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# Perceptions of Childhood Obesity among African Americans in a Low-Income Community

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Abstract

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MS, Walden University, 2013

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## Abstract

Childhood obesity is a prevalent chronic condition affecting millions of children and adolescents in the United States and is rising in record-breaking numbers among African Americans in low-income communities. Guided by the social cognitive theory, the purpose of this evidence-based project was to understand the impact of an educational intervention on parents' perceptions of childhood obesity risk factors, weight status, and prevention strategies in a rural South Carolina community. A convenience sample of parents who attended a church-based community health promotion service in a low-income area ($n$ = 10), aged 28 to 54, completed The Childhood Obesity Perceptions survey before and after the completion of the educational program. The pretest and posttest responses were analyzed with paired sample $t$ tests and frequency tables. There were several responses with a statistically significance change ($p < .05$), including the impact of obesity on the development of diabetes, stroke, cancer, and bone or joint problems. Survey participants strongly agreed (90%) that they could help their children live a healthier lifestyle by initiating preventive strategies which include providing healthy snacks and increasing exercise. Findings suggest that African American parents in low-income communities would benefit from regularly occurring education on the prevention of childhood obesity, including information on healthy diet choices, exercise, and the risk factors for childhood obesity. By educating parents, healthcare providers and community leaders can begin forming community health and childhood obesity prevention programs that support positive social change and help low-income families to achieve healthy lifestyles.

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# Dedication

I first would like to thank God for providing me with the strength to make it through the journey to fulfill my life's purpose of helping others. This project was embarked upon to help African American children in low-income communities from becoming another statistic. To my amazing husband, Mac Wilkes, thank you for being an exceptional life partner who encouraged me daily to make my dreams a reality. To my two beautiful children, Ariana and Mason, because I know I am one of your most important role models, I strive to be nothing less than successful. And to my family and friends, thank you for continuous encouragement and support. In memory of my dear Uncle Tim, who gained his wings in heaven April 2015, I will always adhere to your motivational legacy of "Failure Is Not an Option."

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Section 1: Nature of the Project

## Introduction

Childhood obesity is a major epidemic in the United States and is worsening year-by-year, with the highest rate among low-income communities (Healthy People 2020, 2014). Healthy People 2020 (2014) reported that between 1988–1994, 2003–2004, and 2011–2012, childhood obesity among boys aged 2 to 19 years increased from 10.2% to 18.2% and among girls from 9.8% to 16.0%. In today's society, the cause of obesity in most adults is exacerbated by their lifestyle as an adolescent (Healthy People 2020, 2014). Regretfully, this widespread problem continues to rise with minimal resources to control it. For example, research has shown that the traditional methods of addressing childhood obesity, such as modifying diet and promoting exercise, have led to an interest in other contributing factors, such as socioeconomic status, as predictors of obesity in childhood (Salois, 2012). Rationally, more research focused on the elevated rates of childhood obesity in high-poverty communities from the lack of resources, health education, and safe access for physical activity (Salois, 2012). These undesirable barriers negatively affect the health of children in such communities by potentially increasing the incidence of obesity. I conducted this project to assess results of a childhood obesity educational intervention with African American parents to increase their knowledge of healthy lifestyle behaviors. The intention of this project was to build positive social change by motivating parents, healthcare providers, and community leaders to begin understanding the importance of childhood obesity and the need to continue to implement interventions related to preventing this problem.

## Problem Statement

The practice-focused question for this project was: Does educating African American parents about the obesity risk factors, healthy weight status, built environment, and prevention strategies associated with childhood obesity in a low-income community increase their knowledge of healthy lifestyle behavior? This widespread health problem is substantial among young persons of any culture; however, the obesity statistics of African Americans are growing at an increasing rate. The obesity rate of African American adolescents is double the rate of European American adolescents (Healthy People 2020, 2014).

The development of acute and chronic diseases called for addressing this health problem among the selected population of African American children. These issues among adolescents are critical because of the existing disease risks and mortality rates (Groth & Morrison-Beedy, 2011). In addition, the annual financial burden of childhood obesity health-related problems was estimated at $14 billion dollars (Healthy People 2020, 2014).

