and reception of the educator might arise from where a participant falls on the racial identity model, thereby affecting the effectiveness of the educational intervention. Or, he way the learner perceives her racial identity may affect her dietary habits.

While attitudes about racial identity might explain some internal challenges to learning during a SNAP-Ed intervention, identity theories did not deal with economic and environmental factors that might also influence the learner's perceived self-efficacy or ability to make healthy choices leading to maturity and positive life outcomes. Some nutrition educators found using the transtheoretical model helpful because it offered stages of readiness to change, with the intent of helping educators design nutrition interventions based on the learner's needs at each stage: precontemplation, contemplation, preparation, action, and maintenance (Wright et al., 2009). One study resulted in findings that suggested predictability of some dietary habits, such as fat

intake, based on the learner's stage of readiness. However, as with earlier stage and identity theories, the transtheoretical model failed to adequately address economic and environmental factors that potentially influenced behavior.

Sociocultural Perspective

A sociocultural perspective to understanding adult characteristics addressed the social issues ignored in most biological and psychological approaches, such as age, race, gender, ethnicity, socioeconomic status, and sexual orientation. As mentioned earlier, nutrition research identified race as one social factor influencing African Americans, and SNAP-Ed educators needed to pay special attention to race when working with African Americans (Bahr, 2007; Ben-Shalom et al., 2012). While racial differences had been the subject of studies regarding disparities in health, the causes of the differences were not clear (Bahr, 2007; Ben-Shalom et al., 2012). Some scholars ruled out heredity as a probable cause; other research suggested social economic status (SES) explained the racial gap in health (Ben-Shalom et al., 2012). Using the California Dietary Practices Survey (CDPS) and controlling for SES, Bahr (2007) investigated racial differences in health-related nutritional behaviors. His findings suggested culture and knowledge were primary reasons African Americans consumed less fruits and vegetables than the general population. The findings also suggested an association between racial residential segregation and community nutritional infrastructure and health-related habits (Bahr, 2007).

Social Cognitive Theory

Social cognitive theory (SCT), a prominent theory in the social-cultural perspective, addresses the relationships among behavioral, personal, and environmental factors. A beginning assumption of SCT is that people gained knowledge and developed habits through observation

and imitation of others. In this case, African Americans learned their dietary habits by watching and imitating others within their culture. Although Miller and Dollard's 1940 studies concluded that imitation must follow observation before learning occurs (Merriam et al., 2007), Bandura (1986) separated observation from imitation in his cognitive studies. He believed people could learn vicariously from observation. SNAP-Ed participants could conceivably learn from those within their culture, from imitating the instructor, and from the visual and audio images in the curriculum depicting desirable dietary habits.

Bandura's (1986) SCT emerged as an attempt to explain human behavior as neither totally driven by internal forces nor controlled by external stimuli. Bandura's experiments addressed the weakness of the psychodynamic and behaviorist theories. Psychodynamic theorists, such as Erikson (1963), believed cognitive drives, impulses, and instincts controlled behavior. Behaviorist theorists, led by Skinner (1971), believed external environmental stimuli had the greatest influence on behavior. Bandura rejected both viewpoints and developed a theory explaining human behavior through a triadic reciprocality of personal, behavioral, and environmental factors that influenced perceived self-efficacy and self-regulation. A closer look at the elements of Bandura's theory provided a framework for understanding how factors that potentially influenced the perceived self-efficacy of low-income African American mothers affected their dietary habits.

Bandura (1986) believed five basic capabilities unique to SCT defined human nature: symbolizing, forethought, vicarious, self-regulatory, and self-reflective. The symbolizing capability described a person's abilities to process and internalize brief experiences by turning them into useful guides that determined future action. Beginning at infancy, a person learned to determine a future action based on sensory experiences that might or might not seem rational.

The forethought capability recognized that a person's behavior was purposeful, based on anticipated consequences with the ability to motivate and guide behavior. Through forethought, people translated future consequences into self-regulatory strategies that incited behavior.

Vicarious capability referred to the person's capacity to learn through observation. Unlike earlier theories that suggested learning occurred only through trial and error, Bandura demonstrated that through vicarious experience, people learned to control behavior. The self-regulatory capability recognized that people acted in their own interests and not only in response to environmental stimuli. Through self-regulation, people arranged environmental conditions, used cognitive guides, and designed personal incentives based on individual motivation and behavior. The self-reflective capability enabled people to analyze their actions and knowledge. Using self-reflection, they filtered experiences through their knowledge base and developed general knowledge about themselves and their world. Bandura believed people have some innate abilities, but for the most part, capabilities developed over time, increasing the importance of learning (Bandura, 1986).

By acknowledging the capabilities of human nature in conjunction with innate biological limits, Bandura (1986) departed from dualist psychological models of Erickson and Skinner suggesting human nature was fashioned by either biological factors or environmental factors. He rejected beliefs that only present or past external stimuli influenced behavior. He also rejected the notion that behavior was solely the product of personal determinism such as instincts, drives, and motivation. Even theories that acknowledged an interaction between the personal and environmental factors on human behavior were problematic for Bandura, who believed personal and environmental determinants did not operate independently.

Instead, Bandura (1986) theorized environmental stimuli influenced personal beliefs and values, resulting in any given behavior. However, the behavior also influenced the environment and altered personal beliefs. Thus, Bandura introduced a triadic reciprocality among the personal, behavioral, and environmental factors or determinants influencing human behavior. Bandura defined determinants as factors that were probabilities, not inevitabilities. Personal factors included thoughts and feelings, behavioral factors referred to knowledge and skills, and environmental factors included external physical and social influences. Bandura stressed that reciprocality may involve bidirectional influence, but did not mean simultaneity of influence.

SCT was the most widely used theory to develop nutrition and health promotion programs because it provided a framework for understanding the factors that influenced behavior and the potential mediators useful to design strategies to encourage behavior change (Contento, 2011). In recent years, Bandura (1998, 2004) applied SCT to health promotion and disease prevention by outlining the key determinants, the means through which they work, and the best ways to translate knowledge into positive health habits. In 1995, Bandura presented his perspectives on health promotion and SCT at the annual Society of Behavioral Medicine conference (Bandura, 1998).

Nutrition educators began focusing on the SCT determinants when designing nutrition education interventions. The key determinants related to positive dietary habits included personal knowledge, perceived self-efficacy, outcome expectations, goals, and perceived facilitators (Bandura, 2004; Contento, 2011). Anderson et al. (2007) concluded that social cognitive factors, especially self-regulation, provided a powerful tool for counteracting the environmental and social factors leading to poor dietary habits.

Since its inception, the primary purpose of SNAP-Ed was to provide nutrition education with the goal of effecting positive dietary outcomes (Blumental, 2012; Landers, 2007; USDA, 2012a). Agencies such as signed contracts to provide financial and intellectual resources to administer educational interventions to SNAP-eligible audiences. As discussed earlier, studies showed that providing knowledge about nutrition did not guarantee positive behavior change (L. Bell et al., 2006; Gleason et al., 2000; Guthrie et al., 2006; Landers, 2007). For instance, the Behavioral Risk Factor Surveillance System (BRFSS) reported that from 1994-2000, the consumption of fruits and vegetables among American adults remained unchanged: a low proportion of people ate the recommended five servings a day. Consequently, the emphasis of nutrition education changed to outcome expectations, goal setting, and the strategies for simplifying the process (Contento, 2011).

Perceived self-efficacy for Bandura (1986, 1998, 2004) was the catalyst that affected the outcome expectations, goals, and perceived motivators. It was the ability to exercise control over personal health habits that could directly affect health behavior as well as influence other factors (Bandura, 2004). Self-efficacy involved confidence in personal skills and the ability to use those skills to complete an action. Self-efficacy was the confidence that a person had the ability to successfully complete an intended action and overcome any barriers. Bandura explained the knowledge of health risks and benefits created a precondition for change, but individual beliefs about the ability to change had the greatest influence on change and was foundational to motivation and action. According to Bandura's theory, individuals with stronger perceived self-efficacy set the higher goals and committed to achieving them. Strong self-efficacy also shaped a person's beliefs about positive outcomes from a behavior and confidence in overcoming obstacles to achieve goals (Bandura, 1986, 1998, 2004).

Because self-efficacy—people's judgments about their ability to take action, not the skills they possessed—influenced outcomes, Bandura (1986) identified four main sources of information influencing perceived self-efficacy: performance attainment, vicarious experiences, verbal persuasion, and physiological states. Knowledge from performance attainment was most influential because it came through personal experiences. Experiencing additional and continuing personal successes increased perceived self-efficacy. Others' experiences also provided information that affected perceived self-efficacy. Observing another's behavior provided a vicarious experience that led to increased or decreased perceived self-efficacy. Verbal persuasion included the influence on one's perceived self-efficacy from positive or negative appraisal. The physiological state that fed self-knowledge of one's self-efficacy included emotional reactions that often led to physical manifestations, such as fear producing tense muscles. Unless a person believed he or she had the power to produce a positive change, all other factors—personal, behavioral, environment—intended to guide and motivate behavior were ineffective (Bandura, 1986).

Perceived self-efficacy affects the personal beliefs, values, and attitudes that influence individual dietary habits. Wyker, Jordan, and Quigley (2012) found an association between perceived self-efficacy and barriers to consumption of fruits and vegetables among non-Hispanic European American and African American women. Yeh et al. (2008) noted self-perceptions about cooking skills and time to prepare meals deterred women from preparing healthy meals. Bandura (2004) noted the positive or negative self-evaluative reactions to personal health were key to understanding behavior. People did whatever resulted in self-satisfaction and positive self-worth. Therefore, when people recognized and valued that healthy habits were in their best interest, motivation was enhanced.

SCT held that perceived self-efficacy in the multiple thoughts and beliefs about oneself influenced behavior, as well. Forethoughts about past, present, or future capabilities influenced current behavior (Bandura, 1986). Such self-reflective and self-regulating thoughts were important in understanding motivations and outcome expectations. Outcome expectations could be physical, social, or self-evaluative; however, each form provided incentives or disincentives that influenced behaviors (Contento, 2011).

Physical outcomes included the positive and negative effects of an action and accompanying benefits or losses (Bandura, 1986, 2004). Some nutrition studies showed a negative medical diagnosis often resulted in a motivation to make dietary changes (Truong & Strum, 2005; Vineyard, Franck, & Burney, 2010). Social outcomes included the approval or disapproval from important relationships resulting from a nutrition behavior. A mother's concern about finding fruits and vegetables the family enjoyed often was a barrier to changing family menus (Wyker et al., 2012). Environmental outcomes included physical and sociostructural factors that influenced behavior. Often, with SNAP-Ed learners, the availability of healthy foods in neighborhoods, schools, and workplaces determined whether families could make the healthy choices they learned about in nutrition classes (Contento, 2011; Gibson, 2012).

The influence of perceived self-efficacy on the environment was unique because the person's goal-setting abilities could not alter all environmental factors. Physical, social, and political structures were set at a macro level within which individuals had to operate and conform. Policy decisions often determined access to healthful foods, and the person's beliefs about the environmental barriers influenced motivation to make positive dietary changes. If individuals with high perceived self-efficacy viewed environmental obstacles as surmountable, they would not easily give up trying to make positive behavioral changes. However, if the

perceived self-efficacy was low, the person was easily convinced that any attempts to change were futile (Bandura, 1998, 2004).

The discussion of environmental barriers raised the question of the role of real and perceived personal freedom in shaping perceived self-efficacy. Bandura (2004) acknowledged that many issues limited personal freedom. Deficiencies in knowledge and skills limited opportunities to achieve personal goals. Low perceived self-efficacy coupled with fear hindered some from attempting to engage in positive behaviors. Educators could counter such deficiencies and negative self-beliefs through educational interventions that instilled positive self-beliefs and taught knowledge and skills. Other limitations to personal freedom included socially embedded sanctions that restricted the freedom of "disfavored groups" (Bandura, 1986, p. 4). "Here, the alternatives available to a person are prejudicially limited by skin color, sex, religion, ethnic background, or social class, regardless of capabilities" (Bandura, 1986, p. 4). Because African Americans historically faced social limitations, the effects of environmental factors related to race were of special interest to educators designing nutrition interventions.

Bandura (1986) explained that personal and vicarious performance experiences, including the time and effort expended and external support received, all altered perceived self-efficacy. Comparative self-efficacy appraisals through inaccurate self-perceptions hindered the ability to attain successful outcomes. People who judged their ability using social comparisons risked self-limitation, especially if they internalized negative societal beliefs about their capabilities. Intertwined self-concept or esteem and self-efficacy contributed to quality of life. Bandura (1986) reminded educators the "Self-concept is a composite view of oneself that is formed through direct experience and evaluations adopted from significant others" (p. 409). The value the culture placed on a person's worth and ability influenced the individual's self-evaluation of

worth. Therefore, perceived self-efficacy concerned the personal and societal judgments of self-worth and abilities.

While SCT acknowledged that diverse sources of information gathered through personal experience, vicarious models, and social judgments influenced perceived self-efficacy, SCT did not address the unique factors influencing the perceived self-efficacy of African Americans in the United States, a population historically marginalized and trained in an educational system rooted in an anti-racist struggle (Ladson-Billings, 2009). The African American population fit Bandura's (1986) description of having lived experiences that limited the members' abilities to operate freely. African Americans had observed the effects of sanctions and policies on those who resisted conformity and had internalized self-limiting attitudes, values, and beliefs because of social judgments. Before educational programs could produce positive outcomes, Sheared (1999) reminded educators that they must allow for the lived experiences, values, and beliefs of the learners. Because African Americans lived in a racialized society, educators needed to understand the factors that potentially influenced the perceived self-efficacy of African American learners and how that affected their dietary behaviors before designing nutritional educational interventions. To facilitate such understanding, critical race theory (CRT) provided insights.

Critical Race Theory

Critical race theory (CRT) challenged educators to confront the effects of racism on those outside the dominant culture. CRT moved beyond discussions of the internal processes controlled by the learner to the external phenomena in society that contributed to oppression, injustice, or inequality and limited the opportunities of one segment of society while benefitting another segment of the society (Bell, D. 1987; Delgado & Stepfancic, 2001; Yosso, 2006). CRT

scholars redefined racism as "not the acts of individuals, but the larger, systemic, structural conventions and customs that uphold and sustain oppressive group relationships, status, income, and educational attainment" (Dixson & Rousseau, 2006, p. 4). Because the fundamental goal was to address the problem of inequality in education by any means necessary, CRT supported problem-centered research in which the problem determined the method and not vice versa (Dixson & Rousseau, 2006). Applying this goal to SNAP-Ed educators, rather than using the deficit model to frame the design of programs for low-income African American women, CRT provided a lens for observing how factors that potentially influenced the perceived self-efficacy of low-income African American mothers affected their dietary habits.

As a growing number of scholars in education began to question the validity of research conducted in communities of people of color without including their authentic voice, CRT provided a framework for giving voice to learners shaped within a society marred by vestiges of legalized discrimination. CRT grew from the need for adult educators to explain the lingering effects of institutional racism, discrimination, and oppression on marginalized learners. Adult educators reached across academic disciplines into legal studies and radical feminism to explore how the tenets, methodologies, and applications of CRT could be useful in combating biased educational pedagogies plagued with modern racism (Bell, D., 1987; Delgado & Stepfancic, 2001; Taylor, Gillborn & Ladson-Billings, 2009; Zamudio et al., 2011). Radical feminism introduced intersectionality to acknowledge the interaction of multiple identities—race, gender, class, and sexuality—experienced by marginalized persons (Zamudio et al., 2011).

Initially, CRT was a mechanism for arguing legal cases, but educators began to use it as an effective tool for explaining the inequalities of people of color (Bell, D., 1987; Ladson-Billings, 2009). In early debates, Bourdieu and Passerson (1977) theorized that knowledge was

social capital unequally distributed in a hierarchical society and thereby contributed to the disparity between the educational outcomes of middle class children and lower class children. Other scholars extended the argument to explain the disparity in social outcomes between African Americans and European Americans. For example, in explaining the differences in test scores between middle class children and poor children, Brah and Phoenix (2009) used CRT to claim that the difference was more likely the result of disparities in financial and social capital than of intellectual abilities. Kozol (1991) documented the disparities in the educational structures and school resources available to African American students and their European American counterparts, which limited the ability of the former to attain the mandated educational standards. As national attention focused on communities that lacked access to healthy food options, nutrition educators began to question the impact of economic, social, and political structures on the ability of poor residents to make positive dietary choices (Blumenthal, 2012, Gibson, 2012). Emerging research linked the stress of perceived racial discrimination to increased health problems, a concern of public health promoters (Manuel, 2004; Rosenberg, Palmer, Wise, Horton, & Corwin, 2002; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003).

CRT offered a mechanism for identifying and addressing structurally embedded environmental factors with the potential to contribute to the perceived self-efficacy of low-income African American mothers. Six tenets or themes often characterized CRT in legal studies (Bell, D., 1987; Dixson & Rousseau, 2006), but in education, particularly adult education, four of the themes emerged as essential to developing methodologies and applications for eliminating inequality among learners: (a) racism is endemic, (b) historical context is foundational, (c) narratives are important, and (d) interest convergence is essential (Taylor, 2009;

Zamudio et al., 2011). The following discussion describes each tenet and its relevancy to this study.

The first tenet of CRT is that racism is a normal but invisible power system embedded in the daily life of American society. CRT scholars believed racism provided a political, economic, and social advantage to European Americans that was invisible, making them oblivious to the experiences and perspectives of people of color (Taylor, Gillborn, & Ladson-Billings, 2009). CRT educators rejected colorblind educational approaches as examples of hegemonic ideologies that perpetuated European American superiority and dominance (Delgado & Stefancic, 2001; Ladson-Billings & Tate, 2009). The educators drew from the expertise of people of color to unearth forms of oppression and discrimination, believing that sterile statistics and traditional research, while necessary, lacked the "moral certitude, proficiency, and knowledge base" to sufficiently identify oppressive educational structures (Taylor et al., 2009, p. 5).

In education, this acknowledgment translated into recognizing that racism was central in understanding how to develop, implement, and evaluate effective educational programs for disempowered learners (Taylor, 2009). Nutrition resources written from a Eurocentric mindset but that included pictures of people of color without consideration of their cultural and diverse food patterns subtly communicated that the dominant mindset was superior. Such resources also ignored the positive habits of the underserved community (Kittler & Sucher, 1989).

The second tenet of CRT advanced that discussions of economic and social disparities among European Americans and people of color should take place within the historical context of societal discrimination, oppression, and inequality. This tenet jogged the collective memory of the nation to consider the historical effects of separate and unequal education on current academic gaps between European Americans and people of color (Taylor, 2009). Without an

historical lens, the conditions of the marginalized appeared as the consequence of their own choices (Rocco & Gallagher, 2004). Yet, viewed through decades of legalized oppression and false ideologies, the current gulf between the quality of life of European Americans and people of color, particularly low-income African Americans, emerged from the external structures contributing to the plight of poor people of color. Nutrition educators needed to examine the communities of the learners through the historical context of the built environment and social structure.

For example, Martin (2004) identified several socio-structural characteristics that historically had affected the type and quality of adult education in poor urban centers: racial prejudice, housing discrimination, residential segregation, and social isolation. When designing educational interventions for low-income African American mothers, the nutrition educator might ask, How does the history of the community influence access to healthful foods or the perceived self-efficacy of the SNAP-Ed learner to obtain healthful foods? How does this history contribute to the factors that influence the learner's perceived self-efficacy in the ability to make positive dietary behaviors? The tenet also served as a caution for educators tempted to use the deficit model when designing educational interventions for populations in which health and nutrition disparities exist.

The third tenet of CRT relied on the narratives of disempowered people to counter the stereotypes and myths of the dominant culture. Often referred to as storytelling or counterstorytelling, narratives provided a vehicle for the marginalized to challenge false ideology and hegemony (Johnson-Bailey, 2010; Yosso, 2006). As Delgado and Stefancic (2001) explained, "Powerfully written stories and narratives may begin a process of adjustment of our system of beliefs and categories by calling attention to neglected evidence and reminding readers

of our common humanity" (p. 43). Storytelling was a pedagogical tool that used listening

techniques to help educators better comprehend the perceptions and experiences of marginalized

learners (Taylor, 2009).

While research based on the NHANES and BRFSS surveillance systems tools identified

the inadequate dietary habits of Americans and the health disparities in racially and ethnically

diverse populations, they did not contain the voice of those surveyed to explain the factors that

influenced those habits (Blanck et al., 2008; Nebeling et al., 2007). As Taylor (2009) explained,

one purpose of the narrative was to "redirect the dominant gaze, to make it see from a new point

of view, what has been there all along" (p. 8). Banks (1993) defined the importance of narratives

by explaining their connection to perceived knowledge and suggested a person's interpretation of

experience and ability to function within the society influenced the person's knowledge. The

narratives offered nutrition educators insights into the factors that potentially influenced the

perceived self-efficacy and outcomes of the learners.

The fourth tenet, interest convergence, held that members of the dominant culture

supported eradicating biased policies and dismantling unjust institutions only if it benefited them

socially or financially (Delgado & Stefancic, 2001; Taylor, 2009). Based on the historical

treatment of other immigrants in the United States, interest convergence concluded that the

current educational progress of people of color occurred only when European Americans

perceived desegregation in American as non-threatening to their social, economic, and political

status (Taylor, 2009). This tenet was applicable when debates over the relevancy of the

Supplemental Nutrition Assistance Program (SNAP) surfaced. Currently, SNAP costs 1-2% of

federal and state budgets, and more European Americans receive public assistance than do other

populations (USDA, 2012a). However, despite the low cost of this food assistance program and

increasing European American participation, public support for the food assistance program is decreasing. "Some believe that the reason the public no longer supports welfare is that they see the recipients of welfare as having Black and Brown faces—even though more Whites receive welfare than do people of color" (Delgado & Stefancic, 2001, p. 110).

As budget cuts threatened the existence of SNAP and SNAP-Ed, the interest convergence tenet encouraged nutrition educators developing SNAP-Ed interventions to communicate its public value, not just during the recruitment of those who qualified for the program, but also during the promotion of SNAP-Ed to stakeholders. In Arkansas, every $1 spent in nutrition education resulted in $10.64 saved in healthcare costs (Ohri-Vachaspati, 2008). Other studies showed the recipients of SNAP-Ed education demonstrated improved self-efficacy and outcomes that resulted in positive dietary behaviors (Vineyard et al., 2010). This type of information, when shared with all local citizens, especially special interest groups, policymakers, and philanthropists, garnered support for agencies such as that relied on financial and social support to administer the SNAP-Ed program effectively.

The fourth tenet also was applicable as SNAP-eligible families considered their access to healthy foods. Some studies questioned the role of built environments on limiting the food choices of those in urban areas, especially those designed for the economic advantage of the dominant culture (Adler, & Rehkopf, 2008; Gibson, 2012; Manuel, 2004; Satia, 2009). Interest convergence implied that food outlets for people of color were scarce in areas with no social and economic benefit for European Americans. The tenet suggested attitudes about limited access to healthful food choices could influence perceived self-efficacy regarding the purchase and preparation of healthy foods.

Theoretical Framework

The four tenets of CRT complemented SCT by recognizing the impact of race on the educational experience of African Americans. Specifically addressing race in any educational discussion was important because, as Williams (1991) wrote, "It profoundly affects the way one is treated, so radically shapes what one is allowed to think and feel about this society . . . " (p. 256). As discussed earlier, nutrition interventions had used SCT to understand how perceived self-efficacy influenced the dietary habits of individuals because it specifically addressed the personal, behavioral, and environmental factors that shaped self-efficacy. While Bandura's (1986) early work acknowledged the impact of race on self-efficacy because of environmental policies and structures, no identified study had specifically examined how race affected the personal, behavior, and environmental influences in a person's life and impacted perceived self-efficacy to make positive dietary choices. Because of the historical role of race in shaping the values, beliefs, and attitudes of African Americans and their perceived self-efficacy regarding their ability to function in society, CRT opened a space for them to voice their perceptions of the personal, behavioral, and environmental factors that affected their dietary habits. Exploring these factors not only through the lens of SCT, but also through the lens of CRT provided insight.

Figure 1 illustrates the theoretical framework supporting this research study. The theoretical framework emerged from the guiding research question: How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? The sub-questions used Bandura's triadic reciprocality to explore the behavioral (knowledge and skills), personal (thoughts, beliefs, and feelings), and environmental

(physical, economic, and social) factors low-income African American mothers' perceived as affecting their dietary habits.
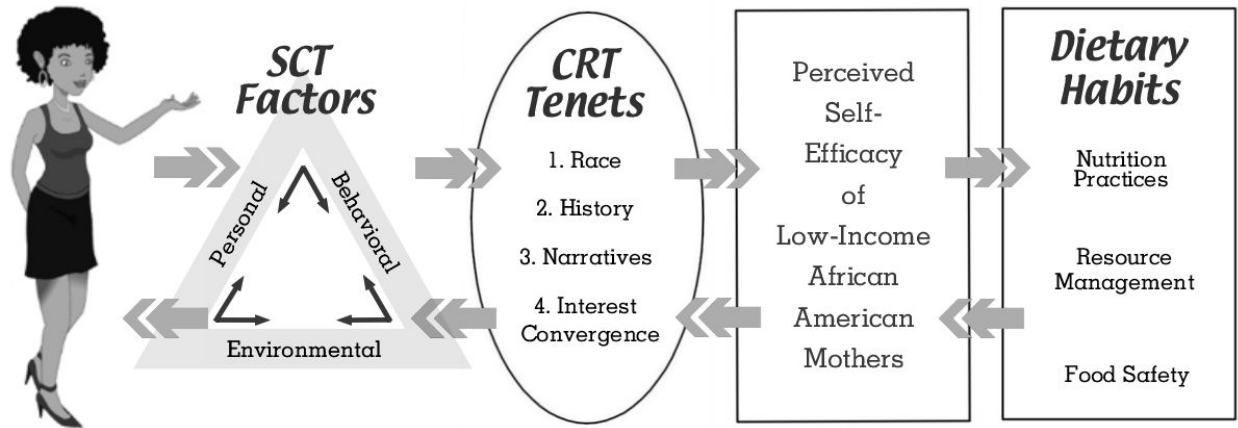
Figure 1. Theoretical model.

By recognizing the historical role of race in limiting African Americans' personal control, and therefore their self-efficacy, CRT provided a mechanism to explore how race might influence dietary habits. Using narratives, CRT gave voice to the perceptions and used interest convergence to explore behavioral, personal, and environmental barriers and to suggest strategies for addressing those barriers to positive dietary habits. This review of the literature contributed to the development of the theoretical framework for this study to help focus and shape the research process, inform the methodological design, and influence the data collection tools chosen. The theoretical framework provided the basis for data collection, coding, analysis, and reporting of findings.

Summary

This literature review included information explaining that while nutrition educators traditionally relied on quantitative survey data to describe the dietary habits of individuals and theories to promote behavior change, both lacked insights into the personal, behavioral, and

environmental factors that may have influenced that behavior. Health promoters, including nutrition educators, only recently recognized the need to apply adult education theories, principles, and practices to health and nutrition interventions to improve effectiveness. The current body of nutrition education research indicated that before educators could design effective educational interventions, the educators must understand disparities in the dietary habits of African Americans; the personal, social, and environmental factors influencing dietary behavior; and the role of self-efficacy in the adoption of positive dietary habits. However, little research had taken place to give voice to the low-income African American mother regarding her perceptions of factors that affected her dietary habits.

This literature review included highlights of the gap between what the statistical data showed regarding the dietary habits of low-income African American mothers and the factors that potentially influenced the mothers' perceptions of those dietary habits. The literature indicated the need to further understand such factors before extension nutrition educators could design and develop effective SNAP-Ed programs. Because SCT addressed the internal and external factors influencing behavior and CRT highlighted the role of race in the lives of African Americans, the two theories provided a lens for exploring the factors that low-income African American mothers perceived as affecting their dietary habits. The theoretical framework that emerged from this literature review established the context for the research study described in the next chapter.

Chapter 3 - Methodology

Introduction

This qualitative study explored how factors that potentially influence perceived self-efficacy affected the dietary habits of low-income African American mothers. The research was a bounded multi-site case study. The study included use of semi-structured interviews supported by multiple sources of data including participant information screenings, behavior checklists, windshield tours of the neighborhoods, geographic maps, and researcher field notes, memos, and reflections. According to Yin (2008), multiple sources of data address a broader range of historical and behavioral issues, thereby establishing triangulation. The research was a theory- or concept-driven study (Corbin & Strauss, 2008; Yin, 2008) framed in the triadic reciprocality of Bandura's social cognitive theory (SCT) and four tenets of critical race theory (CRT). The framework had implications for designing effective interventions for the population that qualified for SNAP-Ed.

Chapter 3 contains descriptions of the research methodology, the rationale for the research design, descriptions of the research setting and participants, and an overview of the research design. Data collection procedures, IRB approval, data collection methods, and data analysis procedures are important components of the chapter. The chapter concludes with issues of trustworthiness, researcher background, protection of human rights, limitations of the study, and a brief summary.

Research Questions

The following research question guided this study: How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? The primary research question had three sub-questions (SQ).

SQ 1.   What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 2.   What personal factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 3.   What environmental factors do low-income African American mothers perceive as influencing their dietary habits?

Rationale for Research Design

According to Corbin and Strauss, (2008), "Qualitative research allows researchers to get at the inner experience of participants, to determine how meanings are formed through and in culture, and to discover, rather than test, variables" (p. 12). Traditionally, nutrition education interventions depended on quantitative data gained from surveys that described dietary habits, but little research explained what potentially influenced the dietary behaviors (Basiotis et al., 2002; Ben-Shalom et al., 2012; Mabli et al., 2013). Understanding what influenced behavior provided the educator with clues concerning how to design effective learner-centered programming. Quantitative research begins with a hypothesis and focuses on quantity, empirical data, random samples, inanimate instruments, deductive analysis, and precise findings (Merriam, 2009). On the other hand, qualitative research focuses on fieldwork, purposeful samples, inductive analysis, rich descriptive findings, and the researcher as the instrument. Quantitative designs are useful for determining distribution of an attribute among the population, but a qualitative study yields rich data addressing the complex attitudes, beliefs, and experiences that shape the behavior. Because this study addressed how people perceived their experiences, constructed their worlds, and attributed meaning to their actions, a qualitative design was appropriate.

Within the qualitative arena, a bounded multi-site case study best suited this study because case studies provide an avenue for exploring real-life, complex social structures. Multi-site case studies increases internal validity and possibilities for generalizations (Merriam, 2009). In this study, the purpose of the guiding research question, sub-questions, and data collection methods was to capture the experiences of low-income African American mothers and their perceptions of the factors that influenced their dietary habits. Recruitment of the study participants targeted three public housing units, which aligned with Creswell's (2007) explanation:

> Case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information . . . and reports a case description and case-based themes. (p. 73)

The theoretical framework of this study was Bandura's SCT, in which perceived self-efficacy is shaped by personal, behavioral, and environmental factors that influence personal actions (Bandura, 1986); in this case, the dietary habits of low-income African American mothers. The framework included how four tenets of critical race theory (CRT)—race is endemic, historical context is foundational, narratives are important, and interest convergence is essential—interacted with SCT to help understand the factors that influenced the dietary habits of these African American mothers (Bandura, 1986; Delgado & Stefancic, 2001; Ladson-Billings, 2009; Zamudio et al., 2011). The chosen framework warranted a theory- or concept-driven data analysis approach (Corbin & Strauss, 2008). The objective of the semi-structured interviews, supported by the participant information screenings and behavior checklists, was to open space for the study participants to describe the factors that influenced their perceived self-

efficacy and affected their dietary habits. Including the geographic maps and windshield tours provided a visual picture of the historical and current environmental factors participants perceived as affecting their dietary behaviors. Recognizing the status of the researcher as the human instrument, the researcher's journal consisting of field notes, memos, and reflections provided a way to record observations and clarify experiences as well as critical reflection to unearth researcher biases and assumptions (Merriam, 2009; Yin, 2008).

Research Setting

The population for this research study was all low-income African American mothers in an urban Midwestern city of about 150,000 people. In the community, on average, a resident's household income was $10,000 less than the state average, with about 21% of the residents living below the poverty level and about 20% of the residents receiving monthly food assistance (Kansas Department for Children and Families, 2012). The USDA (2010) Food Environment Atlas reported that almost 31% of the residents lived more than a mile from a grocery store, placing them in *food deserts* (U.S. Department of Agriculture, n.d.).

According to the U.S. Census (2013), the county had a people of color majority, with African Americans counted as 25% of the population. Only 15% of the residents had bachelors' degrees, compared to almost 30% of the residents in the state. Besides the disparities in socio-economic status, the Robert Wood Johnson Foundation (2013) ranked the county 97th out of 102 counties in the state, among the least healthy counties in the state. According to the state Behavioral Risk Factor Surveillance System (BRFSS), 84% of the residents in the county reported consuming fruits and vegetables less than five times a day (Kansas Department of Health and Environment, 2009). Low economic status, education, and health outcomes resulted

in a high concentration of residents in this county who qualified for the SNAP-Ed program (USDA, 2012a).

In this urban city, the public housing agency, created to provide affordable housing for low-income individuals and families, partnered with cooperative extension to offer nutrition education to residents. According to the housing program coordinator, the city had seven sites similar in construction of family units. All had a community center and play area, although the areas were in different stages of function and repair. Some sites had active resident associations while others did not (V. Hernandez, personal communication, January 10, 2013). Under the jurisdiction of public housing, 1959 households were in the units, of which 643 had children. African Americans accounted for 63% of the residents. Twenty-one percent were European American, 6% Asian American, 9% American Indian/Alaskan, less than 1% Native Hawaiian/Pacific Islander, and 6% Hispanic American. The average age of residents was 31 (E. Shroud, personal communication, January 15, 2014).

To explore the current dietary behavior of the participants before they received a SNAP-Ed intervention, studying participants at sites where a SNAP-Ed class had not been taught for at least five years was desirable. The selection of the study sites arose from several factors: recommendations from the public housing program coordinator, the percentage of African American residents in the site, the willingness of resident leaders to assist with the study, and the absence of SNAP-Ed classes held at the site within the last five years. Recruitment of the study sample was from three of the seven public housing sites under the jurisdiction of the housing agency.

The three sites had 158 households, including 141 with children. The average racial/ethnic breakdown of the population was African Americans, 48%; American

Indian/Alaskans, 20%; European Americans, 18%; Asian Americans, 12%; Native

Hawaiian/Pacific Islanders, 2%; and Hispanic Americans, 8%. The average age of residents,

excluding children, was 18 (E. Shroud, personal communication, January 15, 2014). Appendix

A shows the demographics of the study sites compared to the totals for all three public housing

sites.

Site A, built in 1970, was in an older urban community bordered by a railway and three

interstate/expressways. According to the 2012 *FactFinder* census report, 33.1% of the families

in this zip code lived below the poverty level (U.S. Census Bureau, 2012). Site A was 2.9 miles

from Site B and 3.6 miles from Site C. At Site A, four of the interviews took place on two

consecutive days. The fifth interview was a week later. Two interviews took place in the

participants' homes. Three interviews took place in the community center. The community

center was at the entrance of the complex and a multi-purpose room upstairs contained a

kitchenette used to store and distribute the summer breakfast and lunch meals for the children, a

program sponsored by the school district. Four to five tables allowed the children to eat their

meals; one of these tables was the site for the interviews.

Site B, built in 1973, had borders of an interstate expressway, an older neighborhood, and

a wooded area that separated it from the back of a small shopping plaza. According to the

FactFinder census report, 22.51% of the families in this zip code lived below the poverty level

(U.S. Census Bureau, 2012). Site B was 2.9 miles from Site A and 4.2 miles from Site C.

Residents forged a path through an overgrown lot to reach the back of the small shopping plaza,

the location of a small supermarket, one mile away on foot or 2.3 miles away driving. At this

site, three interviews took place in participants' homes and two took place at the community

center. The community center was a one-bedroom unit designated as the community center. The downstairs had a small kitchen and living room where the interviews took place.

Site C, built in 1967, was also in an older urban community bordered by a railway and three interstate/expressways. According to the *FactFinder* census report, 33.1% of the families in this zip code lived below the poverty level (U.S. Census Bureau, 2012). Site C was 3.6 miles from Site A and 4.2 miles from Site B. All five interviews took place in the community center on one day. This community center also was a one-bedroom unit designated as the community center. The downstairs had a small kitchen and living room. The interviews took place at a table in the living room space.

Research Participants

A purposeful convenience sample is a typical method used for case study research and is believed to yield rich data (Patton, 2002). In this study, .a purposeful convenience sampling of 15 low-income African American mothers, five women from each public housing site, was used because of limited time, resources, and access to the population. According to Kvale and Brinkmann (2009), 15 interviews are usually sufficient because of the researcher's limited time and resources and because the law of diminishing returns indicates more interviews generate less new information each time. Participants were from these three sites because of the 10-year partnership between the housing agency and cooperative extension; each site had a significant number of low-income African American mothers, and SNAP-Ed classes had not taken place at the sites in the last five years.

For this study, selecting low-income individuals was necessary because they qualified for SNAP. Women were selected because research showed women were primarily responsible for food preparation and set the standards for healthful or unhealthful dietary habits for the family

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(Ben-Shalom et al., 2012; USDA, 2008). Additionally, the recommended SNAP-Ed curriculum is designed for low-income women (USDA, 2012a). African Americans were the chosen participants because they represented 63% of the public housing population and because SNAP-Ed recommendations specifically cited this population when encouraging educators to provide more learner-focused, culturally appropriate interventions (Ben-Shalom et al., 2012).

Overview of Research Design

The following is a summary of the steps taken to complete the research study. The steps precede a more in-depth discussion of the research design.

1. Following the successful proposal development and defense, the IRB was submitted for approval.

2. Upon IRB approval, recruitment of resident presidents took place to participate in a pilot study and provide feedback on the study design.

3. Upon completion of the pilot study, minor adaptations to the research procedures and protocols were necessary.

4. Resident presidents recruited volunteers for the study.

5. Geographic maps obtained from the city showed retail food establishments within a one-mile radius of each site.

6. After obtaining signed consent forms, participant information screenings, behavior checklists, and semi-structured interviews took place.

7. Windshield tours—a drive through a one- to two-mile radius of the neighborhood surrounding the site—occurred at two sites.

8. Participants received transcriptions of interviews for member checking.

9.   Using constant comparison data analysis, the semi-structured interviews underwent coding and analysis for emergent themes that addressed the research questions.

10.   Comparison took place among the findings from the semi-structured interviews and the participant information screenings, behavior checklists, windshield tour observations, geographic maps, and researcher field notes, memos, and reflections data sources, a process known as triangulation.

11.   Construction of narratives addressed the findings concerning the research questions.

IRB Approval

The Institutional Review Board (IRB) at Kansas State University must approve all research conducted with human subjects. A proposal for this study that included the research background, problem statement, purpose statement, research questions, and proposed methodology with supporting resources was prepared and successfully defended. The Institutional Review Board (IRB) then granted permission to conduct the study.

Data Collection Methods

Qualitative researchers use multiple data collection sources to confirm findings (Merriam, 2009). In this study, the primary data collection source was the semi-structured interviews, supported by participant information screenings, behavior checklists, and windshield tours to triangulate the data and to answer the research questions. Geographic maps and the researcher field notes, memos, and reflections from journaling were useful to support the interview findings and increase the validity of the study through triangulation.

Sample Recruitment

The public housing executive director granted permission to conduct this study to explore the factors that may influence the self-efficacy of residents who might attend SNAP-Ed classes; specifically African Americans, the largest racial/ethnic population represented in the county's public housing (T. Scott, personal communication, January 10, 2013).

Recruitment began immediately after the IRB approved the study. A flyer (Appendix B) prepared for distribution through the public housing monthly e-newsletter received no responses. A past president of the resident association, a "key informant," (Patton, 2002, p. 321) recommended three resident presidents and contacted them to introduce the researcher and explain the purpose of the study. The assistance paved the way for the researcher to meet with the resident presidents by phone. This key informant, an important link between the researcher and the study population, received a $25 grocery card for her assistance. Resident presidents contacted to assist with recruiting African American mothers approved use of a $25 grocery card offered as an incentive.