A research study that focused on the voice of a low-income community explained that increasing awareness and education were the two most vital parts of solving the obesity epidemic (Mama, Soltero, Ledoux, Gallagher, & Lee, 2014). Rogers et al.'s (2013) research study results showed that using a community-based awareness and social change method to increase physical activity and healthy eating was the link to enhanced parent and children understanding of these behavior changes. A community-based educational program is a sustainable foundation for modifying the influences that lead to

childhood obesity (Rogers et al., 2013). Obesity in the United States has been on the rise since 1996 (Su, 2016). In 2016, more than 34.9% of adults and nearly 17% of children and adolescents aged 2 to 19 in the United States were obese (Su, 2016).

Obesity is one of the most rapid growing, yet preventable diseases to affect Americans in all stages of life. Obesity, unlike other adult modifiable diseases, is influenced by lifestyle choices in childhood and adolescents. According to Trinh, Campbell, Ukoumunne, Gerner, and Wake (2013), research has shown that modifiable factors, such as diet and physical activity, play a major role in the obesity epidemic. For example, skipping breakfast has been classically identified as a risk factor for excess weight in childhood (Trinh et al., 2013). This same study showed that children who participated in daily physical activities were less likely to suffer from excess weight compared to those children with sedentary habits. The problem was exacerbated by a lack of resources for individuals and families suffering from obesity (Trinh et al., 2013). Therefore, the increase in the rate of childhood obesity among adolescents hailing from generational poverty is significant because obese children grow up to be obese adults.

According to the U.S. Census Bureau, 21.5% of families with children under the age of 18 live below the poverty level (Centers for Disease Control (CDC) Grand Rounds, 2011). Moreover, research indicates that those same adults will likely be plagued with chronic disease risks and high mortality rates because of the obesity problem (Groth & Morrison-Beedy, 2011). Therefore, brainstorming and forming community health education groups that can educate parents and children from high-poverty areas about the

risks associated with childhood obesity are crucial to improving the overall health of this population.

Current research on this issue concentrates on individuals and specific factors in their environment that contribute to the increase of childhood obesity. For example, new studies demonstrated that the density of food choices in fast-food restaurants in lower-income communities is higher than it is in higher-income communities (Khan, Powell, & Wada, 2012). This same study found that those with a higher body mass index (BMI) than those who do not have a high BMI consumed fast food more than twice a week

Longitudinal studies are replacing the popular use of cross-sectional data that relate to the relationship between the *built environment* and childhood obesity. Built environment refers to man-made surroundings built for human use, specifically human activity (Salois, 2012). Built environmental factors include measures related to nutritional resources and physical activity. In addition, a research study that measured the relationship between the built environment with an incidence of obesity in low-income preschool children found that developing walking trails in low-income communities and community recreational centers resulted in higher physical activity levels of children who lived in areas without walking trails and community recreational centers (Salois, 2012). Hence, the decrease in the factors within the built environment (such as walking trails) may lead to an increase in childhood obesity as children and adolescents may not have a safe environment, which is conducive to outdoor activities.

Salois (2012) also found that a progressive association between obesity and the density of convenience stores because of an awareness that they have a tendency to sell

more unhealthy foods. Therefore, encouraging low-income families to shop at supercenters, grocery stores, or farmers' market may provide an economically viable option to ensure securing healthy and nutritious foods are accessible. Salois also found that increasing the number of community amenities and decreasing crime rates led to lower rates of obesity. Overall, more research was needed regarding childhood obesity in high-poverty communities that aimed to demonstrate that a person can use positive interventions, such as finding ways to increase physical activities safely and selecting healthier foods conveniently, to transform an undesirable environment for healthy living (Salois, 2012). Addressing the issues of acute/chronic disease development, financial healthcare burden, and the increasing rate of childhood obesity are some of the primary reasons this project holds significance for the field of nursing practice.

## Purpose of the Study

The purpose of this Doctor of Nursing Practice (DNP) project was to show the effect of an educational intervention using community health education sessions on the knowledge of risk factors, weight status, and prevention strategies among parents of African American obese children within a built environment. For decades, the primary method to address obesity was to encourage patients to modify diet and increase their level of exercise (Groth & Morrison-Beedy, 2011). Few studies focused on how to prevent and address childhood obesity within a built environment (Groth & Morrison-Beedy, 2011). With this project, I addressed the significant gap in practice of community-based programs that implement interventions to encourage healthier lifestyle behavior among African Americans within a built environment. The findings of this project have

the potential to address this gap in practice by providing results that can lead to the development of other community programs and health awareness events that focus on educating parents about the risks and prevention methods (such as a healthy diet and being physically active) of childhood obesity.

## Nature of the Doctoral Project

The nature of this project was to collect data after an interactive education session about the relationship between childhood obesity and a low-income community in the state of South Carolina. Research shows childhood obesity is more prevalent among African Americans from low-income populations than among other ethnic groups (CDC Grand Rounds, 2011). This public health educational program was held at a local church, which is located in a geographical area identified by the U.S. Census Bureau as below the poverty line.

In this project, I properly delivered standardized education interventions to realize the goals set by Healthy People 2020 (Healthy People 2020, 2014). These goals focus on preventing childhood obesity by educating individuals about obesity risk factors, weight status, balanced nutrition, and physical activity. The Childhood Obesity Perceptions (COP) survey, after receiving signed consent, was given to parents before the start of the education session to evaluate their prior knowledge related to the risk factors of childhood obesity, child's weight status, features of the built environment, and significance of obesity prevention strategies. The session began by allowing parents to complete the COP survey and then attend interactive educational sessions concerning health risk, built environment, and prevention strategies. A certified fitness instructor led

the parents in a cardio exercise for 5 minutes to the beat of their favorite gospel music so the parents could have examples of creative ideas to help their children become more physically active. The aim of this session was to display fun ways to incorporate exercise in the everyday life of the parents and their children. Next, a nutrition portion highlighted the importance of creating healthy drinks and snacks daily. This session was used to provide knowledge about healthy versus unhealthy eating habits. These interactive educational strategies were used to aid in parents' understanding of how easy it could be to adopt a healthy lifestyle even with minimal resources.

Challenges that I had to consider when initiating this intervention were the lack of continuous family commitment and a potential lack of needed resources because of parents' built environment. Immediately after the education sessions, the same survey, excluding the demographic section, was given as a postassessment to the parents to evaluate the effectiveness of the education session. I measured the evaluation of patient outcomes by the comparison of pre- and postknowledge of the major factors of childhood obesity obtained from the survey and written goals by parents regarding lifestyle changes.

I used the social cognitive theory (SCT) to evaluate behavioral changes that stemmed from the education sessions provided through this project. The SCT is used to understand human behaviors about personal characteristics, activities, and the environment (Davis, Young, Davis, & Moll, 2011). Specifically, in this project, I used the SCT theory to help gain an understanding of the parents' perceptions of how risk factors, child's weight status, built environment, and obesity prevention strategies could cause or prevent obesity. The findings from this project connected the gap in practice around

childhood obesity by showing that educating African American parents about the factors of childhood obesity motivated them to adapt to healthy lifestyle behaviors.

## Significance

Childhood obesity is an epidemic that will continue to worsen if healthcare providers, community leaders, and other stakeholders do not continuously place the responsibility of maintaining a healthy lifestyle into the hands of the individuals, whether they are parents or caretakers. The importance of this issue is demonstrated by the statistics on childhood obesity since 2003. This project's results contribute to nursing practice by offering ways to improve this vulnerable population's healthy lifestyle behaviors. According to Healthy People 2020 (2014), the obesity rate of African Americans adolescents was 24.3%, which was double the rate of that for European American adolescents. The yearly fiscal liability of childhood obesity health-related problems was estimated at $14 billion dollars (Healthy People 2020, 2014). In addition, obese adolescents are more likely to have risk factors for cardiovascular disease, hyperlipidemia, diabetes, sleep apnea, hypertension, and social and psychological problems (Healthy People 2020, 2014). The aforementioned are all risk factors for a disease that is associated with a high mortality rate and debilitating health crises such as stroke or heart attacks (Healthy People 2020, 2014).