The three resident presidents received flyers (Appendix B) and a letter (Appendix C) to assist in recruiting. Each resident president recruited five women from her own site and arranged the dates, times, and locations for the interviews. The resident presidents at site A and B opted to distribute the flyers and recruit the five participants themselves. The resident president at site C invited the researcher to a monthly resident association meeting to present the study and answer questions the residents might pose. After this meeting the resident president of site C recruited her five participants.

Most interviews took place in the community centers, but others were in the participants' homes. All the interviews took place on weekdays during business hours.

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Pilot Study

Yin (2008) explained that a pilot study helps clarify the data collection procedures. A two-phase pilot study took place with the resident presidents of the study sites to familiarize them with the study and to receive feedback on the protocol and procedures. Phase 1 consisted of the participant information screenings, behavior checklists, and semi-structured interviews. After completing the IRB consent form, the three resident presidents responded to questions asked of them during the participant information screening, behavior checklist, and semi-structured interviews. Recording the responses included use of the Livescribe Pen and the HT Professional Recorder for the iPhone4 as a back-up audio recording. The resident presidents provided feedback about the protocol and procedures. Each session lasted about an hour. The transcriptions of the semi-structured interviews underwent comparison with the participant information screening, behavior checklist, resident president feedback, and researcher observations. The resident presidents each received with a $25 grocery card. As a result of the pilot, the resident presidents made several suggestions: They requested that they be allowed to recruit participants and that the restrictions on the age (18-35) of participants be removed to facilitate recruitment. The presidents also requested participation not be limited to only single women, because questions about marital status could be perceived as offensive. Also, they suggested modifications to protocol questions to improve clarity.

Phase 2 consisted of the windshield tours. Two participants recruited from a fourth public housing site helped to test the windshield tour procedure. The participants received day care arrangements for their children. The participants determined the tour route within a one- to two-mile radius of their home, based on the places they deemed significant regarding food access. The researcher recorded the discussions using the Livescribe Pen and the windshield

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tour guide. The participants received a $25 grocery card as compensation. The tour occurred during late morning and lasted an hour. The following modifications were necessary, based on participant feedback and researcher observations: (a) allow residents to determine the tour route, (b) provide childcare as necessary, and (c) make revisions to the windshield tour guide to facilitate recording observations.

The pilot study provided an opportunity for the researcher to practice conducting each phase of the study. During Phase 1, she experimented with placement of the audio equipment to maximize receptivity and minimize distractions. She observed participants were more open and relaxed during the interview when there was time before the interview to engage in small talk. She noted questions that seemed confusing or unclear and made modifications. During Phase 2 she learned that the geographic maps were inadequate for providing information about the built environment surrounding the sites. She allowed the residents to determine the route and dictate significant sights. She noted that childcare and provisions for a snack or meal may be needed. The results of the two-phase pilot study suggested the need for modifications and changes to the final design of the study, including the sample recruitment methods, data collection tools, and windshield tour protocol.

Data Collection Procedures

Merriam (2009) explained the interview was the primary means for gathering information when behaviors could not be observed directly. In this two-phase study, the semi-structured interviews had support from multiple data sources. The procedure for each phase and the data sources within that phase appear later. Phase 1 consisted of the participant information screening, behavior checklist, and semi-structured interviews. Phase 2 consisted of the windshield tours designed to gather information about factors in the environment that potentially

affect the dietary habits of the research sample. Obtaining the geographic maps of each site

provided comparative data about the environmental setting of the research sample. Following is

a description of each data source in the order of collection.

Participant Information Screening Surveys

After participants signed the IRB Informed Consent Form (Appendix D), they answered

questions read to them on the participant information screening survey (Appendix E). The

purpose of the survey was to collect basic demographic information about each participant. This

survey collected supporting data to answer the research questions. The information collected

included name, number of people in the household, location, age, contact information, marital

status, race/ethnicity, educational background, employment status, and number of years living in

public housing. Participants also told who did most of the grocery shopping and meal planning

for their families. Recording participant answers included writing responses on the form and

recording with two audio recording devices: the Livescribe pen and HT Professional recorder for

iPhone4.

Behavior Checklists

Administration of the behavior checklist occurred immediately after the participant

screening information survey (Appendix E). This 10-item survey (Appendix F) was an

adaptation of the Expanded Food and Nutrition Education Program (EFNEP) Behavior

Checklist, an instrument commonly used to measure behaviors in the constructs of food safety,

food resource management, food security, and nutrition practices (Anliker, Willis, &

Montgomery, 1998; Wardlaw & Hanula, 2012). The survey responses were on a 5-point Likert-

type scale ranging from *never do this* to *always do this*. While the 24-hour food recall is a

widely used, age-old instrument nutrition educators used to establish a baseline of dietary intake

for adults (Contento, 2011), the EFNEP Behavior Checklist was a better choice because it measured the behaviors important for this study (Wardlaw & Hanula, 2012). However, the instrument was self-report and limited by the "interviewer's skills, respondent's judgment, memory, cooperation, and communication skills" (McClellan et al., 1998, p. 536). Therefore, the researcher read the standardized instrument to increase the accuracy of the data collected. The purpose of administering the checklist was two-fold. The list provided initial data on the participants' dietary behaviors before the interview and it provided comparative data when analyzing the discussions of dietary habits recorded during the semi-structured interviews.

Semi-Structured Interviews

"An interview is the process in which the researcher and participant engage in a conversation focused on questions related to the research study," (deMarrais, 2004, p. 55). The purpose of interviewing is to enter into another person's perspective. For this reason, interviews are the most widely used data collection technique in qualitative research. The four advantages of this interview type are the ease in evaluation and inspection, minimal variation occurs among interviewers, the interview remains focused and uses time efficiently, and analysis is simple (Patton, 2002).

The semi-structured interviews included specific open-ended questions but allowed the interviewer to "respond to the situation at hand, to the emerging worldview of the respondent, and to the new ideas on the topic" (Merriam, 2009, p. 90). The purpose of this multi-site bounded case study was to examine how factors that influenced perceived self-efficacy affected the dietary habits of low-income African American mothers, an underserved SNAP-Ed audience. The purpose was conducive for using semi-structured interviews as a primary data source that was concept-driven rather than data-driven (Kvale & Brinkmann, 2009). Using the interviewer

protocol (Appendix G), the 30- to 60-minute interviews took place onsite, either in homes or at the community centers. All interviews were recorded with two audio devices—the Livescribe Pen and HT Professional Recorder for iPhone4. Two audio recorders helped to minimize risk of losing data because of equipment malfunction. Within 24 hours, the researcher recorded additional field notes, memos, and reflections. To compensate participants for their time, each received a $25 grocery gift card at the end of the interview. Figure 2 illustrates the fit of the interview questions within the theoretical framework and their alignment with the research sub-questions.

Windshield Tours

Observations of a neighborhood enhance the understanding of the context of the research (Yin, 2008). Windshield tours are a form of data collection enabling the researcher to observe the environmental factors that might influence a phenomenon (McGuirt, Jilcott, Vu, & Keyserling, 2011). Both SCT and CRT suggest a strong relationship between external environmental factors and the behavior of the individual (Bandura, 1986; Delgado & Stefancic, 2001; Yosso, 2006).

Guiding Research Question: How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers?		
Research Questions		*Interview Questions*
SCT Factors	**CRT Tenets**	
What personal factors do low-income African American mothers perceive as influencing their dietary habits?	Narrative	Tell me about the foods you enjoy? What about foods you don't care for? Tell me about these.
	Historical	Think about the first time you fixed/cooked something to eat. How did you learn? Who taught you?
	Narrative	Think about the meals you and your family eat now. Describe for me a typical day?
What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?	Narrative	How do you feel about preparing and cooking meals for your family?
	Narrative	When you want to fix a meal, what do you do from start to finish? How do you feel about having to take care of all your family's meals? What's easiest or hardest for you when it comes to feeding your family?
	Narrative	Tell me about when you eat out.
What environmental factors do low-income African American mothers perceive as influencing their dietary habits?	Narrative	Tell me about where you go to get most of your food. Describe a typical trip to get groceries, from beginning until food is put away. Describe the grocery stores.
	Interest Convergence	
	Narrative	Who or what do you trust most when you want good information about what to buy, cook or eat? What kinds of information do you want most?
	Race	Do you think being Black (your race) affects the kinds of food you enjoy and fix for your family? Do you think who you are as a Black woman shapes the food habits you have today?
		Is there anything else you believe influences the food you buy, prepare, or eat?

Figure 2. Alignment of research questions with theoretical framework.

In this study, the purpose of the windshield tour was to provide a visual picture of the current environment and to compare the picture with the perceptions the participants expressed during their interviews. Observation of the environment through the windshield tour provided information about the factors that influenced the women's dietary habits. Because the participants' perceptions of their neighborhood was only one assessment (Yin, 2008), two participants, the resident president and one participant in the interviews, participated in the windshield tour.

The tour took place at a time when the participants typically did their grocery shopping. At Sites A and C, the research team consisting of the researcher, a driver, the resident president, and one participant from the study site completed the windshield tour of the area. Cancellation of the windshield tour for site B was necessary because of a personal emergency of the resident president. Instead, the researcher independently drove through the neighborhood using the geographic map and the windshield tour guide to observe and record places participants in site C referenced in their semi-structured interviews.

Before each tour, the team met to plan the route, review the windshield tour guide, and review the role of each participant. The driver was responsible for following directions and moving the team through the designated area. The researcher was responsible for completing the windshield tour guide (Appendix H) and recording observations. The residents were responsible for assisting the researcher in completing the tour guide by sharing insights, impressions, and observations about the area from their personal knowledge and experience. The researcher made an audio recording of the discussions during the tours with the Livescribe Pen. The researcher consulted the geographic map to identify streets when necessary.

During the windshield tours, residents directed the driver and researcher through the neighborhood and identified places they perceived as significant, often providing historical and social background about the neighborhood. The tour at Site A lasted about 30 minutes. The tour at Site C lasted about an hour because the residents wanted to venture outside the one-mile radius and show the researcher their preferred shopping area, which was three miles away. Pictures taken on the tour assisted in understanding the context of the interviewees' living situation during data analysis, but did not appear in the final report to protect the anonymity of the participants. Within 24 hours, the researcher recorded additional field notes, memos, and reflections.

Geographic Maps

The researcher obtained geographic maps of each site, including the pilot site, from the city research division (M. Grimm, personal communication, June 28, 2013). These were one-mile radius maps with food retail store markers. The maps were essential to show the proximity of retail food stores to the research sites, to plan the windshield tour routes, and to support data to explain the context of the living environment of the participants.

Researcher Notes, Memos, and Reflections

Observation is interwoven with interviews and is an important part of data collection. What a researcher observes, writes down, and records during the study becomes raw data and contributes to the data sources for the study. Merriam (2009) called the observations field notes, verbal descriptions of the setting, people, and activities; substantive quotes; and observer comments. Bloomberg and Volpe (2012) encouraged the researcher to keep detailed journals of the research process to provide personal insights as the main research instrument. For each phase of the study, the researcher recorded field notes, memos, and reflections.

The field notes were descriptive observations recorded about the physical setting and the participant's non-verbal responses (Merriam, 2009). Memos were notes about what the researcher perceived as occurring. Recording field notes and memos on the interview transcripts and other data collection tools provided an accurate record. The researcher kept a journal detailing the research process and recording reflections. Merriam et al. (2007) recommended researchers engage in the process of reflecting critically, including bracketing and reflexivity, throughout the research process. The field notes, memos, and reflections served as supportive data during the data analysis process. Table 1 shows how the data collection tools aligned with the research questions.

Table 1 *Alignment of Data Collection Tools with Research Questions*

Guiding Question: How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers?						
Sub-Questions:	Map	Screening	Checklist	Interview	Tour	Notes
What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?	x	x	x	x	x	x
What personal factors do low-income African American mothers perceive as influencing their dietary habits?				x	x	x
What environmental factors do low-income African American mothers perceive as influencing their dietary habits?	x	x		x	x	x

Data Analysis

Data analysis is the process of answering the research questions. These answers are the categories, themes, and findings from the data collected. To answer the research questions of this study, the constant comparison approach for data analysis was most useful (Merriam, 2009). The semi-structured interviews, supported by the participant screening information surveys, behavior checklists, geographic maps, windshield tours, and researcher notes, memos, and reflections were all appropriate for this general data analysis strategy. Attention to data management was important for the qualitative research project. The database established for this study consisted of interview transcripts, memos, field notes, reports, geographic maps, supporting documents, and researcher journal. The organization techniques included color-coded files for easy access to facilitate locating specific data during the research process. Recognizing the semi-structured interviews as the primary data source for this study, each data source and analysis procedure appears chronologically below.

Participant Information Screening Surveys

The participant information screening survey was administered to each interviewee, Recording participant answers included writing responses on the form and recording with two audio recording devices. Within 24 hours, the researcher listened to the audio recordings, reviewed written answers, made additional notes, and recorded observations, memos, and reflections. All 15 participant information screening surveys were entered into an Excel spreadsheet to generate a summary of participant demographics (Appendix I & Appendix J). A personal identifier and a pseudonym replaced participant names. Findings from participant information screening surveys provided basic information about each participant and

comparative data for understanding the personal demographics and social context of the participant.

Behavior Checklists

The behavior checklist was administered to each interviewee after the participant information screening survey. After listening to each question read aloud, the participant used an answer card that offered answer choices for each statement. Within 24 hours, the researcher listened to the audio recording, reviewed written answers, made additional notes, and recorded reflections about observations during the behavior checklist surveys. The survey results were compiled into an Excel spreadsheet to generate a summary of responses (Appendix K). The behavior checklist allowed gathering initial data on the mother's dietary behaviors before the semi-structured interview; and, the behavior checklist provided comparative data for understanding the dietary habits of the individual.

Semi-Structured Interviews

Using constant comparison analysis for this theory-driven, multi-site bounded case study, following the steps below resulted in analysis of the data. Data collection was from five participants at each of three sites, totaling 15 semi-structured interviews.

Step 1: Transcribing the interviews. The researcher listened to each interview within 24 hours of the interview. The interview transcription was verbatim, using an assistant who had signed a confidentiality agreement. Over 200 pages of transcripts resulted from the interviews. Checking the audio recordings of each interview against the written transcript helped to ensure accuracy. The transcribed interviews underwent conversion to Word tables with line numbering. The interviewees each received a copy of her personal transcribed interview for review and

feedback, a process called member checking (Merriam, 2009). The participants made no

corrections.

Step 2: Coding responses. Using constant comparison analysis enabled identification

of phrases that addressed the research questions and were common among the 15 participants.

The next steps were grouping the phrases into categories, coding, and aligning with the

theoretical framework. While immersed in the data, identification of the position of the

emerging themes and categories within or outside of the theoretical framework took place.

During the coding and the identification of themes and patterns, the researcher engaged in

critical discussions with her major professor to provide an external check during the research

process (Creswell, 2007).

Step 3: Organizing coded responses. Coded responses of each participant were entered

into an Excel workbook to generate a master code list. Color-coding the participants and sites in

the Excel workbook facilitated identification of the intersections of themes and of categories

within each theme as well as between participants and sites.

Step 4: Analyzing findings. Recording the frequency of responses within each of the

categories occurred through use of the master code list (Appendix L). The completed Excel

workbook served as a consolidation of the interview data for ease of manipulation during

analysis. The emergent themes and categories became clearer by reviewing the data within this

repository. A data summary sheet was useful to record the frequency of responses for categories

of each theme. The data summary sheets were essential to understand the findings and answer

the research questions. During the process of further reducing and refining themes and

categories, the researcher continued engaging in critical discussions with her major professor and

other professors experienced in qualitative research to provide an external check during the research analysis.

Step 5: Reporting findings. The final stage of data analysis was presenting the data in narrative, table, or graphic form. The findings of the semi-structured interviews recorded in the data summary sheets were in narrative form for comparison with the supporting data to answer the research questions.

Step 6: Final review of transcripts. Ongoing and continuous review of the transcripts throughout the analysis process allowed the researcher to remain immersed in the data as the voices of the participants answered the research questions. The final step was to align the results of the findings with the theoretical framework and related literature. Although the research was a theory- or concept-driven study, documenting the themes outside the theoretical model was necessary.

Geographic Maps

The geographic maps secured from the city researcher helped to identify retail food establishments within a one-mile radius of the study sites. The pilot site map showed one small supermarket within the one-mile radius. The Site A map showed no retail food stores within the one-mile radius. The Site B map showed three small supermarkets within the three-mile radius. The Site C map showed no food retail stores within the one-mile radius. This information was critical to understand the environmental context of the study while answering the research questions.

Windshield Tours

After each windshield tour, the researcher listened to the audio recording and recorded additional notes and reflections. Transcribing the audio recordings was not necessary to compare

them with notes and reflections and to provide supportive data for the semi-structured interviews. Every store the participants referenced during the semi-structured interviews or windshield tours became an entry in an Excel workbook, with the mileage calculated from the site to the store named. The store names became the generic descriptions explained in the Definitions section of Chapter 1. The data were useful to generate a table (Appendix M) to compare the distance from each site to the stores referenced during the study. Observations from the windshield tours contributed to understanding the historical and environmental context of the participants.

Issues of Trustworthiness

"Validity and reliability are concerns that can be approached through careful attention to a study's conceptualization and the way in which the data are collected, analyzed, and interpreted, and the way in which the findings are presented," (Merriam, 2009, p. 210). While Guba and Lincoln (1998) questioned the use of quantitative terminology for qualitative research, Creswell (2007) recommended qualitative researchers use at least two validation strategies in a study. The intent is to avoid compromising the integrity of the research design. In the present study, application of the following strategies addressed issues of validation, credibility, and reliability, and demonstrated trustworthiness.

Triangulation

Triangulation, though presently contested (Stake, 2006; Yin, 2008), remained the primary strategy for ensuring trustworthiness in qualitative research. Stake defined triangulation as the process of using repetitious data collection and critically reviewing what participants say. In this study, participant screenings, behavior checklists, semi-structured interviews, geographic maps, windshield tours, and the researcher journal provided multiple sources for data collection.

Member Checking

Member checking is critical in establishing credibility (Creswell, 2007). In this study, the interviewees examined their personal transcripts to clarify responses and provide feedback.

Peer Debriefing

Peer debriefing provides an external check of the research process (Creswell, 2007). The researcher engaged in critical discussions with her major professor continually throughout the data collection and analysis processes to provide an external check during the research analysis phase.

Researcher Journal

Maintaining a log documented the research trail throughout the study. The researcher kept a research journal detailing each step of the data collection and analysis process, including raw data, observations, field notes, researcher reflections, questions, and memos.

Clarifying Researcher Bias

Stating the researcher's bias at the beginning of the study helped the reader understand how the researcher's position might influence the research. Inclusion of the following section helps to explain her background and partnership with the participating agency.

<center>**Researcher Background**</center>

Because in qualitative studies the researcher is the human instrument, knowing the position of the researcher in the study is important (Creswell, 2007). This researcher is an African American female who had lived in this Midwestern urban county most of her life. Employed first as a SNAP-Ed paraprofessional and currently as a county extension family and consumer sciences educator, she coordinated the local SNAP-Ed program, providing nutrition interventions for diverse audiences such as public housing residents. In addition to teaching

SNAP-Ed classes, she trained extension staff, after-school staff, and community members to provide SNAP-Ed programs to diverse audiences in the community. Although extension had 10-year collaboration with the local housing agency, 5 years ago, state regulations resulted in a shift from adult-focused programming to student-focused programming. Recent removal of the restriction sparked a request by the public housing administration for restoration of the SNAP-Ed programing for public housing residents. Before implementing nutrition programming in public housing, the researcher wanted to conduct a qualitative study to learn the personal experiences and perceptions of the factors potential learners believed affected their self-efficacy and influenced their dietary habits.

Protection of Human Rights

Ethical issues related to the protection of the research population are important in any study (Creswell, 2007; Merriam, 2009). Administration of this research followed and aligned with the policies of the Institutional Review Board (IRB) of Kansas State University. The study did not begin until after the IRB granted approval of the procedures necessary to ensure the protection of the participants' rights. Although anticipation did not foresee creation of any serious ethical threats by conducting this study, application of several strategies functioned to ensure the protection and rights of the study participants.