One study showed that in a population-based sample of 5 to 17-year-olds, 70% of obese youth had at least one risk factor for cardiovascular disease (Groth & Morrison-Beedy, 2011). It is understood that these issues as a child will negatively affect adulthood and quality of life. Additional factors are present, which this DNP project can later be

extended to cover and help healthcare providers and nursing practice areas understand how to prevent debilitating and life-threatening illness. Because of the dramatic rise in America's healthcare costs related to childhood obesity, many interventions are outlined in the Patient Protection and Affordable Care Act of 2010 to create social change and prevent childhood obesity (Healthy People 2020, 2014).

## Summary

Interventions that lead to creating fun and age-appropriate physical activities, increasing consumption of fruits and vegetables, decreasing fast food and sugary drinks, and providing continuous health promotion education can prevent childhood obesity (Healthy People 2020, 2014). In today's society, the significance of obesity in most adults is exacerbated by their social life, peers, family, and environment as an adolescent (Healthy People 2020, 2014). Although this may seem to be an oversimplification of a bigger problem, it is certainly true that many of these adolescents have developed undesirable behaviors because they are influenced by their social lifestyle and built environment. Researchers can foresee interventions as successful because young adults are malleable, unlike an older population (Healthy People 2020, 2014).

In this project study, I focused on preventative strategies that may be crucial to the development of healthy habits. In the next section, I will present a review of the model used for this project, its relevance to nursing practice, and the background of current evidence-based practice. In addition, the important aspects of the DNP student and project team will be described.

Section 2: Background and Context

## Introduction

The practice-focused question for this study was: Does educating African American parents about the obesity risk factors, healthy weight status, built environment, and prevention strategies associated with childhood obesity in a low-income community affect their healthy lifestyle behaviors? I hypothesized that educating African Americans parents in low-income communities about the significant causes of childhood obesity habits would prompt individuals to adopt healthy lifestyle behaviors. The purpose of this project was to help African American parents increase their knowledge of the childhood obesity risk factors, healthy weight status, built environment, and prevention strategies. A secondary goal was to help those within a built environment demonstrate knowledge of the effects of daily life and its influence on the progression of obesity (Salois, 2012). In this section, I will present the major factors regarding the background and context of this project, which included identification of a theory, relevance to nursing practice, and the role of the project team and the DNP student.

## Model and Framework

The model and framework that I used to integrate new approaches to address this issue was the SCT. The SCT was chosen for this project because it incorporates the correlation between three elements that are essential to addressing childhood obesity: (a) the environment, (b) physical characteristics, and (c) personal knowledge (Berlin, Norris, Kolodinsky, & Nelson, 2013). This vulnerable population's unhealthy behaviors and level of knowledge about childhood obesity are the primary barriers to decreasing their

risk of childhood obesity (Berlin et al., 2013). It is important to understand that SCT could help this particular population understand the built environment and its effect on the health of their children their health (Davis et al., 2011). I used the SCT to help this population change their unhealthy behaviors and maintain healthy behaviors resulting in a changed environment at the institutional and community level (Berlin et al., 2013).

Bandura the creator of the SCT suggested that a person's behavior was the product of the environment and the individual's ability to reason (Davis et al., 2011). For example, Bandura (Davis et al., 2011) emphasized the importance of learned behavior through an observational model where children pay attention to those who they perceive to be similar to themselves. They later encode this behavior as part of their typical repertoire (Davis et al., 2011). Therefore, an association between Bandura SCT and this project objective are that children within low-income communities develop unhealthy lifestyle habits because of learned behaviors that are at least partly modeled by their parents. The parents are probably influenced by their socioeconomic status, which then propagates the cycle of childhood obesity (Salois, 2012). Using the same tenets of SCT, educating these parents on the major factors related to childhood obesity should result in behavior changes to decrease childhood obesity in this population. I posited that reversing the spread of childhood obesity needs to begin with parents practicing healthy lifestyles. These parents can become role models for their children and the community where they reside. Therefore, it is important to understand how the SCT will help this particular population understand the built environment and its effects on their health (Davis et al., 2011).

I used the SCT as the framework to guide an interactive education session on childhood obesity in low-income communities in South Carolina. For example, interactive methods of dancing were used to enhance knowledge about the importance of physical activity while educating individuals about specific factors of unhealthy foods that highlighted the importance of a healthy diet. This education session was evaluated using pre- and postassessment surveys that measured the participants' knowledge gained about risk factors, child's weight status, built environment, and obesity prevention strategies. The theory and cognitive content behind the education session I developed were triggered by the recommendations set by Healthy People 2020 (2014) to prevent the consistent rise of childhood obesity in poverty areas. The efficacy of this method was demonstrated via data collection and feedback from participants obtained from post assessment surveys on how the education had increased their knowledge of childhood obesity.