First, all study participants listened to verbal explanations of the purpose and scope of the study. Each participant signed an informed consent statement (Appendix D), received a copy for her own records, and listened to a verbal review from the researcher at the beginning of the study. Second, to maintain the integrity of the responses, participants had the opportunity to check transcripts to avoid any misinterpretation of data. Third, all significant identifying

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information about the participants and their locations remained confidential. Finally, all research-related data remained stored securely, as prescribed in the IRB guidelines.

Summary

Chapter 3 contained a description of the research methodology for this bounded multi-site qualitative case study. Using SCT and CRT as the theoretical framework, a qualitative case study was suitable to understand how factors that potentially influence perceived self-efficacy affected the dietary habits of low-income African American mothers. Fifteen participants comprised a purposeful convenience sample selected from three public housing sites, and the study included semi-structured interviews supported with multiple data resources: screening interviews, behavior checklists, geographic maps, windshield tours, and the researcher journal. Obtaining IRB approval for the study, using informed consent forms, maintaining confidentiality, and including member checks addressed ethical issues related to the protection of the participants.

Recognizing the present research as a theory-driven case study, the data underwent analysis using a constant comparison approach that included identifying themes and patterns as they answered the research questions and aligned with the theoretical framework. Various strategies including triangulation, member checking, peer briefing, journaling, and clarifying researcher bias addressed issues of trustworthiness. The objective of the findings was to provide guidance for educators who designed interventions for SNAP-Ed participants who wish to improve the dietary habits of low-income families through nutrition education. Discussion of the findings is in the next chapter.

Chapter 4 - Analysis of the Data

Introduction

Data analysis is making sense of the data by developing themes and categories that interpret the meaning of the data (Merriam, 2009). The purpose of this multi-site bounded qualitative case study was to understand how factors research suggested influenced self-efficacy affected the dietary habits of low-income African American women. The study was based on the theoretical framework of the SCT triadic reciprocality of behavioral, personal, and environmental factors that influence behavior. Recognizing race as a major factor influencing behavior, the study was an exploration of how four tenets of CRT interfaced with SCT to understand the dietary habits of the sample. Triangulation of the data helped identify the study's emergent themes and categories presented in this chapter. The chapter contains a review of the research questions and descriptions of the sample. Answers to the research questions are in the voices of the participants. The results of the findings aligned with the theoretical framework and the existing literature. The chapter ends with a summary.

Research Questions

The following research question guided this study: How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? The primary research question had three sub-questions (SQ).

SQ 1. What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 2. What personal factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 3. What environmental factors do low-income African American mothers perceive as influencing their dietary habits?

Population and Sample

The sample for this research study was from the population of low-income African American mothers in an urban Midwestern city. Women comprised the sample because most SNAP-Ed curriculum is designed for low-income mothers (USDA, 2012a). The description of the sample emerged from self-reported demographic information obtained from the multiple data sources, including the participant information screening surveys, behavior checklists, semi-structured interviews, windshield tours, and researcher notes. This section contains a summary of the participant information screening surveys and behavior checklists data. It also contains individual profiles of each participant based on these multiple data sources.

Summary Sample Profile

Information from the participant information screening surveys (Appendix J) provided the data for the sample profile summary. The 15 African American mothers in this study had lived in public housing from 1 to 30 years, with an average of 17 years. Eleven of the women were single, one divorced, one widowed, and one married. Although the average age of all residents living at the three sites was 18, the average age of the sample for this study was 39. Only three of the women interviewed were younger than 30. An average of three children lived at home with their mothers, ranging in age from 3 months to 23 years. Nine of the participants had completed high school and six had not. Four participants reported having some college, including one participant with an associate's degree and one with her certified nursing certificate (CNA). Two women were students taking college courses. Nine participants were unemployed;

two had full-time employment, two had part-time employment, and two reported having a disability.

All 15 participants planned most of their family's meals and did most of the grocery shopping. On average, they reported preparing 10 meals a week at home and eating out about twice a week. Among their dining out choices—some named more than one—12 named a fast food restaurant and seven named a family restaurant. The reported meals prepared at home or eaten away from home did not reflect the meals that the school-aged children ate at school.

Participant Profiles

The profiles below emerged from a compilation of the data sources: participant screening surveys, behavior checklists, the semi-structured interviews, and researcher notes. The profile narratives include key behavioral, personal, and environmental factors that the participants' perceived as affecting their dietary habits. To maintain participant confidentiality, assigned pseudonyms disguised all identifying information.

Participant 1: Aliyah. Aliyah, 34, lived at Site A and was the mother of an 18-year-old daughter and 12- and 9-year-old sons. She was single and had lived at this site one year, but had lived in public housing for four years. She had completed high school. She had part-time employment, received SNAP benefits, and used public transportation. She cooked about three times a week and ate out two to three times a week. Her daughter helped with meal preparation. While she said she had acid reflux and was allergic to grapefruit, she bragged that she did not have high blood pressure despite being a "big girl." "In the winter time I cook, but not so heavy. But in the summer time when it's hot outside, I don't like to eat," she explained.

Participant 2: Kiara. Kiara, 42, lived at Site A and was the mother of a 17-year-old daughter and a 6-year old son. She was a widow and new resident in public housing, having

only lived there about a year. Relocating from out of state and losing her family business, the high school graduate was currently unemployed. She owned a car and did not receive SNAP benefits. She cooked about 21 meals a week and ate out zero to one time a week. She explained that she has a sensitive digestive system, believed the quality of food in the area was poor, and found her limited income prevented her from buying the healthy foods she preferred. Still, she said it felt good to cook her family's meals, saying, "Your food is your energy, your food is your life, so it should be some thought put into it."

Participant 3: Taylor. Taylor, 41, lived at Site A and had stopped working to care for her three grandchildren—twin boys 15 months old and one boy 21 months old. She was married and had lived in this site only 4-5 months, but had lived in public housing six years. She had completed the 11th grade, received SNAP and WIC benefits, and used public transportation for shopping. She prepared about seven meals a week, but did not often eat out. Her children participated in the summer meals program and at breakfast and lunch at the community center. She believed she was allergic to milk because it gave her gas. Although she was in chronic pain and her husband was disabled, she enjoys cooking saying, "That's one of my gifts I believe that God blessed me with. I love to cook."

Participant 4: Tiana. Tiana, 36, lived at Site A and was the mother of three daughters, 10, 7, and 6 years old. She was single and had lived in public housing at different times throughout her life as a child and as an adult, totaling 16 years. She had completed some college courses. She didn't receive SNAP benefits but received some child support and disability benefits for her child with sickle cell anemia. Recently she had surgery, lost her job, and was unable to collect unemployment or disability benefits for herself. She usually drove to get her groceries, prepared about four meals a week, and ate out about three times a week. She believed

she had acid reflux, but said she enjoyed cooking with all her family. "We don't cook that much, but . . . when we cook it, it's a large meal."

Participant 5: Sydney. Sydney, 40, lived at Site A and was the mother of three daughters, 18, 14, and 12 years old, and two sons, 9 and 5 years old. She was single. While only living at this site nine months, she had lived in public housing for five years. She completed ninth grade, was unemployed, and was a student. She didn't believe money was an issue for her when buying food, didn't reveal her source of income, and drove to get groceries. In a week, she prepared about five meals and ate out about twice a month. She believed milk didn't agree with her. She said she loves to cook, but the hardest thing was "fixing all those plates I have to make" (laugh).

Participant 6: Anita. Anita, 50, lived at Site B with her 17- and 13-year-old nieces. She was single and unemployed with an 11th-grade education. She had lived at this site for 22 years; it was the only place she considered her home. She received SNAP benefits and needed her son's assistance for grocery shopping and meal preparation. She had high blood pressure, diabetes, and was preparing for a third surgery. She couldn't see well and had trouble walking, even falling at times. She ate three meals a day prepared at home and about three times a week, she ate carry-out meals. She hadn't cooked much recently because of her health, saying, "When it's hot, I really don't eat that much. I just do the same thing, take a bite, and leave the rest for later."

Participant 7: Bonnie. Bonnie, 23, lived at Site B and was the mother of two daughters, 4 and 2 years old, and two sons, a 2-year-old and a 7-month-old. She was single, unemployed, and had lived at the site for two years. She completed high school. She didn't have her own transportation, but did not use public transportation. She relied on her mother or others to help

her do her grocery shopping. She prepared about 10 or 12 meals a week at home and ate out about one or two times a week. She says she liked to cook, bought whatever she wanted, and ate just about everything. However, she explained, "I don't really know how to really cook from scratch."

Participant 8: Imani. Imani, 31, lived at Site B and was the mother of an 11-year-old daughter and 9-month-old son. She was single and unemployed. She had lived at this public housing site for eight years and had one year of college. She believed where she lived and her income restricted what she could buy. She prepared about 10 meals a week and ate out about three times a month. She enjoyed cooking, depending on how she felt. As she explained, "You gotta do what you gotta do" (laugh).

Participant 9: Kayla. Kayla, 44, lived at Site B and was the mother of 23- and 15-year-old sons and a 17-year-old daughter, who was home sometimes. She was single and had lived at this site for almost two years. She had an associate's degree and was working on her bachelor's degree. She just started a job, but because of her illness, was out of work several months earlier. She recently signed up to receive SNAP benefits because of her job loss, a sick son, and medical bills. She drove to get her groceries, prepared seven meals a week, and ate away from home one to two times a week. She had had diabetes since she was 19. Her daughter was recently diagnosed with diabetes and her oldest son had epilepsy and couldn't drive. She liked cooking but found it difficult when she was tired: "I'm doing everything, you know, running here and there."

Participant 10: Laila. Laila, 54, lived at Site B with her male friend, did not have children at home now, and had a disability. She had lived at this site for 20 years and completed the 11th grade. She prepared meals three or four times a week and ate leftovers at other meals.

She ate out about three times a week. She had diabetes and carpal tunnel, and she experienced pain and shortness of breath that sometimes made cooking difficult. She didn't believe she always has the money to buy the foods she wanted. However, she says, "I feel okay about it; you know, I enjoy preparing the meals for my family."

Participant 11: Destiny. Destiny, 51, lived at Site C and was the mother of her four children and two foster children: girls 6, 5, 3, and 10 months and boys 9 and 5 years old. She was divorced and had a disability. She had lived at this site for 15 years, had a high school diploma, and completed certified nurses' assistant (CNA) training. She received SNAP and WIC benefits and drove to get her groceries. She prepared 30 meals at home weekly and ate out once or twice weekly. She says she had acid reflux and red sauce bothered her. She explained that she had high blood pressure and trouble breathing, and she gained weight when she ate too much. She expressed her love for cooking: "I get a kick out of doing it. You can see their little toes moving underneath the table, so I enjoy that."

Participant 12: Erica. Erica, 29, lived at Site C and was the mother of one 3-year-old daughter and three sons, 8, 7, and 5 years old. She had lived in this site for about 2 years. She was single and employed part-time. She completed 12th grade. She drove to get groceries and had never used public transportation. She prepared about four meals a week and ate about three meals away from home. She avoided dairy foods because she believed she was lactose intolerant. High blood pressure and kidney disease ran in her family and she wanted to avoid those diseases. She said she used to enjoy cooking, but "I don't like to cook anymore. . . . I guess cause it's the same old thing. If you try different stuff, you get more excited to cook it."

Participant 13: Jasmine. Jasmine, 23, lived at Site C and was the mother of a 2-year-old daughter. She was a single, full-time college student. She had lived in this site 3 years and

in public housing for 10-12 years. She received SNAP benefits and did her grocery shopping with her mother, also a SNAP recipient. Jasmine was learning how to drive. She prepared about seven meals a week at home and ate about two or three meals away from home, sometimes at families' or friends' homes. While she said she wanted to work on eating healthier foods, she didn't identify any health issues. She explained, "I like cooking. It saves you money rather than eating out."

Participant 14: Neva. Neva, 51, lived at Site C and her 6-year-old granddaughter lived with her. She was single and unemployed. She had lived at this site for 15 months, but had lived in public housing for 30 years. She had completed 12th grade. She had owned a car for only a few months, explaining that she used to rely on the bus and family members to get groceries. She complained that the hills made walking hard. She prepared 12 meals at home and ate about three meals away from home. She was anemic. When asked about cooking for her family, she answered: "It's ok. I don't have to cook for a whole big ole family. (laugh) I probably wouldn't be able to."

Participant 15: Valerie. Valerie, 38, lived at Site C with six of her seven children: daughters 18, 10, and 6 years old and a 3-month-old and 17- and 1-year-old sons. She was single and had completed 9th grade. She had lived at this site 7 years. She had just started back to work part time after a two-year layoff. She drove to get groceries, but wished her oldest son would learn to drive. She prepared about five meals at home and ate out about once a week. High blood pressure ran in her family and the doctor had cautioned Valerie to watch her daughter's weight. About cooking, Valerie said, "I love it. I mean, I love kids. I love to cook, so it works for me."

Summary Behavior Checklists

The behavior checklists measured individual resource management, food security, food safety, and nutrition practices. For this study, because of the small size of the sample and the design of the study, the information was used as supplemental data to help in understanding the women's dietary habits (Appendix K). A summary of the behavior checklists data follows:

Ten of the women planned meals ahead of time and eleven compared prices before buying food. Nine of the women shopped with a grocery list most of the time. While eight participants said they ran out of food, the wording of the question on the checklist was confusing. It was not clear if the question asked if they ran out of food and could not purchase more food before the end of the month, or if the question asked if they ran out of food and needed to returned to the store before the end of the month. Nine of the participants said they did not let meat and dairy sit out for more than two hours. Fourteen women said they thawed foods at room temperature at least sometimes. Eight participants said they did not think about healthy foods when planning meals and seven participants said that they did. Five women said they prepared food without salt most of the time. Six women said they read the Nutrition Facts label sometimes. Nine of the women said their children eat something within two hours of waking up in the morning. Appendix N is the data summary chart that displays the frequency of responses to the behavior checklist questions.

Findings

The guiding question in this study was, How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? According to SCT, the three categories of behavioral, personal, and environmental factors

interact to influence self-efficacy. CRT contended that race was an additional factor interfacing with the three previous factors to potentially influence perceived self-efficacy of people of color. Three sub-questions functioned to explore the behavioral, personal, and environmental factors that influenced perceived self- efficacy of the participants. This section contains discussion of the themes and categories that emerged from the findings and addressed the three research sub-questions.

Theme 1: Behavioral Knowledge

Sub-question 1 was, "What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?" Participants perceived their behavioral knowledge (factual and procedural information) influenced their dietary habits. Family/friends and the media were the two categories under Theme 1. Most of the mothers (14) identified family/friends as influential in their current knowledge regarding their dietary habits. The category included biological family members and close friends often considered members of the family. As Neva commented, "My play sister hooked me on coupons." The most common responses about where they gained their knowledge or who they trusted for knowledge about cooking or nutrition were similar to Tiana's response, "I might ask my mom . . . the majority of the way I cook . . . is from what I remember (from) her."

Most (14) of the participants also identified the media as a factor influencing their dietary behaviors: as Anita said, "I watch the Food Network." Other responses included Destiny, "I go to the library"; Neva, "I read a lot of magazines"; or Erica, "[I] like different websites and stuff". Less than half (6) the participants identified formal or non-formal classes as having much influence on their dietary behaviors. Taylor recalled, "Like when I was in high school, I had a

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cooking class." Laila remembered a community nutrition class: "I attended that class. I enjoyed it. That was fun."

Six of the participants talked about using their knowledge to teach others, such as Kayla, "I try to teach them all to cook, especially the boys." Three participants said they learned on their own, including Bonnie, who said, "I taught myself." Only Anita said she gained some nutrition knowledge from a medical practitioner. "Yeah, my doctor tells me . . . some things to eat, too." Appendix N is the behavior knowledge data summary chart with the frequency of responses for each of the categories.

Theme 2: Behavioral Skills

Participants also perceived their behavioral skills influenced their dietary habits. Meal preparation, resource management, grocery shopping, food safety, and dining out choices were the key categories under this theme that identified the behavioral skills participants perceived as influencing dietary habits. During the interviews, all the women described how they planned and prepared meals on a typical day, illustrating their planning and cooking skills. Responses were similar to Laila's:

A typical day, like, Fridays we usually have like, seafood or something. Fish, 'cause I like fish. Or, chicken, and salad, of course, go with it. Corn on the cob, stuff like that; green beans.

Some, such as Anita, described preparing quick meals. "Well, when I fix something, it's usually quick. Something cooked that's already just gotta put together, like a salad or turkey sandwich."

The behavior checklist results (Appendix M) provided additional information about the women's meal preparation skills. Ten of the participants reported planning meals ahead of time

and nine of the participants seemed to make sure their children ate within 2 hours of waking up. Eight participants said they did not think about healthy foods when planning meals and seven participants said they did think about healthy food when planning meals.

Although no food item appeared to be a regular menu item at most homes, the participants often mentioned meat during the interviews. Most (13) women discussed seasoning meats as a necessary step during meal preparation. On the behavior checklists, only five participants said they prepared food without salt most of the time. Discussions about seasoning food included more than adding salt. As Sydney explained, "I plan my meals around my meats. I season with some seasoned salt and I use some onion powder and some garlic powder and some black pepper."

As for resource management skills, most (13) explained a variety of resource management strategies based on their limited resources. Valerie said, "Whatever's on sale. That's what I tell them. (laugh) And I go through the sales papers, and whatever's on sale, where I can get it the cheapest, so I do a little running around." Aliyah said, "I try to stock up when I can find it at the lowest possible price."

All the participants discussed their ability to grocery shop, even with limited resources and food accessibility. As Taylor explained, "I try to do around my area 'cause we're on the bus right now." However, Kiara and others managed to get to a variety of stores: "Therefore, it's why I go, you know, to other neighborhoods, to experience a different environment of food as far as the shopping." Again, the behavior checklists supported their resource management and grocery shopping skills. Eleven participants reported comparing prices before buying food and nine of the participants shopped with a grocery list most of the time.

The participants often described food safety habits. Eleven of the mothers said meal preparation included the washing hands, utensils, and cooking surfaces. Aliyah's example was typical: "'Cause kids' standards and my standards is different standards, so it's like, I go behind them and I clean up the kitchen before I start prepping my food."

Food safety for the women included washing meats. According to Laila, "I gotta wash my meats and stuff before I cook 'em, and then I season 'em." The behavior checklists revealed 14 of the women said they thawed frozen foods at room temperature at least sometimes, and only nine participants said they did not let meat and dairy sit out for more than 2 hours. Bonnie seemed to question this habit, saying, "I know you not really supposed to let it sit in warm water."

All the participants expressed confidence in their skills regarding meal preparation, resource management, grocery shopping, and food safety habits. Some expressed concerns in other areas. Ten of the participants identified challenges and barriers such as "Making things that I don't really know how to make is the hardest," admitted Jasmine. Or, as, Destiny shared, "You know, I try to read labels and, um, count calories. I have a tough time with [it]." According to the behavior checklists, only six participants said they sometimes read the Nutrition Facts label.

None of the mothers prepared all their meals at home. All reported times when they ate out. Eleven participants said fast food was a typical dining out choice. Several shared stories similar to Kayla's situation of having a son in sports: "If we come home, we usually come home 9, 10, you know. He's like, 'What do ya'll wanna eat?' and so, I take them where they wanna eat. So I don't have to be up late cooking." Only Aliyah said she stopped at a gasoline/convenience shop to grab a meal. "I just grabbed something from the gas station where they sell chicken. I grabbed two chicken strips and some potato wedges." Appendix O is the

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behavior skills data summary chart with the frequency of responses for each of the categories. Appendix P is the dining out summary chart.

Theme 3: Personal Attitudes

SQ 2 was, What personal factors do low-income African American mothers perceive as influencing their dietary habits? Food preferences, desires/delights, fear/frustrations, race/identity, race/culture were personal factors emerging as key categories under Theme 3. All of the participants described their attitudes about their foods preferences, which ranged from Neva's, "I hate vegetables," to Anita's, "I love vegetables," to Imani's, "There's really not much that I don't enjoy." When asked to discuss their favorite foods, no one mentioned snacks or dessert until probed. Instead, they usually began naming a healthy food, such as when Kayla said, "Um, I like a lot of salad. I do like meat. And I do like some junk food but I'm trying to limit it."