The SCT aspect of improving behavioral competence (intrapersonal level) was demonstrated through the evaluation process when individuals wrote down goals to change unhealthy behaviors (Berlin et al., 2013). The SCT (intrapersonal level) frameworks the individual characteristics that impact behavior, such as knowledge, beliefs, attitudes, and personality traits (Berlin et al., 2013). It also allowed me to show the interrelationship between research, theory, evidence-based practice, and reduction of childhood obesity. The emphasis of the SCT on positive reinforcement was integrated throughout the education session regarding nutrition and physical activity (intrapersonal level; Berlin et al., 2013). Positive reinforcement was used to help participants change

poor eating behaviors and increase physical activity using self-control and self-efficacy as identified through the SCT.

Each intervention within this project was built on SCT constructs of reciprocal determinism, behavioral capability, observational learning, reinforcements, expectations, self-efficacy, and self-control (Berlin et al., 2013). To understand how the key constructs of SCT related to the childhood obesity education session activities, the following list delivers a simple framework of the constructs and indicates how they might apply to nutritional and physical activity behavior change for those living in low-income communities:

- Reciprocal determinism: Participants engaged in conversation regarding healthy foods that could be purchased at local stores in their environment.
- Behavioral capability: Participants gained knowledge about childhood obesity and prevention strategies to help them choose to live a healthier lifestyle.
- Observational learning: Participants engaged in a cardio dance session led by a certified fitness coach to allow them to understand they can replicate these same actions to increase their daily amount of physical activity.
- Reinforcement: Participants were given a certificate for completing the nutrition and physical activities as positive reinforcement to achieve lifestyle changes.
- Expectations: Participants came to understand the importance of the need to prevent or address childhood obesity and set and accomplish goals to prevent obesity.

- Self-efficacy: Participants gained self-confidence in their ability to consume nutritional foods and engage in some physical activity at least 3 days a week for 30 minutes or more.
- Self-control: Participants gained control by identifying and changing personal lifestyle factors, which are barriers to eating healthy and increasing physical activity.

The incorporation of SCT afforded me an opportunity to structure an effective interactive education session that allowed participants to be engaged and motivated to prevent childhood obesity.

## Relevance to Nursing Practice

This project assisted parents in understanding and implementing strategies within the built environment to promote healthy eating and lifestyle choices for their children and adolescents. For years, providers have taught individuals to increase outdoor physical activities, but if crime is an issue, someone must provide instructions in devising indoor physical activities to stay fit or healthy (Groth & Morrison-Beedy, 2011). This implies that providers must understand how to alter unhealthy behaviors in a vulnerable environment instead of providing options that simply may not be viable. The dominant predispositions with addressing this issue among this population are that many service providers assume that the population may not be trying to help themselves and therefore, will not participate in activities to adapt to a new lifestyle (Groth & Morrison-Beedy, 2011). Another bias was that there did not seem to be an urgency to create interesting wellness programs for this particular population.

It is important to help those who formulate public policy to understand that the usual reasons for obesity in this population are the level of poverty, poor exercise, and eating habits, not simply their lack of ability to help themselves (Groth & Morrison-Beedy, 2011). The most effective way to address these problems is to promote community involvement and educate those persons who have a social, political, and personal impact on low-income parents and their children (Groth & Morrison-Beedy, 2011). This would include their peers, family, community leaders, and other relevant stakeholders (Healthy People 2020, 2014). Developing healthy lifestyle choices at a young age will promote healthy lifestyle adult choices and a decrease in future healthcare burden.