Laila expressed delight when she explained, "Sometimes I'm excited cause, 'specially when I'm gonna prepare something that I know that we all gonna enjoy, so I feel okay about it." During the interviews, Sydney, along with 13 others, said she wanted her family to eat better: "I really want to start them to eat more healthier." However, on the behavior checklist, eight of the participants said they did not think about healthy foods when planning meals, while seven said they did.

Most (10) shared attitudes of fears and frustrations. For Kayla it was about picky eaters, "They don't be sometime wanting vegetables." For Laila, her frustration was fatigue, "I [get] kinda' tired, short of breath . . . That's only thing that really makes it hard for me to." For Bonnie, it was lack of transportation. "Yeah, I don't have transportation like that." Aliyah's frustration was limited resources: "If it doesn't fit my budget, I don't do it." Sydney's fears

centered around health, "I don't really wanna get high blood pressure 'cause it runs in my family."

Questions about race generated mixed responses. Most participants (11) responded negatively when asked if their personal identity as an African American woman affected the kinds of foods they enjoyed and fixed for their family. As Erica responded, "It doesn't really have anything to do with race." Most (10) associated negative feelings with their perceptions of the personal effects of being African American on their dietary habits, such as Valerie: "So I think being Black, eating all this fried food; that is just really not good for us." On the other hand, all the women thought race affected the dietary habits of the collective African American community, as Valerie explained:

> I just think . . . I, as being a Black woman, I kinda' fix foods that I would grew up on. And I kinda' feed my kids things. And I do try to fix different things like I grew up eating; like, yeah, the chittlins and the neckbones.

Fourteen participants believed some foods were unique to African Americans—soul food—with 12 participants specifically mentioning pork delicacies, such as chittlins (pork intestines), hog maw (pork stomach), neck bones, and pig ears or feet, though these items were not included in their typical everyday meals. Taylor explained it this way: "We'll have soul food. Greens and maybe rolls. Some sweet potatoes and stuff like that. I think we're into our soul foods more." Appendix Q is the personal attitude data summary chart with the frequency of responses for each of the categories. Appendix R is a soul foods data summary chart showing all the foods the participants named with response frequencies.

Theme 4: Personal Beliefs

Health issues, eating habits, and healthful foods were the three categories within Theme 4, suggesting that personal beliefs influenced the participants' dietary habits. All of the women believed health issues influenced their dietary habits. The issues named and the numbers of participants naming them were high blood pressure (5), acid reflux (4), diabetes (3), lactose intolerance (3), and food allergies (2). While some, like Kayla, named a specific ailment, "I'm diabetic, so I have to watch what I eat." Others shared Erica's belief about the relationship between family history and health.

It's does run in my family. My mom has high blood pressure, diabetes, heart problems. She has a lot of ailments that I look in myself that I can actually get. My daddy needed a liver transplant so it's a lot of things. He had diabetes. Grandma has diabetes.

All the participants discussed their beliefs about their eating habits. Erica said, "Some days I'm a breakfast person, but some days I am not." These beliefs also revealed tension between what they said and what they did, as Destiny explained, "If it's something I don't like, I never let my kids know I don't like it." Sometimes tension arose in what participants believed and what they did, something Erica struggled with. "So, I tried to cut down on my portions but I do eat a lot of stuff that's unhealthy food." Most (14) believed some foods were healthier than others; for example, Destiny said, "I try to stay away from, you know, the processed stuff." Jasmin said, "I know all that grease is not good," and Sydney admitted, "I very seldom eat vegetables. That's bad." Kayla summed up how her beliefs influenced her habits:

Here these last couple of months, I've been trying to eat more salads, more fruits. I've been buying more fruits instead of a whole bunch of chips and cake, so I even went down from size 20.

Appendix S is the personal belief data summary chart with the frequency of responses for each of the categories. As discussed above, during the interviews, the participants discussed personal factors that fit into two general categories, attitudes and beliefs, they perceived as influencing their dietary habits. Discussions about food preferences, delights/desires, fears/frustrations, and race fit into the attitudes category because they tended to be emotional constructs. Discussions about health issues, eating habits and healthful foods fit into the beliefs category because they seemed to be more concrete constructs.

Theme 5: Economic Environment

Sub-question 3 was, What environmental factors do low-income African American mothers perceive as influencing their dietary habits? Participants named economic, social, and physical factors that affected their dietary habits. Theme 5 had only one category: financial resources. The participants discussed their attitudes about and sources of financial resources. All of the mothers indicated their financial resources limited the foods they could purchase. Destiny related: "I told my kids, 'You know. I'm gonna start fixing one-pot meals.' And they said, 'Why?' I said, 'Because food is so expensive.'"

Only six participants discussed receiving government entitlement funds, such as SNAP or WIC, which they found inadequate. Kayla, who had been on disability and planned to start a new job a month later, shared, "So basically, when I get the food stamps, then we be living paycheck to paycheck." Aliyah explained how she maximized her SNAP benefits: "I get the expensive stuff with food stamps." Four of the participants said they were employed at least part time. Even though working now, Valerie shared this struggle: "I just started back working. I been laid off for like 3 years and it's only part time." Only Tiana mentioned receiving a little child support and a disability check for one child. Neva summed up the participants' general

feelings about their financial resources, "Stuff is so high. It really is. And then I'm tryin', you know. It ain't like I have a whole bunch of money to go shop with."

On the behavior checklists, eight women said they ran out of food before the end of the month, but the wording of the question was confusing. It was not clear whether this meant they ran out of food and could not purchase any more, or they ran out of food and had to go to the store again. Appendix T is the environmental economics data summary chart with the frequency of responses for each of the categories.

Theme 6: Social Environment

The two main categories under this theme were family and others. All of the participants discussed ways immediate and extended family members supported them and influenced their dietary habits. Most (14) named children, parents, or grandparents. Destiny described how she and others found family dinners socially supportive. "We, every Sunday and, um, everybody would come together. Everybody'd get in the kitchen." Tiana talked about how she planned meals with the children, "We discuss, like, what we wanna eat for the next 2 weeks." Several participants said they relied on family members for assistance in meal planning, purchasing, or preparation. Anita explained the support she received from her son because she had been on disability: "When he get off work, he comes to see what else I need done for the next day."

Most (12) also felt they could depend on others outside their family, such as a neighbor, as Bonnie shared: "I just get me a ride, usually my neighbor, he's okay with taking me, so it'll be right around the corner." Appendix U is the environmental social data summary chart with the frequency of responses for each of the categories.

The windshield tours provided visual clues of the women's social support from within the community. The African American population in the three studied sites ranged from 28%-63%.

Although the racial/ethnic demographics for each site were diverse, the participants referenced the presence of "Mexican" residents most often and pointed out the bilingual signage on most public buildings. One of two restaurants near Site A and Site C served Mexican cuisine, and only one resident on the tour said she had visited it once. The other restaurant was a burger café and the only participant on the tour who said she had visited it commented, "Good stuff." None of the participants named either of these two restaurants during the semi-structured interviews.

One participant remarked, "There are no soul food restaurants around here." Another participant pointed out a church that formerly provided monthly meals and clothing give-a-ways, but "They've slowed that down." The participants identified the library they visited to use the computers, and the recreation community center and public parks, places they said they visited occasionally. The parks were not well shaded and had little play equipment.

Theme 7: Physical Environment

Stores and transportation were the two categories participants cited under this theme. The seven store categories were large supermarkets, small supermarkets, discount supermarkets, grocery stores, dollar stores, wholesale clubs, and gasoline/convenience stores. The transportation category included whether the participant said she walked, rode the bus, or drove a car to get groceries. Driving a car included a car she owned, borrowed, or rode in with someone else.

Transportation was an often-discussed physical environmental factor the participants perceived as affecting their dietary habits. Two participants discussed having to walk to get groceries. Destiny described those without transportation. "And I always think about those that don't have transportation because I watch different ones up here. And you see them carrying bags; those that don't have transportation." Eight had access to a car, even if it was not steady.

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Sydney explained her situation: "I caught the bus a couple of times, but it was just like going to get little stuff. I got a car, so it was only like a few months." Three of the participants said they took the bus, as Jasmine explained, "Then another thing with the majority of my shopping. I have to make sure that is where I can go and get out."

When asked about how conducive the physical environment was for getting to grocery stores, all the participants agreed with Aliyah: "They're too far away. Either you have to walk that way (pointing a ways off) [or] you gotta walk over the highway to get there. So, there's really nothing in walking distance." Destiny described what many women did. "It's nothing in this area that's close, so I may go to like three different stores." The seven participants who did not own cars either rode the bus, walked, or rode with someone.

Despite the distance from their homes to the stores, 12 participants managed to shop at a large supermarket sometimes. Because the supermarket was not on a bus line, they needed to own car or get a ride from someone else, something several described doing. All the women managed to shop at a small supermarket sometimes and most (11) managed to shop at a discount grocery store sometimes. About half (7) said they went to the discount dollar store to get some food items. "It's just wherever I see the sales," said Kayla, explaining her persistence, despite the extra time and gasoline she had to spend to get groceries.

The closest stores within a one-mile radius of all three sites were the discount dollar stores, although the stores did not sell fresh produce. Nonetheless, participants found them convenient, as Taylor explained, "They take that Vision card [SNAP benefit] so it's really convenient sometimes." Participants had to travel 1.5 to 4.5 miles to get to the closest grocery store. A small supermarket was the next closest store and participants had to travel two to three miles to get to it. Residents had to travel three to four miles to the closest large supermarket.

Some participants said they were willing to travel more than 10 miles to shop at a large supermarket, either in their own personal car or with someone else. Although a small supermarket was within one mile of site C, a wooded area separated the site from the back of the store. Bonnie explained what some did to reach the store:

> I mean, it's pretty easy having [store name] right around the corner since, you know, a lot of people don't have transportation. We can also walk 'cause I done did that 'cause they have a little shortcut through the woods. It'll lead you right in the back.

At the time of the study, the weeds were taller than some of the women were, and several, such as Laila, refused to use the shortcut. Referring to her son, she explained, "He usually like to walk down there to the store and get stuff." The participants had mixed feelings about this small supermarket, the closest to all three sites. Kayla said, "I think it's more Mexican." Bonnie said, "I only go there because it is close." Tiana commented, "The store is clean." Kiaria said, "They high and I don't like the food they sell." Aliyah said, "I can deal with the cost, because like I said. I do coupons, comparing prices. Sometimes they might have a good deal, every now and then."

The windshield tours verified the participants' descriptions of their environment. All three sites were tucked away in neighborhoods not visible from main streets. Steep hills led to Site A and Site C. A narrow winding road was the only access to Site B. All three properties were well maintained, with few signs of disrepair. However, when leaving the sites, signs of age and decay plagued the community, evidenced by vacant lots, boarded buildings, and cracked sidewalks and streets.

Few retail businesses were near Site A and Site C, and only a couple of family-owned restaurants that none of the residents reported visiting. A fast-food drive-in was boarded up and

closed. Although Site B was in the back of a small retail business mall, getting to the mall was difficult without a car because of the wooded area separating the site from the mall. No grocery stores that participants could access easily were within the one-mile radius of any of the three sites. At the time of the study, however, a new discount supermarket was under construction near Site A and Site C. During the windshield tours of Sites A and C, the residents explained their city commissioner who lived in the area brought the discount supermarket to the neighborhood. They pointed out the site where the new store would be.

One resident had visited the weekly mobile farmer's market but said, "I like it but they can have more. It had enough to buy, but not enough to choose from what they had." The residents pointed out several gasoline/convenience shops and explained that to redeem SNAP benefits, the closest places were these shops, the discount supermarket, discount dollar stores, or the small supermarket. To redeem WIC vouchers, residents had to travel two to four miles to the closest small supermarket

To reach the closest bus stop from any of the three sites, the residents had to travel out of their complex and negotiate at least one hill to reach the main street with the closest bus stop. Acknowledging the lack of places to shop near their homes, on the windshield tour of Site C, the women directed the team to a shopping area three miles away where fast food restaurants, a small supermarket, and other small shops were nestled in a four-block area. When asked how residents negotiated the steep hills, lack of public transportation, and limited access to retail food stores, one resident said, "Here, neighbors help neighbors." In Appendix J, the 24 stores the participants referenced during the study are in a data summary chart, with the distance from the store to each site.

Additional Theme

Because this was a theory-driven, bounded multi-site case study, the data analysis aligned within the theoretical model and answered only the primary research question, How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? However, an additional theme emerged during the data analysis: The participants perceived that their cooking ability depended on their ability to cook from scratch or make homemade dishes. When discussing factors such as meal preparation that potentially influenced their perceived self-efficacy and affected their dietary habits, almost all the participants described how they cooked, or wished they could cook, from scratch.

As Laila explained, "I always fixed like homemade stuff. Always. It was nothing that I wanted to buy. I always had to fix it homemade, no matter what. It was never nothing store-bought." Few participants discussed relying on written recipes. Instead, they described dishes that required several ingredients and steps to prepare, such as marinated barbecued chicken, chicken apple salad, homemade Alfredo sauce, and honey hot wings. They described how these recipes and skills were shared between generations. This study was not about how African American mothers prepared food; however, the theme would warrant future study in helping nutrition educators design interventions to address healthy meal preparation skills.

Results

The purpose of this bounded multi-site case study was to explore factors theoretically linked to self-efficacy that affected the dietary habits of low-income women. Although SCT suggests that behavioral, personal, and environmental factors influence self-efficacy, this study did not measure self-efficacy. Instead, these findings provide insights into the factors that the sample population perceived as affecting their dietary habits. The sample of 15 participants was

from three public housing sites in an urban Midwestern city. The guiding research question of this study asked, How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American women? The three sub-questions explored how behavior, personal, and environmental factors influenced the dietary habits of the women.

According to SCT, behavioral, personal, and environmental factors interact to influence dietary behaviors (Bandura, 1986, 2004; Contento, 2011). Perceived self-efficacy is the catalyst that affects the confidence a person has the ability to successfully complete an intended dietary behavior (Contento, 2011). In this study, SCT provided the theoretical foundation for answering the research questions.

Critical race theory (CRT) contended that race matters as a factor that additionally influences the behaviors of a marginalized people in a racialized society (D. Bell, 1987; Delgado & Stefancic, 2001; Ladson-Billings, 2009, 2013; Yosso, 2006; Zamudio et al., 2011). To address the issue of race in this study, four tenets of CRT were useful to explore the factors low-income African American mothers perceived as affecting their dietary habits. The tenets were race is normal, often evasive; the historical context is foundational; narratives told by the people are important; and interest convergence is influential (D. Bell, 1987; Delgado & Stefancic, 2001; Ladson-Billings, 2009, 2013). CRT made up part of the theoretical framework for this study to provide a lens for addressing the possible impact of race on the research population.

The overall findings from the study revealed a reciprocal interaction between behavioral, personal, and environmental factors that affect the dietary habits of the sample. The findings also suggested how race interacted with these factors and potentially affected the dietary habits of low-income African American mothers. Following is a discussion of how the emergent themes

from the multiple data sources addressed the research sub-questions and the guiding research question.

Sub-question 1

In response to the first sub-question, What behavior factors do low-income African American mothers perceive as influencing their dietary habits?, the findings revealed two main behavioral factors: knowledge and skills. Knowledge included what the participants believed they knew and where they believed they gained that knowledge. The data sources provided insights into the women's knowledge about meal planning, purchasing, and preparation; food safety; and dining out. All the participants believed they learned most information related to their dietary habits from family, including close friends. Destiny explained, "My mom and my grandmother really kinda' put me and my sister in the kitchen around 11 or 12." All but one participant credited the media for their knowledge. As Aliyah related, "In the daytime I do Rachel Ray and them." Health professionals and community classes were not a primary source of information.

The second behavioral factor they perceived as influencing their dietary habits were skills that included meal preparation, resource management, grocery shopping, food safety, and dining out choices. The participants expressed confidence in resource management skills ("I use all the advertisements"), grocery shopping ("I try to stock up when I can find it at the lowest possible price"), and meal preparation ("I plan my meals around my meats"). Without referring to recipes or other prompts, most of the participants described how they seasoned meats before cooking, a possible cultural habit (Kittler & Sucher, 2008). However, comparing the behavior checklists to the interview transcripts showed a gap between their perceived capabilities and their knowledge of healthy dietary practices. Based on their knowledge, some participants were confident in

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skills such as washing meats, letting foods thaw at room temperature, and setting meat and dairy out for more than two hours, even when these practices violated the current *2010 Dietary Guidelines for Americans* (HHS, 2010).

Regarding the selection of places to eat out or dining out choices, participants based their choices on their preferences, with most choosing a popular fast food burger restaurant and almost half choosing a family restaurant. Although in the interview transcripts only one woman said she purchased food at a gasoline/convenience store. During the windshield tours, the participants, always referring to other residents, described the gasoline/convenient stores as popular because they accepted SNAP benefits, were close, and were convenient. No one on the tour said they purchased food at these stores. The windshield tour verified the participants' reports of no fast food or family restaurants within a one-mile radius of Site A and Site C, with geographic barriers to the restaurants for residents in Site B.

Finally, despite their confidence in basic meal planning, purchasing, and preparation, most (10) of the women cited factors that presented challenges or barriers potentially affecting their dietary habits. The barriers included fatigue ("It's just, if I'm tired . . ."), motivation ("So there are days you don't feel like cooking*"*), and lack of knowledge ("I have a tough time because one of my kids on a low-cholesterol diet.").

Sub-question 2

In answer to the second research sub-question, What personal factors do low-income African American mothers perceive as influencing their dietary habits?, the emotional construct of attitudes, and the concrete construct of beliefs, emerged as the personal factors that influenced dietary habits. The participants expressed attitudes about their food preferences, desires/delights, fears/frustrations, and personal racial identity as well as their cultural racial identity. All of the

participants described their food preferences ("It's not much I don't like"), and most (14) expressed an enjoyment for cooking ("You know, I enjoy preparing meals for the family"), and a desire to encourage healthier eating ("I wanna make sure they're eating right"). However, the behavior checklists revealed that only about half the participants thought about healthy food choices when planning meals.

Attitudes of fear and frustration surfaced when most (10) of the participants discussed their transportation challenges ("When I'm with somebody, they want to rush me"), health concerns ("I don't wanna get high blood pressure."), and picky eaters ("So I want them to be healthy, but I don't want to force them."). Attitudes about race surfaced as participants described foods they believed were unique to the African American culture. While most of the women (11) denied that race personally influenced their dietary habits, saying things like, "I don't think food should define you," most (14) women talked about foods they considered unique to African American cuisine.

All the participants said routine personal and family eating habits influenced their dietary habits. Most of the participants (14) said health issues also influenced their dietary habits. They believed that some health issues restricted their food intake, such as high blood pressure. Most (14) of the participants wanted to make healthier dietary choices and most (14) participants believed some foods were more healthful than others. However, as mentioned earlier, the behavior checklists showed that most do not habitually consider the healthfulness of foods.

Sub-question 3

In answer to the final sub-question, What environmental factors do low-income African American mothers perceive as influencing their dietary habits?, economic, social, and physical environmental factors emerged as potentially influencing the perceived self-efficacy of the

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participants. Most (14) of the participants agreed that limited financial resources restricted their ability to purchase and prepare the foods they wanted for themselves and their family. "When I had more money, we ate better." Even though only half the participants discussed receiving some form of government assistance, limited financial resources was a qualification to live in public housing.

The family and others surfaced as an influential social environmental factor. All of the participants expressed ways family members influenced their dietary habits, which overlapped with the behavior and personal factors that affected their dietary habits. Most of the participants (14) discussed the influence of children on dietary habits and most of the participants (13) referred to the influence of mothers or grandmothers. Participants (10) also named others as socially influential in their dietary habits.

The physical factors sited most often in the interviews were (a) the neighborhood had no access to quality food and (b) grocery stores were too far away. The geographic maps showed no food retail stores in a one-mile radius of Site A and Site C. The small supermarket shown was a mile from Site B was accessible only by car unless residents walked through a wooded area from their homes to the store. Only the gasoline/ convenience stores and discount dollar stores were within one mile of the sites. The one close small supermarket was two to four miles away from the sites. The closest large supermarket was three to five miles away. However, at the time of the study, a new discount supermarket was under construction near Site A and Site C.

Related to the scarcity of food sources was the lack of access to convenient bus routes, creating the need for personal transportation. The windshield tours and geographic maps supported the participant concerns. Participants had no convenient bus routes from any of the three sites to a supermarket.

How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American women? The findings from this study illustrated a reciprocal relationship among the behavioral, personal, and environmental factors and its effect on the dietary habits of the sample. For example, the women discussed the affect that family had on their behavioral knowledge ("I ask my mom"), their personal beliefs ("She has lots of ailments that I look in myself that I can actually get"), and their social environment ("We discuss like what we wanna eat for the next two weeks"). They discussed the affect personal beliefs had on their behavioral skills ("I gotta wash my meats"), personal attitudes ("I do like some junk food"), and physical environment ("They high and I don't like the food they sale". They discussed the affect financial resources had on their behavioral skills ("Whatever's on sale."), their personal beliefs ("If it doesn't fit my budget, I don't do it", physical environment ("There's nothing really in walking distance").

Although this study did not measure self-efficacy, according to SCT, and other nutrition research the factors the women discussed in this study can potentially support or limit their self-efficacy regarding their dietary habits (Bandura, 1986, 1994, 1998, 2004; Contento, 2011; Bahr, 2007). According to Bandura (1994), the possession of knowledge and skills is associated with a strong perceived self-efficacy. Personal attitudes and beliefs are associated with either a positive or negative perception of self-efficacy. Environmental factors can threaten perceived self-efficacy.

As the participants told their stories, they described their ability to perform tasks related to meal planning, purchasing, and preparation, resource management, and food safety. When discussing personal factors, the women shared fears and frustrations that pose potential threatens to their perceived self–efficacy regarding their dietary habits. Discussions about the women's

environment revealed economic, social, and physical barriers that potentially influenced their perceived self-efficacy and affected their dietary habits. In summary, how do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American women? According to the findings, behavioral, personal and environmental factors reciprocally affect the dietary habits of low-income African American women and potentially influence their self-efficacy.

Summary

This chapter contained the findings uncovered in this study. Organization of the findings was according to the research questions. Data from semi-structured interviews, supported by participant screening interviews, behavior checklists, windshield tours, and researcher notes revealed the factors participants perceived as affecting their dietary habits. As is typical of qualitative research, samples of quotations from participants are included with each finding. Using the participants' own voices represented an attempt to build the confidence of the readers by accurately presenting the reality of the participants in their lived environment. The discussion and implications of the findings are in the next chapter.

Chapter 5 – Summary and Discussion

Introduction

This chapter contains a summary of the research study and major conclusions drawn from the data findings presented in Chapter 4. The chapter includes a summary of the study, discussion of findings, implications for practice, recommendations for practice, recommendations for further study, and concluding remarks.

Summary of the Study

Although numerous quantitative studies describe disparities between the dietary behaviors of African Americans and those of the general public (Adler & Rehkopf, 2008; Bahr, 2007; Ben-Shalom et al., 2012), findings have been inadequate to understand the factors that might affect the dietary choices of low-income African American mothers. For nutrition educators, understanding the factors that influence perceived self-efficacy, or the ability to act, has been the first step to understanding what affects an individual's ability to make change. This research addressed the gap between what the quantitative nutrition research had shown about the dietary habits of low-income African American mothers and what African American mothers perceived as factors influencing their behaviors.

The purpose of this study was to explore factors theoretically linked to self-efficacy that affected the dietary habits of low-income African American mothers. The study's theoretical framework drew on the triadic reciprocality of the personal, behavioral, environmental determinants of SCT and the four tenets of CRT that purport race, history, narratives, and interest convergence matter. A qualitative bounded multi-site case research design was used to capture the experiences and perceptions of the participants, rather than results of test variables (Corbin &

Strauss, 2008). The chosen design provided an avenue to explore factors the participants perceived as affecting their dietary habits within the theoretical framework.

The research took place in two phases at three low-income public housing sites, using triangulation of multiple data sources to increase internal validity (Yin, 2008). A pilot study to test and modify the research design took place. Five African American mothers were recruited from three sites in an urban Midwestern city. During Phase 1, participants completed the participant information screening survey (Appendix E) and behavior checklist (Appendix F) before participating in the semi-structured interviews (Appendix G). Each participant responded to oral questions, with responses recorded in writing and by two audio recording devices.

The participant information screenings provided basic demographic information about each participant. The behavior checklist measured food safety, food resource management, food security, and nutrition practices (Anliker et al., 1998; Wardlaw & Hanula, 2012). The purposes of the screenings and checklists were to provide initial data about the participant before the semi-structured interviews and to provide comparative data when analyzing the interviews. The semi-structured interviews, the primary data source, took place onsite in homes or the community centers. These 30- to 60-minute interviews explored the participants' perceptions concerning behavioral, personal, and environmental factors that potentially affected their dietary habits. All interviews were audio recorded and transcribed verbatim.

During Phase 2, geographic maps of the research sites, secured from the city research department, outlined the one-mile radius of the site and marked retail food stores. The maps showed proximity of stores to sites and were useful for planning the windshield tour routes. The maps supplied supportive data describing the context of the lived environment. Windshield tours took place at two of the three sites, during which two residents guided the researcher and a driver

through a one-mile radius of the neighborhoods. Observations of the geographic and environmental context of the participants were important elements of the recordings and included stores, restaurants, neighborhood conditions, community agencies, and bus stops.

Inductive constant comparison was the technique used during analysis of the semi-structured interviews to code the findings within the theoretical framework. The findings, presented in data summary tables, allowed comparison with the supporting data sources. The emergent themes with constructs and categories underwent alignment with the theoretical framework to answer the research questions. A variety of strategies helped to ensure the quality of the study: member checking, peer examination, and triangulation.

This guiding research question was, How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? The primary research question had three sub-questions:

SQ 1. What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 2. What personal factors do low-income African American mothers perceive as influencing their dietary habits?

SQ 3. What environmental factors do low-income African American mothers perceive as influencing their dietary habits?

Discussion of Findings

One goal of SNAP-Ed was to encourage low-income populations to make healthy food choices within a limited budget. Because of the disparity between low-income African American health outcomes and those of the general public, SNAP-Ed educators made efforts to develop culturally appropriate nutrition interventions based on the learning characteristics and

needs of the audience (Ben-Shalom et al., 2012; USGOA, 2004; USDA, 2008, 2012a). However, available recommendations did not inform SNAP-Ed educators on how to understand the unique characteristics of diverse audiences, a necessary step before developing effective learner-focused programs (Contento, 2011; Vella, 2002). The findings in this study provided clues about factors that potentially influenced the dietary habits of low-income African American mothers. The findings, combined with the theories, principles, and practices of adult education, offered insights for educators charged with teaching diverse learners, helping the educators successfully design educational strategies.

A seminal principle in adult education is that adult learners bring a reservoir of experience into the classroom and the adult educator should utilize the learners' experiential knowledge to develop and implement an educational intervention (Knowles, 1970, 1980, 1989; Knowles et al., 2011). Some educators contend that discovering the experience and knowledge the learner possesses is necessary before implementing any educational program (B. Bell, Gaventa, & Peters, 1990; Merriam et al., 2007; Martin, 2004; Vella, 2002; Yosso, 2005). Freire (2009) began with dialogue as a mechanism to raise awareness resulting in liberation and change for the learner. Vella (2002) believed that dialogue was the pathway to help educators identify and understand symbols and values that resonated in other cultures and potentially enhance learning between the teacher and student. Horton suggested educators should "Move over and start with experience, letting book knowledge throw whatever light it could on that," (B. Bell et al., 1990, p. 42).

The intent of this study was to move adult educators beyond book knowledge and into the lived environment to hear the voices of the learners. The base of previous studies was often knowledge that defined African American mothers by their high rates of chronic disease and

their low rates of compliance to the dietary guidelines (CDC, 2005; Gleason et al., 2000; Ben-Shalom et al., 2012; HHS, 2010; USDA, 2012a). The findings in this study revealed internal and external factors that low-income African American mothers believed affected the disparaging facts about their dietary behaviors.

Sub-question 1. What are the behavioral factors that influence the dietary habits of low-income African American mothers? The findings revealed that knowledge and skills were the behavioral factors that influenced the dietary habits of low-income African American mothers. The findings suggested that knowledge, gained mostly from family or friends and the media, and skills regarding meal preparation, resource management, food safety, and dining out choices, were the main factors the participants perceived as influencing their dietary habits.

In many ways, the behavioral factors that influenced the dietary habits of participants were similar to those identified in previous nutrition education research on low-income, SNAP-eligible families (Ben-Shalom et al., 2012; Strayer et al., 2012; USDA, 2012a). The women did most of the meal planning, purchasing, and preparation for their families. They cooked most of the meals, but sometimes ate out. All of the participants identified family or friends ("I go to my friend") and the media ("I do Rachel Ray)" as their main sources for seeking and receiving knowledge that influenced their dietary habits. Less than half the participants identified a formal or informal class contributing to their knowledge and skill reservoirs. While five participants said they learned from experience ("Kinda learning from my own mistakes"), only one mentioned that she received dietary knowledge from her doctor ("Yea, my doctor tells me some things to eat sometimes.")

A significant finding was that few of the participants perceived that classes or the medical profession contributed to their knowledge base. This finding supported research indicating

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children adopt dietary habits from their parents, suggesting a generational knowledge base

(Baughcum et al., 1998). Recognizing that these learners gravitate toward family and the media

for knowledge, the nutrition educator should explore strategies for building upon trusted

information sources, such as family members and media sources, when seeking to initiate

programs for diverse communities. This supports adult education practices that encourage

building a relationship of trust through dialog with learners before initiating educational

interventions (Freire, 2009; Bell, B. & Peters, 1990; Sheared, 1999; Vella, 2002).

According to SCT, the participants' source of knowledge is strengthened by the symbols

people possess from their environment, direct and indirect experience, and observation, including

what they learn (Bandura, 1986). CRT cautions that educators should learn about the sources of

the knowledge the participants perceived as important and should not merely assume knowledge

is universal, derived from the dominant culture (Ladson-Billings, 2013). In this study, most of

the women discussed washing their meat before cooking it based on their knowledge about food

safety. This is contrary to current food handling practices and recommendations from the 2010

Dietary Guidelines (USDA, 2010). Regardless of how the nutrition educator feels about washing

meat before cooking, it is important to understand the learner's behavior is rooted in past

observations or experiences. An intervention designed to change this behavior must recognize

the learner's propensity to trust family and media first, and the educator's need to gain that trust

before introducing knowledge opposed to current belief. The educator must consider ways to

gain the learner's trust before supplying the learner with new knowledge that will encourage a

safer food safety behavior.

In addition to behavioral knowledge factors, the study findings revealed a reservoir of

behavioral skills related to their dietary habits. All the participants described their abilities and

strategies for meal preparation: ("If I do breakfast, we'll do turkey bacon, hash browns, eggs, and a biscuit, and some orange juice."). Almost all participants identified resource management skills that included budgeting, comparison shopping, and using coupons and sales papers ("What are we eating this month? Whatever's on sale"). Despite the lack of convenient grocery stores, participants all shared resource management strategies, even those faced with time, knowledge, and health challenges ("I try to stock up when I can find it at the lowest possible price."). None of the participants described an inability to plan, purchase, or prepare meals for their families.

The behavior checklists supported the semi-structured interviews that the women possessed skills to purchase, plan, and prepare meals for them families on a limited budget. Recognizing the goal of SNAP-Ed is to assist low-income people in making healthy dietary choices on a limited budget, an educator preparing a program for these women would be wise to consider the knowledge they would bring to the classroom. While only about half the women said they thought about healthy choices when planning meals, nutrition education that built on their resource management and cooking skills would be better received than a standard curriculum that assumes the women possess minimal skills.

The findings also revealed other areas where experience and skills did not indicate positive dietary habits. In this study the average age of participants was 39, suggesting they may have been cooking longer than the younger residents. Despite these women's cooking experience, 14 women said they thawed frozen food at room temperature at least sometimes, another violation of safe food management practices (USDA, 2012a). According to SCT, experience and skills does not always lead to positive behaviors (Bandura, 1986, 1994).

Lack of energy, motivation, and information were challenges the women cited as affecting their dietary habits. These challenges were factors identified in other nutrition research

education as having a negative effect on dietary habits (Contento, 2011). Because an individual's knowledge and skills are shaped by his or her history, CRT stresses the need to listen to the narratives and experiences of learners to gain clues about their perceptions of the factors that influence their behavior. In this study listening to the women's lived experiences describe how their knowledge and skills through their lived experience will help the nutrition educator be aware of factors that negatively affect dietary habits.

For example, in answer to this sub-question, the findings also revealed that the behavioral knowledge and skill factors the participants identified in the study were influenced by the availability of resources in the community; the environment. The participant information screenings indicated that the women did not cook all their meals at home. They ate out about twice a week, even though the interviews and windshield tours revealed that no chain fast food or family restaurant existed within a one-mile radius of two of the sites, and geographic barriers existed to restaurants near the third site. The findings from Bahr's (2007) investigation of the differences between the dietary habits of African Americans and the general population suggest that cost is not the only factor that affects the dietary habits of African Americans. His study suggests that the preferences for inexpensive foods that require little special handling and are widely distributed at convenience and fast food establishments are rooted in residential segregation in neighborhoods with limited nutritional infrastructure (Bahr, 2007). This supports CRT's plea that educators explore that racial, socio-economic, and historical context of a neighborhood to avoid assumptions and biases about the behavioral knowledge and skill factors that habits of the potential learners (Dixson & Rousseau, 2006).

Sub-question 2. What are the personal factors that influence the dietary habits of African American women? Beliefs and attitudes were the personal factors that influenced the

dietary habits of low-income African American women in the present study. The context for learning for the participants was elucidated as the personal factors that influenced the population emerged. As with the general population, the participants had personal food preferences and desires for their family to develop healthy habits. On the other hand, according to the behavior checklists, only about half the women thought about healthy food choices when planning meals. Several women indicated it was important to serve what the family would enjoy ("I'm gonna prepare something that I know that we all gonna enjoy"). This is consistent with nutrition education research that shows that personal tastes outweighed healthy food choices (Contento, 2011; Lucan, Barg, Karasz, Palmer, & Long, 2012). CRT would say the personal tastes, cultural preferences, and history of the women should be considerations when designing educational strategies, such as ways to encourage healthier food choices (Ladson-Billings, 2009).

Despite most of the participants expressing enjoyment about cooking, the expressed fears and frustrations of this population merit consideration by nutrition adult educators. These low-income African American mothers expressed frustrations about family members' expectations ("So I want them to be healthy but I don't want to force them to eat healthy"), unreliable transportation ("When I'm with somebody, they want to rush me"), limited resources ("I do like to eat out sometime but I can't afford it"), fatigue ("Driving and getting off work, I just want to go home and go to sleep"), and health issues ("I don't really wanna get high blood pressure 'cause it runs in my family").

The findings were consistent with other research indicating social pressure, food accessibility, and health issues were disproportionally represented in low-income public housing environments (Gibson, 2012; Miller & Brancum, 2012; Powell et al., 2007). Research in other urban centers showed the neighborhood food environment, food store availability, health issues,

and social pressures limited the self-efficacy of African Americans to make positive dietary choices (Brug, de Vet, de Nooijer, Verplanken, 2006; Lancaster et al., 2005; Lucan et al., 2012; Lynch, Holmes, Keim, & Koneman, 2012; McGee et al., 2011). These findings remind nutrition educators tempted to use a deficit approach when providing interventions of possible external factors that affect the dietary habits of African American women.

The personal factors participants identified in this study included attitudes about race. Most (10) were certain, sometimes adamant that race did not affect their personal dietary habits ("It doesn't really have anything to do with race"). Participants seemed to have a need to distance themselves from stereotypes about African American foods ("But most people would say I eat like a White person"). However, all of them felt that race and culture affected the dietary habits of the African American community ("'Cause Black people, to me, eat more probably soul food type things than I probably do"). Most participants (10) associated negative feelings with their perceptions of being African American and the relationship between certain foods and chronic disease ("'Cause we have a higher risk, especially a Black women, you know, like heart rate, you know, and stuff").

Participants seemed conflicted between the foods they liked, such as fried chicken and chittlins, and their perceptions of its negative impact on their health ("And that's how ancestors went on to feed us those chittlins that we grow to love so much that we should not be eating"). They named foods they considered "soul" foods, with chittlins at the top of their list, though none named these initially as favorite foods or foods included in a typical meal. This might be because they did not serve the foods regularly, but prepared them only for special occasions (James, 1998). Their attitudes about race might have been indicative of the negative stereotypes

attached to African American foods or with the participants' self-identity as it fit on the racial identity scale (Kittler & Sucher, 1989; Cross, 1971).

Besides personal attitudes about their food preferences, likes and dislikes, and fears, participants shared personal beliefs about health issues, eating habits, and healthful foods. The participants discussed concerns about their personal health issues, such as high blood pressure, acid reflux, diabetes, and food intolerances and allergies ("It's does run in my family, though, so that's what I'm tryin' avoid"). Their concerns about high blood pressure, diabetes, digestive issues, and food intolerances had support in research showing that African American women suffered from these ailments disproportionally, compared to the general population (Basiotis et al., 2002).

The participants confessed to poor eating habits ("I eat a lot of foods I think I'm not supposed to eat"). They indicated how their beliefs about healthful foods influenced their eating habits, both positively and negatively ("I do like some junk food, but I'm trying to limit it"). This behavior was consistent with that reported in other studies, suggesting that perceptions of healthy foods influenced perceived self-efficacy and dietary habits (Lucan et al., 2012). As mentioned earlier, several research studies indicated that low-income African American women were disproportionally at risk for chronic illness (Bahr, 2007; CDC, 2005; HHS, 2010), which makes nutrition education for this population a national concern (Ben-Shalom et al., 2012; James, 1998; Lancaster et al., 2005; Satia et al., 2004).

All the participants said their personal eating habits as well as those of the family influenced their dietary behaviors. This finding was consistent with SCT and nutrition research that stressed the role of habits in dietary choices (Bandura, 1986; Contento, 2011). CRT suggests that considering the narratives of the participants regarding their perceptions of how

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attitudes and beliefs potentially influence their self-efficacy would be insightful before designing educational interventions (Ladson-Billings & Tate, 2006).

According to SCT, personal factors are the beliefs, values, and attitudes that influence an individual's behavior. The findings were consistent with SCT and illustrated the interaction between behavioral and personal factors. For example, the personal belief about a food sensitivity influenced Sydney's behavior to avoid milk. "I really don't mess with milk, 'cause it really don't agree with me." CRT provided a lens for understanding how personal beliefs about race influenced participants' behavior factors, even when they were not aware of it. For example, while the participants did not want to be stereotyped as eating only "Black people's food," as Erica said, they often talked about soul foods traditional to African American cuisine. As Valerie said, "I don't know that it's not good for us or not, but I do like it."

Sub-question 3. What are the environmental factors that influence the dietary habits of low-income African American mothers? Economic, social, and physical environmental factors potentially influenced the dietary habits of the participants. The last factor in this study influencing the participants' perceived dietary habits was the environment, which included economic, social, and physical determinants. The participants perceived their economic status as a major deterrent to their purchasing power ("My income now is kinda' pitiful"). Several research studies supported the finding that socio-economic status negatively impacted dietary habits (Eyler et al., 2004; Kayrooz et al., 1998; McClellan et al., 1998; Satia, 2009).

Some women specifically indicated their limited income affected the ability to purchase healthier foods (When I had more money, we ate better"). Other studies support these findings, showing low-socio-economic status as associated with the inability to purchase more healthful foods (HHS, 2000; Mabli et al., 2013). Lee et al., in a 2010 study of a city's food environment,

suggested the residents paid more indirectly because of the extra time, limited transportation, and lack of convenient access to quality food. The women in this study did not allude to indirect costs because of the environmental factors that affected their dietary habits. CRT, believing racism is endemic and evasive, however, would challenge the nutrition educator to consider the possible indirect costs associated with the lack of transportation and access to quality food when designing nutritional programs (Yosso, 2005).