## Background and Context

Parents gaining knowledge about healthy eating and living a healthy lifestyle may reduce the incidence of childhood obesity and the burden on healthcare (Mama et al., 2014). According to Wei James, Merli, and Zheng (2014), children in low-income families were virtually three times more at risk of becoming obese by their 6-year check-up compared to children from high-income families. Within South Carolina, African American children had the highest ranking of obesity compared to other ethnic groups (Callahan-Myrick & Heidari, 2012). Hence, I framed the focus of this project around evidence-based practice, which showed that the best way to solve the problem of childhood obesity was to increase awareness and education in low-income communities as a foundation for the solution of the puzzle (Mama et al., 2014). Knowledge imparted through a targeted educational program could promote healthy eating and greater

amounts of physical activity among the parents and children and, over time, improve their quality of life. The church in the African American community plays a major part in decision making of the overall lifestyle of its members (Littlejohn, 2013). Because of the strong presence, trust, and leadership of the church in the African American community, using it as a site for health educational program was projected to render significant participation and optimal outcomes (Littlejohn, 2013).

## Role of the DNP Student

I evaluated data from a church health promotion event, which provided education, physical activities, and positive social change to parents within this vulnerable population. I was also responsible for evaluating the research related to childhood obesity within low-incomes communities and built environments. I assisted a church health ministry with implementing a childhood obesity health promotion program with the intention of increasing parents' knowledge and decreasing the rise of this illness. I managed this project by evaluating data and analyzing the final results of the COP pre- and post survey. Biases of differentiating between the role of being both a member of the local church's health ministry and a DNP student were overcome by having the health ministry director distribute the surveys. My motivation for this project was to address the rise of the current epidemic of childhood obesity in low-income communities and make a change by evaluating the effectiveness of education provided to the parents of these children.

## Project Team

The original, proposed project team consisted of me, the health ministry director, the minster, and a fitness expert who presented the cardio dance. To warrant that the proposed project was actually implemented, I made the project team even smaller to ensure the appropriate resources and consents were granted. This final team consisted of me, the fitness expert, and the health ministry director. All team members ensured that the project supported quality improvement and the values, morals, and policies of the clergy. The minster and director were the authorities who reviewed and approved the post project grant by Institutional Review Board for implementation. The results of the surveys were presented to me within an appropriate timeframe after the childhood obesity program completion. Each team member continuously reinforced to subjects the importance of participating in this project to decrease childhood obesity.

## Summary

Adolescent obesity in vulnerable communities has a significant impact on the nursing profession, society, and evidence-based practice as a whole (Healthy People 2020, 2014). Certain causation links can be attributed to adolescent obesity from a person's diet and decreased level of physical activity (Healthy People 2020, 2014). However, at the time of data collection, I found few studies that focused on how society or a person's environment could raise the risk of obesity. The lack of resources and environmental limitation can act as significant barriers to developing a healthier lifestyle (Healthy People 2020, 2014). Throughout this program, the strategies used by me and the project team exemplified exactly how a person's living status and unhealthy lifestyle

factors could be a causative factor in influencing the health situation of lower-income children.

The relationship between obesity and poverty rates, which is becoming stronger, created the need for more preventive measures to be initiated through community interventions and research studies in order to understand childhood obesity and increase continuous involvement and participation (Mama et al., 2014). According to many studies reviewed, scientists are using resources, such as patient family histories and data from longitudinal studies, to address the current epidemic of obesity (Groth & Morrison-Beedy, 2011).

Much of the research relating to the obesity epidemic relates to genetics, environment, diet, and level of physical activity. Dealing with the issue in the young will help develop new ways to prevent the rapid spread of this disease. In Section 3, I will describe the sources of evidence, research analysis, and synthesis for this project to be later used for innovative approaches to prevent the growth of childhood obesity in low-income communities.

Section 3: Collection and Analysis of Evidence

## Introduction

Many Americans have become accustomed to a lifestyle that is centered on consuming excess amount of foods, which then overpowers the bodies' natural processes (Groth & Morrison-Beedy, 2011). As a result, many individuals begin to suffer from chronic diseases that develop because of their bodies accumulating too much fat at a young age (Groth & Morrison-Beedy, 2011). Therefore, it was necessary to address childhood obesity because chronically overweight adults can usually trace the beginnings of their battle with weight back to their childhood. In this next section, I will focus on specific sources of evidence and reviewed literature relating to the educational session that I developed and that was held in a low-income community to increase the awareness of and introduce interventions to prevent childhood obesity.