The impact of the social environment on dietary habits also must be a consideration. The participating low-income African American mothers, as with other mothers, wanted to prepare and serve foods their families would enjoy. The strong familial bonds expressed by all the participants and woven throughout the study suggested that family members, especially parents and children, had a tremendous impact on the dietary habits of the participants' knowledge, skills, attitudes, beliefs, and actions ("So you just can't think about what I would eat. I gotta think about what they would eat"). Numerous studies, as well as SCT, noted the impact of family and culture on the dietary habits of women (Bandura, 1986; Contento, 2011; Rozin, 1982). Kittler and Sucher (1989) suggested the bond might have historical roots that continue to be strong in African American families. CRT suggested the cultural history and narratives of the participants should be a factor considered when planning of learning interventions. This suggestion agrees with adult education principles that emphasize the importance of acknowledging the personal experiences learners bring to the classroom (Knowles, 1970, 1980, 1989; Knowles et al., 2011; Johnson-Bailey, 2010).

The physical environmental factors participants perceived as affecting their dietary habits included their limited access to food and transportation in their neighborhood, a reoccurring concern during the interviews ("But really it's nothing in this area that's close"). Their

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narratives aligned with the geographic maps and windshield tours, indicating the only stores within one mile of the studied sites were gasoline/convenience stores and discount dollar stores, which had limited food options and no fresh produce. The USDA (n.d.) classified such areas as food deserts because of the high concentration of poverty and the low access to grocery stores and supermarkets. The situation was consistent with research showing a paucity of grocery stores in low-income neighborhood communities (Powell et al., 2007). The study findings were also consistent with research indicating low-income African American neighborhoods had fewer large supermarkets than did European American neighborhoods, and small supermarkets and grocery stores were more prevalent in low-income, racially/ethnically dense communities (Powell et al., 2007).

To further complicate the problem of limited access to food, the studied sites did not have adequate public transportation, creating problems in getting to the supermarket without a car ("I have to make sure that is where I can go and get out. I can't get on the bus and go."). Powell et al. (2007) believed a priority for public policymakers should be to improve access to supermarkets to reduce systematic barriers existing by race, ethnicity, and income. Critical race theorists agree, believing that (a) the barriers were the result of endemic racism, (b) the historical context of the neglected neighborhoods should be addressed, (c) the narratives of the residents should be heard, and (d) removing these barriers is in the interest of the whole community (D. Bell, 1987); Delgado & Stefancic, 2001; Ladson-Billings, 2009; Ladson-Billings & Tate, 2006; Lynn & Dixson, 2013; Yosso, 2006; Zamudio et al., 2011). According to Martin (2004), understanding the oppressive vestiges of historic oppression in low-income communities sensitizes the educator to the environmental factors that some may easily ignore, but that play a significant role in the perceptions of self-efficacy regarding the behaviors of the learners.

CRT views the findings from this study as helpful to explain the environmental barriers the participants faced in trying to access food. The racial complexion of the neighborhood supports research reporting that marginalized populations were more likely to live in blighted neighborhoods with limited resources (Powell et al., 2007). During the one windshield tour, the residents seemed happy to explain how their city commissioner, who lived in the area, brought a discount supermarket to the neighborhood. This action supported the belief that interest convergence between the marginalized and the dominant culture can facilitate change in low-income communities.

How do factors that potentially influence perceived self-efficacy affect the dietary habits of low-income African American mothers? Perceived self-efficacy is the ability to complete an intended action. Although the study did not measure self-efficacy, the findings did reveal how perceptions of behavioral, personal, and environmental factors, including race, interact reciprocally to affect the dietary habits of low-income African American mothers.

The women's knowledge, gained from family and media, served as a foundation for the resource management, cooking, and food safety skills they possessed. Their personal attitudes and beliefs often informed their behavior, as in the case of washing meats and not consuming dairy. The economic, social and environmental factors affected their meal purchasing, planning and preparation because of poor transportation and limited food access. The findings of this study addressed the gap between the women's lived experiences about their dietary habits and the research data that defines them by their poor dietary habits and risks for chronic disease. Although national studies showed a disparity in the dietary habits and chronic health risk between African American women and the general population, the findings of this study provided clues about factors that potentially impact those habits. For example, participants

experienced barriers to purchasing healthy foods and preparing healthy meals because they lived in food deserts (Baker et al., 2006; James, 2004; Lee et al., 2010). Several studies showed that high-poverty, low-socioeconomic, ethnically and racially dense communities had less access to healthy food, and therefore fewer opportunities to make healthy choices (Bahr, 2007; James, 2004; Lee et al., 2010). Therefore, the answer to the guiding question was not simple. The study showed that the participants perceived some factors as positively affecting their dietary habits, while other factors negatively affected their dietary habits.

Implications for Practice

As explained earlier, government reviews and reports recommended SNAP-Ed providers focus on improving three areas of federal nutrition programs: program design, delivery, and evaluation (Ben-Shalom et al., 2012; GOA, 2004; USDA, 2008, 2012a). The recommendations emphasized the need for developmentally appropriate, learner-focused, theory-based, context-sensitive educational approaches. The goals were consistent with adult education theories, practices, and principles and the mission and vision of cooperative extension. Little research had provided insights into how to address the programmatic needs.

SNAP-Ed focused on mothers as the primary influence on the dietary habits of other family members, believing that the mothers had the power to change the behavior of children and fathers (Strayer et al., 2012; USDA, 2008). Educators developed nutrition messages, curriculum, and other strategies intended to encourage behavior change to assist mothers in encouraging positive dietary habits for themselves and their families (Strayer et al., 2012; USDA, 2008). To gain insight into how to develop appropriate nutrition interventions for SNAP audiences, the goal of this study was to explore the factors that potentially influenced those mothers' perceptions of their abilities to make positive dietary choices. Understanding the mothers' perceptions of

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factors that influenced their dietary habits could provide educators with insights into how to deliver SNAP-Ed programs that are developmentally appropriate, theory-based, learner focused, and context-specific. This study's findings, framed in a theoretical framework of SCT and CRT, provided implications for action for adult educators seeking to follow the government recommendations to develop effective nutrition education programs for diverse audiences.

First, several government reports recommended that SNAP-Ed programming adult educators needed to ensure developmentally appropriate services (Ben-Shalom et al., 2012; GOA, 2004; USDA, 2008, 2012a). The behavioral factors the participants in this study identified provided clues into their perceptions of factors that influenced their dietary habits. Understanding these constructs would assist the SNAP-Ed educator in developing services that are developmentally appropriate and adapted to the knowledge and skills of the learner.

The understanding develops through interaction with the potential audience, not by studying about the participants apart from their lived experiences. Before initiating any learning intervention, adult educators preparing to teach diverse audiences should seek opportunities to dialog with the potential learners, hear their stories, and collect their narratives to understand their learning needs. This requires abandoning methods of planning and implementing programs that exclude the learner from the planning process. In this study, consulting the resident presidents was a key step toward gaining a hearing with the potential learners. This required additional time, but resulted in the resident presidents recruiting participants that the researcher had difficulty finding.

To understand the learner's knowledge and skills, nutrition educators must relinquish reliance on food recalls and behavior checklists as the only measurements of the learner's knowledge and skills. These only provide a self-report of food intake, nutrition practices,

resource management, food safety, and food security. They do not allow for the learners to

express complex attitudes and beliefs undergirding the behaviors, or factors they perceive as

affecting their actions. In this study each participant was allowed to verbally answer the

behavior checklist and elaborate on her answers. Listening to the women answer each question

led to the discovery that the question about food security was confusing.

Listening to the knowledge and skills the learners bring to the classroom also means

abandoning dependence on scripted standardized curriculum. For example, as mentioned earlier,

the women in this study discussed a variety of cooking techniques they used to prepare meals.

They listed numerous strategies for saving money. Planning an educational program that teaches

basic cooking skills and cost-saving strategies without considering the knowledge these women

bring to the classroom could result in learners dismissing the class as irrelevant. On the other

hand, these women would be more inclined to attend a class on how to read labels or cook for

those with food restrictions.

Second, the government reports recommended developing learner-focused, theory-based

educational approaches (GOA, 2004; Ben-Shalom et al., 2012; USDA, 2008, 2012a). The

design of this qualitative study incorporated adult education principles suggesting the learner, in

this case, low-income African American mothers, would be the best resource for understanding

the educational approaches necessary for assistance in adopting healthy dietary habits (Knowles,

1970, 1980,1989; Martin, 2004). The theoretical framework of this study recognized personal

factors that reciprocally interacted with behavioral and environmental factors to influence the

learner's dietary behaviors (Bandura, 1986, 2004). Using this framework, participants had the

opportunity to voice their perceptions of how their personal beliefs and attitudes influenced their

dietary habits. The women shared their food preferences, desires for a healthy family, and love

for cooking. They also shared their frustrations with picky eaters, limited resources, transportation, and fatigue. They discussed their attitudes about race and how it affects them personally and collectively.

SNAP-Ed educators who utilize adult education theories may find understanding these personal factors can potentially influence learners and facilitate effective program design. SNAP-Ed educators might find advantage in being cognizant of these attitudes and beliefs when preparing lessons to promote positive nutrition behaviors. For example, the Dietary Guidelines for Americans (HHS, 2010) encourage increasing dairy-rich foods, but many of the participants believed dairy foods made them sick. Awareness of such attitudes and beliefs could warn the SNAP-Ed educator of the need to find strategies to sensitively and appropriately encourage learners to explore healthier choices without ignoring their perceived personal barriers.

Third, the government reports stressed the need to consider the context of the services (GOA, 2004; Mabli et al. 2013; USDA, 2008, 2012a). Environment was the third factor that reciprocally interacted with behavior and personal factors to influence dietary behaviors. In this study, participants discussed economic, social, and physical barriers they perceived as affecting their dietary choices. On the one hand, CRT, supported by other research, suggests many of these barriers are the result of systematic, though invisible, racism embedded in the historical roots of the community (Delgado & Stefancic, 2001; Gibson, 2012; Martin, 2004; Yosso, 2005). In preparing for SNAP-Ed programs, the educator should be conscious of hidden historical barriers and utilize the expertise of the learners to design strategies to overcome environmental challenges. The educator should plan to spend time in the community before the planning and implementation of a nutrition intervention. Schedule a windshield tour of the community, and invite a key informant to provide historical and cultural background about the environmental

factors that potentially affect behaviors. In this study, it was during the windshield tours that the researcher observed how lack of retail food stores and adequate public transportation hindered the women's options for food choices. Also, during these tours the women admitted to concerns about the shifts in ethnic demographic characteristics of their community. It is futile to stress increased consumption of fruits, vegetables, whole grains, low-fat dairy and lean-protein foods when the closest stores offer little or no options of these foods.

The SNAP-Ed educator may discover that because of historical and culturally based social environmental factors, no one-size-fits-all SNAP-Ed curriculum exists. Although learners may want to avoid the stereotype of their food preferences, their personal tastes offered clues about how their social upbringing might have influenced their dietary habits. For example, *FNSE Guiding Principles* stress encouraging increased consumption of fruits and vegetables and cooking low-cost meals (USDA, 2012a). The participants in this study identified meat as central to their meals. Therefore, one-pot or meatless meals, though low-cost and nutrient-dense, might not be socially acceptable, and might create disdain and rejection. The SNAP-Ed educator could benefit from learning the cultural foods, spices, and methods of preparation of the learners as they consult with potential learners and build lessons to encourage healthier habits based on the current practices of the participants. This may require spending time shopping with the learner and watching the learner prepare favorite meals, because many of the women in this study described preparing meals without written recipes.

Beyond gaining awareness of how environmental factors may affect the dietary habits of the learner, the SNAP-Ed educator may need to collaborate with the learner to seek out community resources to facilitate elimination of barriers to making healthier choices. In this study, the women described how their county commissioner initiated the building of an

affordable grocery store in the neighborhood. Educators in similar settings could join the resident

learners to meet with churches, community centers, libraries, other agencies and policy makers to

strategize about ways to eradicate environmental barriers that affect the dietary habits of the low-

income learner.

Recommendations for Practice

Although this study used a small sample and cannot be generalized, the findings from the

study support adult education principles and practices that can be useful for any adult educator

desiring to work with a diverse population. Therefore, the researcher makes the following

recommends for practice.

Conducting a thorough needs assessment before implementing a program is the first

recommendation. The needs assessment becomes a valuable tool that includes engaging in

dialog, collecting narratives, and partnering with the low-income diverse population to agree

upon their needs and desires before initiating any intervention. This type of needs assessment

cannot be done in one day. It requires finding key informants who will provide rich information

and expert knowledge on factors that may influence the desired outcomes of the curriculum.

The most effective assessment will include on-site visits with potential learners prior to the

implementation of programming. This allows time to build relationships and gain trust with the

potential learners. The assessment also will include tours of the community with community

members who can provide historical narratives of the key factors that potentially affect learning

interventions. This action requires looking beyond the statistics, engaging in dialog, and

consulting with the intended learners. For instance, rather than assuming the residents need

lessons on all the messages recommended by the SNAP-Ed, discuss with potential learners their

thoughts and attitudes about those messages. Based on the findings from this study, the educator

would need to modify lessons on food safety, dairy, and fruit and vegetable consumption to fit within the values and belief system of the learners.

Rather than training educators to teach scripted standard curriculum, educators should receive culturally appropriate training that ventures outside textbook knowledge and into the experiential knowledge of the learners. The educators should be taken on tours of several diverse communities to record observations and discuss how viewing the lived experiences learners compares to their values, beliefs, and attitudes of the educator. Educators should practice interviewing members of diverse populations to learn about behavioral, personal, and environmental factors that affect their behaviors. Educators should then practice bracketing, recognizing and reflecting upon, their personal biases and assumptions as they explore the values and belief systems of those outside the general population. In this study, hearing the voices of the women and seeing their lived environment provided warnings about messages that would be offensive to the population and messages that would be welcomed by the population.

Adult educators should receive training in how to adapt standardized curriculum to recognize the racial and cultural factors that threaten the effectiveness of the program. Curriculum designed for mass populations may contain potential biases and assumptions that an on-site educator working with a diverse audience may detect. For example, the purpose of SNAP-Ed is to assist those who qualify for food assistance to make healthy choices on a limited budget. An educator using the deficit approach would design lessons on how to stretch the food dollar that assume the learner needs to improve resource management skills. The women in this study discussed numerous ways to save money and may be offended at implications that they need to try harder.

Kayrooz et al. (1998) concluded, "The interaction of culture and the commercial marketplace are poorly understood but remain important factors to consider in the design of strategies to improve nutrition among urban African American women" (p. 476). Adult educators should be advocates for marginalized populations by raising awareness, and when opportunities arise, encouraging stakeholders and policymakers to remove barriers that threaten the positive self-efficacy of the population to make healthy dietary choices.

In general, the findings from this study remind educators to bracket biases and assumptions about learners, and seek to understand the experiences the learners bring to the classroom and the factors that influence those experiences. As discussed earlier, an educator armed only with information about this population would assume the women needed to learn how to be better managers of their resources and increase the purchase and consumption of nutrient rich foods, messages promoted in the SNAP-Ed curriculum (USDA, 2008). However, the women in this study discussed numerous resource management strategies they used to manage their limited resources. They also described the barriers they faced to access healthier food options. By listening to their voices, and bracketing biases, an educator would be better prepared to design educational interventions that would more likely be received by these learners.

Recommendations for Further Study

This limited study explored factors that potentially influenced self-efficacy and affected the dietary habits of low-income African American mothers. The researcher recommends the following topics for further study.

1. A study that explores self-efficacy and its effect on the dietary behavior of the low-income African American mothers should be conducted to measure how perceived self-efficacy affects dietary choices.

2. Duplication of this study among different diverse populations such as seniors, rural farmers, and urban immigrants would provide insights to commonalities or differences among sub-populations regarding dietary habits.

3. Duplication of this study among a low-income sample and a middle-class sample would allow comparison of dietary behaviors among different socio-economic groups regarding dietary habits.

4. Expanding the study to include all family members to explore intergenerational comparisons of perceptions regarding factors that affect dietary habits.

5. An ethnographic study that allows the researcher to be emerged in the community, reside with the residents, participate in activities, and observe closer the dietary behavior of a community members should be conducted.

6. In addition to using food recalls and behavior checklists to measure dietary behavior change in learners, six-month follow-up evaluation interviews or focus groups should take place to provide additional insights into what perceived factors continue to influence dietary habits after an intervention.

7. A study to track the foods purchased, planned, and/or prepared using multiple data sources such as grocery receipts and meal logs, before, during, and after an educational intervention could provide insight into the lived experiences of a diverse research population.

8.   A study to compare two SNAP-Ed curricula taught to low-income African American mothers: one designed for a broader audience and one developed in partnership with low-income African American mothers and the adult educator. Findings could further the understanding of how cultural differences influence learning.

Concluding Remarks

This study represented an attempt to address the gap between what researchers knew about the dietary habits of low-income African American mothers from surveys and national databases, and what low-income African American mothers perceived as influencing those dietary habits. The study findings supported Bandura's belief that before dietary changes could take place, factors that potentially influence behavior must be a consideration. Although the study did not measure self-efficacy, the findings revealed factors that potentially support or threaten the sample's capabilities regarding dietary choices. The study findings supported CRT tenets insisting that race matters and the stories told by participants provided alternate explanations for their dietary habits.

The implications are that educators must be careful not to design their programs around the deficit model that assumes low-income African-American mothers bring little to the educational setting rather than capitalizing on the multiple strengths of the population when planning interventions (Yosso, 2005). Many of the strengths, indications of their positive perceived self-efficacy, surfaced in the stories the participants told, even as their weaknesses emerged. Their lives were complex, not merely numbers and percentages, and listening to their perceptions of factors that affected their dietary habits before implementing educational programs provided helpful information to assist the nutrition educator designing effective

interventions. The study adds to the research that stresses the need for designing education

programs that are culturally relevant and tailored to the developmental needs and personal

experiences of marginalized learners.

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Appendix A - Research Site Demographics

	Site A (%)	Site B (%)	Site C (%)	Total
Total households	64	37	57	1959
Families with Children	61	35	45	643
Female	69	65	59	58
Male	41	28	41	42
African American	41	28	75	63
European American	25	15	14	21
Asian American	12	18	6	6
American Indian/Alaskan	20	37	3	9
Native Hawaiian/ Pacific Islander	0	0	6	>1
Hispanic/Latino	15	6	4	6
Average Age	18	20	17	31

YOUR HELP IS NEEDED!!!!!!

Who: Single, African American Mothers in Housing Agency Developments

What: To participate in a research study about factors that influence your dietary habits

When: April - September 2013

Why: To assist in the planning of future nutrition classes for Housing Agency residents

This is a research study conducted by a graduate student at Kansas State University to learn about the dietary habits of single, African American mothers who live in xxx Housing Agency developments. This is an opportunity for mothers to explain what influences the food choices they make. Results will be used to plan classes for SNAP recipients. Participants are needed to complete a Behavior Checklist and an interview about their dietary habits. Those participating will receive a $25 grocery gift card. If you are interested and think you qualify, please leave your name and contact information with the property manager. For more information contact:

Nozella Bailey Brown

xxx-xxx-xxxx

Appendix C - Resident President Letter

May 23, 2013

Dear

      Last Tuesday (5/21), I talked with you about helping with a project that will help Extension improve their nutrition and wellness programs for mothers in public housing. I am excited because this is the first time we have been able to get ideas and feedback from the African American mothers that qualify for our programs. _____ recommended you and your site for this project. I've enclosed the draft of the flyer that we will use to recruit participants.

      As we discussed, I would need one lady to participate in the pilot study, which is mostly an interview that will take about an hour. She will help us finalize the actual study. I will give her a $25 gift card to thank her for her help. Next we would like five (5) ladies to also participate in interviews. They will also receive a $25 gift card. One of these ladies may also be asked to participate in a tour of the neighborhood and she would receive additional compensation. Of course, you will receive a $25 gift card as a thank you for your help.

      The information these ladies share with me will be used to design and plan programs that will help Extension provide needed resources and information to help African American women make the best food choices for their families.

      If you have any questions, please don't hesitate to call me at the office, or on my cell: xxx-xxx-xxxx. I will contact you the first week of June to arrange a time to meet with you or with those you have recruited. Again, thank you for your help.

Sincerely,

Nozella Bailey Brown

County Extension Educator

Appendix D - Informed Consent Statement

Project title: Dietary Habits of Low-Income African American Mothers

Principle researcher: Dr. Royce Ann Collins

Co-Investigator: Nozella Bailey Brown

You are asked to be part of a research project that examines your perceived ability to make positive dietary choices. It is the researcher's hope to learn more about the personal, behavioral, and environmental factors that influence your dietary habits. This research study involves completion of Behavior Checklists, interviews and windshield tours. The duration is February 2013 to December 2013.

If you choose to participate in this study, you will be asked to complete a 10-question Behavior Checklist with the researcher. It is designed to record your food safety, food resource management, food security, and nutrition practices. It takes about 15 minutes to complete with the researcher. You also will be asked to participate in a 60-minute interview about your dietary habits. A sub-sample of participants will also be invited to accompany the researcher on a windshield tour. This is a tour of the one-mile radius of your housing development. It is designed to observe how your physical environment might affect your food choices.

There are no hidden treatments and no expected discomfort or risks from this study. The interviews will be taped but your identity will be protected in the following ways: No identifying information will appear on the transcript of research. Your identification will be protected by fictional names. If any portion of the interview is used in an article or report, you will be shown the portion to make sure it is adequately disguised. Not only will you understand more about the factors that influence your dietary habits, you will be increasing the knowledge about low-income adult African American mothers that can be used to design, implement and evaluate nutrition education resources in the future. The researcher guarantees confidentiality of your responses. Any time you feel unable or unwilling to continue, you are free to withdraw your consent and stop your participation.

Contact for any problems or questions:
If you have additional questions, please contact: Dr. Royce Ann Collins, [address disguised], or by calling xxx-xxx-xxxx.

Contact for IRB Chair:
The Institutional Review Board at Kansas State University approves all research conducted with human subjects. If you have any questions about the manner in which this study is conducted, you may contact Dr. Rick Scheidt, Chair, Committee on Research Involving Human Subjects, Kansas State University, Manhattan, KS 66506 or by calling xxx-xxx-xxxx.

I have read the above statement and have been fully advised of the procedures to be used in this study. I understand that this project is research, and that my participation is completely

voluntary. I understand that if I decide to participate in this study that I may withdraw my consent at any time, and stop participating at any time without explanation or penalty.

Check the one that applies:

_____I volunteer to participate.
_____I do not agree to participate in this study.

_____   _____
Signature   Date

_____
Please print your name above

Appendix E - Participant Information Screening Survey

Name:	Housing Site:
Birthdate:	Contact Info: Phone e-mail

Do you do most of the grocery shopping for your family?   Yes   No
Do you plan and fix most of the meals for your family?   Yes   No
About how many meals do you prepare at home in a week?
About how many meals do you eat away from home?
Where do you eat out when you eat away from home?
How many children are in your household?   What are their ages and gender?
How many children are living with you now?
How many adults are living with you now?
Are you single, divorced, or widowed?   If no, are you married?
How do describe your race/ethnicity?
How long have you lived here?
How long have you lived in a Kansas City Housing Agency site?
What is the highest level of education you've completed?
Are you employed?   Yes   No

Part-time

Full-time

Disabled

Appendix F - Behavior Checklist

Name:
Date:
Researcher:

This survey is about ways you plan and fix foods for you family. As I read each question, think

about the recent past. This is not a test! There are no wrong answers.

For these questions, think about how you usually do things. Give the answer that best answers each question.	Does Not Apply	Do Not Do	Do Seldom	Do Some-times	Do Most of the Time	Do Almost Always
1. How often do you plan meals ahead of time?						
2. How often do you compare prices before you buy food?						
3. How often do you run out of food before the end of the month?						
4. How often do you shop with a grocery list?						
5. This question is about meat and dairy foods. How often do you let these foods sit out for more than two hours?						
6. How often do you thaw frozen foods at room temperature?						
7. When deciding what food to feed your family, how often do you think about healthy food choices?						
8. How often have you prepared foods without adding salt?						
9. How often do you use the "Nutrition Facts" on the food label to make food choices?						
10. How often do your children eat something in the morning within two hours of waking up?						

Note. From "EFNEP Behavior Checklist," (n.d.). Retrieved from
http://www.fcs.uga.edu/ext/efnep/forms/efnep_behavior_checklist.pdf

Appendix G - Interview Protocol

Name:	Date:	Start Time:	End Time:
Site:	Participant Code:		
FIELD NOTES Descriptive	1.Tell me about the foods you enjoy? Are they foods you fix now? How? How often? What about foods you don't care for? Tell me about these. *Probe: Tell me more. Examples?*		
	2. Tell me about the first time you fixed/cooked something to eat. How did you learn? Think about the meals you and your family eat now. Describe for me a typical day. *Do you prepare the meals? How much cooking do you have to do?* How do you feel about preparing and cooking meals for your family? Tell me about when you eat out? Where do you go? How often? What do you get? *Probe: Examples?*		
Reflective	3. When you want to fix a meal, what do you do from start to finish? How do you know what you want to fix? Do you plan ahead? How do you feel about having to take care of all your family's meals? What's easiest or hardest for you when it comes to feeding your family? *Probe: Tell me more. Can you give me an example?*		
	4. Tell me about where you go to get most of your food. Describe a typical trip to get groceries, from beginning until food is put away. Do you use a list? *Is there anything that makes it difficult for you to get your groceries?* *Probe:*		
	5. Who or what do you trust most when you want good information about what to buy, cook or eat? What kinds of information do you want most? *Sample probe: Your friends, family, news, media?*		
	6. Do you think being Black (your race) affects the kinds of food you enjoy and fix for your family? Do you think who you are as a Black woman shapes the food habits you have today?		

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	Do you think that has anything to do with the foods you choose, or buy for your family?
	7. Is there anything else you believe affects your food habits? Is there anything else you'd like to tell me about your food habits? Things that affect the choices you make?

Appendix H - Windshield Tour Guide Sheet

Time Started	Time ended:
Community	Tour Riders:
Questions	Checklist:
What is the general condition of the area? Signs of upkeep or disrepair?	Grocery Stores
Where do people shop for food?	Large Chain Stores
What types of stores are open for business?	Neighborhood Grocery stores
What places sell grocery items?	Quick serve restaurants
What is the condition of grocery stores?	Non- quick serve restaurants
How do residents travel to get food?	Gasoline Stations
Is it easy to walk to buy groceries?	
Are there places to get food regardless of one's ability to pay?	Food pantries
Are there farmer's markets? Community gardens?	Farmer's markets Community Gardens
What race/ethnicity are the residents? Is the area integrated?	Parks

What are the indications of ethnicity? Food stores? Churches? Schools? Signs on more than one language?	
How is the public transit system being used?	Bus stops/busses
How are people traveling? Walk, bus, car, other?	Places to shop
Who are out on the streets? Mothers with children, teenagers, seniors, males? What animals are around?	
What types of churches are there? Are there signs of use other than for worship?	Faith-based organizations
Where are the neighborhood hangouts? Schools, stores, restaurants, parks, gasoline station?	

Other Observations:

Additional Questions:

Reflections/Impressions:

Appendix I - Participant Information Screening Data Summary A

Name	Age	Children in home	Ages	M	F	Marital Status	Years of Education	Employment Status	Years in Public Housing
Aliyah	34	3	9-18	2	1	Single	12	Yes	4
Anita	50	2	13,17		2	Single	11	No	22
Bonnie	23	3	7mo-4	1	2	Single	12/CNA	No	2
Destiny	51	6	10mo-9	2	4	Divorced	12	No; DS	15
Erica	29	4	3-8	2	1	Single	11	Yes; PT	2
Imani	31	2	9-11	1	1	Single	13	No	8
Jasmine	23	1	2		1	Single	13	Yes; ST	12
Kayla	44	2	15-23		2	Single	AA+	Yes; FT	1
Kiara	42	2	6-17		2	Widowed	12	No	1
Laila*	54	0	0	0	0	Single	11	No; DS	20
Neva	51	1	6		1	Single	12	No	30
Sydney	40	5	5-18	2	3	Single	9	ST	5
Taylor	41	3	15-21mo	3		Married	11	No	6
Tiana	36	2	7-16		3	Single	13	No	16
Valerie	38	6	3mo-18	2	3	Single	9	Yes; PT	7

Note: CNA = Certified Nursing Assistant; DS = disabled; PT = Part time; ST = Student; FT = Full time; AA = Associates degree
* At the time of this study Laila had no children living at home

Appendix J - Participant Information Screening Data Summary B

Name	Site	Grocery Shops	Plans Meals	Meals in Home	Max. Meals Away	Dining Out Choices
Aliyah	A	x	x	03	3	Family restaurant; convenience
Anita	B	x	x	21	3	Fast food; family restaurant
Bonnie	B	x	x	12	2	Fast Food
Destiny	C	x	x	30	2	Fast Food
Erica	C	x	x	04	3	Fast Food
Imani	B	x	x	10	3	Fast Food, Family Restaurant
Jasmine	C	x	x	07	3	Family; Friends; Fast food
Kayla	B	x	x	07	2	Fast Food
Kiara	A	x	x	21	1	Family Restaurant
Laila	B	x	x	04	3	Fast food; Family Restaurant, Buffet, Entertainment Center
Neva	C	x	x	12	3	Family, Fast Food, Family restaurant
Sydney	A	x	x	05	2	Fast Food
Taylor	A	x	x	07	1	Fast Food
Tiana	A	x	x	04	3	Fast Food, Buffet, Entertainment Center
Valerie	C	x	x	05	1	Family Restaurant

Appendix K - Behavior Checklists Summary

	Not Applicable	Do Not Do	Seldom	Some-times	Most of the Time	Almost Always
1. How often do you plan meals ahead of time?	0	1	2	2	7	3
2. How often do you compare prices before you buy food?	0	1	1	2	1	10
3. How often do you run out of food before the end of the month?	2	2	3	7	1	0
4. How often do you shop with a grocery list?	0	2	1	3	3	6
5. This question is about meat and dairy foods. How often do you let these foods sit out for more than two hours?	1	9	3	1	1	0
6. How often do you thaw frozen foods at room temperature?	0	1	0	7	6	1
7. When deciding what food to feed your family, how often do you think about healthy food choices?	0	0	7	2	6	0
8. How often have you prepared foods without adding salt?	0	3	3	2	3	5
9. How often do you use the "Nutrition Facts" on the food label to make food choices?	0	4	1	5	5	1
10. How often do your children eat something in the morning within two hours of waking up?	3	0	1	1	1	8

Note: N = 15. From "EFNEP Behavior Checklist," n.d. Retrieved from University of Georgia website: http://www.fcs.uga.edu/ext/efnep/forms/efnep_behavior_checklist.pdf

Appendix L - Master Code List

The master code list was generated from the three research sub-questions.

SQ 1. What behavioral factors do low-income African American mothers perceive as influencing their dietary habits?

Themes: Behavioral Knowledge (BK) & Behavioral Skills (BS)

Categories: BK1, BK2, BK3, BK4, BK5 and BS1, BS2, BS3, BS4, BS5, BS6

SQ 2. What personal factors do low-income African American mothers perceive as influencing their dietary habits?

Themes: Personal Attitudes/Feelings (PA) & Personal Beliefs (PB)

Categories: PA1, PA2, PA3, PA4, PA5 & PB1, PB2, PB3

SQ 3. What environmental factors do low-income African American mothers perceive as influencing their dietary habits?

Themes: Environmental Economic (EE), Environmental Social (ES), Environmental Physical (EP)

Categories: EE1, ES1, ES2 & EP1, EP2

Master Code List					
		N = 15			*N* = 15
Behavioral : Knowledge			Personal: Beliefs		
BK1	Learns from Family/Friends	15	PB1	Health Issues	12
BK2	Learns from Media	14	PB2	Eating Habits	15
BK3	Learns from Classes	6	PB3	Healthy Foods	10
BK4	Learns on Own	3	Environmental: Economic		
BK5	Teaches Others	5	EE1	Financial Resources	15
Behavioral: Skills			Environmental: Social		
BS1	Meal Preparation	15	ES1	Family	15
BS2	Resource Management	13	ES2	Other	11
BS3	Grocery Shopping	15	Environmental: Physical		
BS4	Food Safety	14	EP1	Stores	15
BS5	Challenges/Barriers	9	EP2	Transportation	11
BS6	Dining Out Choices	15			
Personal: Attitudes/Feelings					
PA1	Food Preferences	15			
PA2	Desires/Delights	14			
PA3	Fears/Frustrations	10			
PA4	Identity/Race/Culture	15			
PA5	Soul Food	12			

Appendix M - Distance in Miles from Sites to Stores

	Store	Site A	Site B	Site C
1	Convenience/gasoline shop	1.7	7.35	1.15
2	Convenience/gasoline shop	0.22	3.29	0.57
1a	Discount dollar store	3.4	7.4	2.6
1b	Discount dollar store	0.34	3.3	0.93
2a	Discount dollar store	1.4	4.8	0.8
2b	Discount dollar store	5.1	2.5	7.5
2c	Discount dollar store	3.5	0.8	5.3
1	Discount supermarket	5.6	4.2	5.3
2a	Discount supermarket	5.1	2.3	5.7
2b	Discount supermarket	1.95	3.05	2.5
2c*	Discount supermarket	0.29	3.29	0.89
1a	Grocery Store	3.0	1.5	4.6
1b**	Grocery Store	3.89	.79	4.43
4a	Large chain supermarket	3.05	5.66	3.65
4b	Large chain supermarket	12.4	13.4	13.7
1a	Large supermarket	9.7	13.9	8.9
1b	Large supermarket	5.3	8.2	5.4
2	Large supermarket	4.55	9.32	5.19
3a	Large supermarket	5.0	3.7	4.0
3b	Large supermarket	2.88	5.48	3.47
1a	Small supermarket	7.84	6.49	6.46
1b	Small supermarket	8.19	7.4	7.46
3a	Small supermarket	2.3	2	4.3
3b	Small supermarket	3.60	6.99	2.86

Note. *This store was under construction at the time of the interviews.
**This store had been demolished by the time of the interviews.

Appendix N - Behavior Knowledge Data Summary

Name	Site	Learns from Family/Friends	Learns from Media	Learns from Classes	Learns on Own	Teaches Others
Aliyah	A	x	x	x		x
Anita	B	x	x			x
Bonnie	B	x	x	x	x	
Destiny	C	x	x	x	x	x
Erica	C	x	x			
Imani	B	x	x			
Jasmine	C	x	x	x	x	
Kayla	B	x	x	x		x
Kiara	A	x	x			
Laila	B	x	x	x		
Neva	C	x	x			
Sydney	A	x	x			
Taylor	A	x				
Tiana	A	x	x			
Valerie	C	x	x			x

Appendix O - Behavior Skills Data Summary

Name	Site	Meal Preparation		Resource Management	Grocery Shopping	Food Safety	Challenges, Barriers	Dining Out Choices
			Seasons meats					
Aliyah	A	x	x	x	x	x	x	x
Anita	B	x	x	x	x	x	x	x
Bonnie	B	x			x	x		x
Destiny	C	x	x	x	x	x	x	x
Erica	C	x	x		x			x
Imani	B	x	x	x	x	x	x	x
Jasmine	C	x	x	x	x	x	x	x
Kayla	B	x	x	x	x	x	x	x
Kiara	A	x	x	x	x	x		x
Laila	B	x	x	x	x	x		x
Neva	C	x		x	x	x	x	x
Sydney	A	x	x	x	x	x		x
Taylor	A	x	x	x	x	x		x
Tiana	A	x	x	x	x	x	x	x
Valerie	C	x	x	x	x	x	x	x

Appendix P - Dining Out Data Summary

Name	Site	Fast Food	Buffet	Entertainment Center	Restaurant	Gasoline Station
Aliyah	A				x	x
Anita	B	x				
Bonnie	B	x				
Destiny	C	x				
Erica	C	x			x	
Imani	B		x		x	
Jasmine	C	x	x			
Kayla	B	x				
Kiara	A				x	
Laila	B		x	x	x	
Neva	C	x	x		x	
Sydney	A	x	x			
Taylor	A	x			x	
Tiana	A	x	x	x		
Valerie	C	x				

Appendix Q - Personal Attitudes Data Summary

Name	Site	Food Preferences	Desires/ Delights	Fears/ Frustrations	Race/ Identity		Race/ Culture
					Y	N	
Aliyah	A	x	x	x		x	x
Anita	B	x		x	x		x
Bonnie	B	x	x	x		x	x
Destiny	C	x	x			x	x
Erica	C	x	x	x		x	x
Imani	B	x	x			x	x
Jasmine	C	x	x	x		x	x
Kayla	B	x	x	x	x		x
Kiara	A	x	x			x	x
Laila	B	x	x	x	x		x
Neva	C	x	x			x	x
Sydney	A	x	x	x		x	x
Taylor	A	x	x	x		x	x
Tiana	A	x	x	x		x	x
Valerie	C	x	x		x		x

.

Appendix R - Soul Foods Data Summary

Name	Site	Fried Food	Greens	Rolls Corn-bread	Sweet Potato dishes	Pork Neck bones	Pork Chittlins	Pork Hog maw	Pork Pig ears Pig feet	Pork Ribs	Fish	Scratch pies/cakes
Aliyah	A						x	x	x			
Anita	B	x										
Bonnie	B					x			x			
Destiny	C						x		x	x		
Erica	C		x				x					x
Imani	B	x	x				x				x	
Jasmine	C			x	x		x		x			x
Kayla	B	x					x					
Kiara	A	x					x					
Laila	B	x	x		x		x	x				
Neva	C		x				x				x	
Sydney	A											
Taylor	A		x	x	x		x		x			x
Tiana	A		x					x				
Valerie	C	x				x	x		x			

Appendix S - Personal Beliefs Data Summary

Name	Site	Health Issues	Specific Issues	Eating Habits	Healthful Foods
Aliyah	A	x	Acid Reflux; Weight; Food Allergy; High Blood Pressure	x	x
Anita	B	x	Diabetes	x	x
Bonnie	B			x	x, NP
Destiny	C	x	Digestive; Acid Reflux	x	x
Erica	C	x	Anemia; High Blood Pressure	x	x, NP
Imani	B			x	x, RP
Jasmine	C	x		x	x
Kayla	B	x	Diabetes	x	x
Kiara	A	x	Digestive	x	x, NP
Laila	B	x	Diabetes; Carpal Tunnel	x	
Neva	C	x	High Blood Pressure	x	x
Sydney	A	x	Acid Reflux; Food Allergy; High Blood Pressure; Lactose Intolerance	x	
Taylor	A	x	Lactose Intolerance	x	
Tiana	A	x	Acid Reflux	x	x
Valerie	C	x	Lactose Intolerance; High Blood Pressure	x	x, RP

Note. NP = No pork; RP = Restricts pork

Appendix T - Environmental Economics Data Summary

Name	Site	Financial Resources	SNAP	WIC	Disability	Employment	Child support
Aliyah	A	x	x				
Anita	B	x	x				
Bonnie	B	x					
Destiny	C	x			x		
Erica	C						
Imani	B	x					
Jasmine	C	x	x				
Kayla	B	x	x			x	
Kiara	A	x				x	
Laila	B	x					
Neva	C	x					
Sydney	A	x					
Taylor	A	x	x	x			
Tiana	A	x			x	x	x
Valerie	C	x				x	

Appendix U - Environmental Social Data Summary

Name	Site	Family		Others
		Mother/Grandparent	Children	
Aliyah	A	x	x	x
Anita	B	x	x	x
Bonnie	B	x	x	x
Destiny	C	x	x	
Erica	C	x	x	x
Imani	B		x	
Jasmine	C	x		x
Kayla	B	x	x	x
Kiara	A		x	x
Laila	B	x	x	
Neva	C	x	x	x
Sydney	A	x	x	x
Taylor	A	x	x	x
Tiana	A	x	x	x
Valerie	C	x	x	x

Appendix V - Environmental Physical Data Summary

Name	Site	Large Super-market	Dollar Store	Discount Grocery Store	Small Super-market	Grocery Store	Whole-sale	Farmer's Market	Gasoline/ Convenience	Car	Bus	Walk
Aliyah	A	x	x	x	x			x	x		x	x
Anita	B			x	x	x						
Bonnie	B	x	x		x							x
Destiny	C	x		x	x		x			x		
Erica	C	x	x	x	x					x		
Imani	B	x			x	x						
Jasmine	C	x	x	x	x							
Kayla	B	x		x	x					x		
Kiara	A	x	x	x	x		x	x		x		
Laila	B	x		x	x							
Neva	C	x		x	x					x	x	
Sydney	A	x	x		x					x		
Taylor	A		x		x		x				x	
Tiana	A			x	x					x		
Valerie	C	x		x	x					x		