## Practice-Focused Question

The practice-focused question that I developed to guide this project study was: Does educating parents about the obesity risk factors, healthy weight status, built environment, and prevention strategies associated with childhood obesity in a low-income community increase their knowledge of healthy lifestyle behaviors? The purpose of this evidence-based project was to show the effect of an educational intervention on childhood obesity risk factors, weight status, and prevention strategies taught to African American parents in a rural South Carolina community. A secondary objective was to aid those within a built environment establish knowledge of the effects of daily life and its impact on the progression of obesity (Salois, 2012).

## Definitions

*Built environment:* A built environment is “the significance of neighborhood and community-level factors as explanations of dietary choices, physical activity and health outcomes including obesity" (Salois, 2012, p. 520).

*Childhood obesity:* “Childhood obesity is defined as a BMI at or above the 95th percentile for children and teens of the same age and sex” (CDC, 2015, p. 2.)

*Healthy lifestyle:* Healthy lifestyles are lifestyles that include spiritual growth, strong interpersonal relationships, good nutrition, physical activity, stress management, and health responsibility (Walker & Hill-Polerecky, 1996).

*Risk factors*: Obesity during childhood can have a harmful effect on the body in a variety of ways and place children at a greater risk of developing high blood pressure; high cholesterol; impaired glucose tolerance; insulin resistance; Type 2 diabetes; respiratory diseases; joint problems; fatty liver disease; psychological stress; and impaired social, physical, and emotional functioning (CDC Grand Rounds, 2011).

## Sources of Evidence

Using the findings from peer reviews, systematic reviews, and dissertations, in this section, I will critically analyze sources of evidence that are vital to understand educating parents within a low-income community and built environment about childhood obesity. The selected literature I reviewed includes studies with correlation designs, quantitative, qualitative, and mixed methods. The collection and analysis of evidence from these multiple sources effectively addressed the project practice-focused

question. To address childhood obesity, many research studies focus on the relationship between learned habits and environment (Duncan et al., 2014).

## Obesity

Obesity affects approximately 72 million Americans and has not decreased since 1986 (Moss, 2016). As a baseline, one study highlighted obesity as the second leading cause of preventable mortality in the United States and the most dominant, terminal, chronic, worsening disorder of the 21st century (Moss, 2016). There has been a significant increase in health burdens because of the rising increase in obesity. As a part of the total health care expenditure in the United States, overweight and obesity accounts for 6–10%, which is approximately $92.6 billion dollars (Moss, 2016). The results of a randomized controlled study of 3,485 participants showed that studying the effects of psychological interventions for overweight individuals exposed a reduction in weight loss when combined with behavioral interventions, diet, and exercise combined (Brennan, 2014). This same study showed that because of the high dominance of overweight and obesity, early successful prevention and treatments would first address the issue, then end the problem, and in turn, decrease its rate.

## Childhood Obesity

Childhood obesity is a widespread chronic condition, which affects children and adolescents, and is reaching epidemic proportions (Raychaudhuri & Sanyal, 2012). According to the World Health Organization (2015), roughly 42 million children under the age of 5 were overweight or obese in 2015, and approximately 35 million of these children lived in low and middle-income communities. In the United States, the

percentage of obese children ages 6-11 increased from 7% in 1980 to nearly 8% in 2012, and from 5% to 21% in adolescents, 12–19 years old (World Health Organization,2015). According to a South Carolina Children's Health Report, 15.2% of all children were considered overweight and 19.9% were considered obese in the state of South Carolina (Callahan-Myrick & Heidari, 2012). According to Wolfson, Gollust, Niederdeppe, and Barry (2015), for the first time in history, the current generation of children in the United States has a shorter life expectancy than their parents' generation because of obesity health-related problems. The CDC (2015) established a classification for children ages 2 to 17 based on the growth charts for age and sex (see Table 1).

Table 1

*Classification of BMI for Age and Sex of Children and Adolescents (Ages 2–17)*

| Classification | Body Mass Index (kg/m2) |
|---|---|
| Underweight | Below the 5th percentile ranking |
| Normal/Recommended | ≥ 5th and < 85th percentile ranking |
| Overweight | ≥ 85th and < 95th percentile ranking |
| Obese | the 95th percentile ranking |

*Note.* From "Defining childhood obesity," by Centers for Disease Control and Prevention, 2015.Retrieved from https://www.cdc.gov/obesity/childhood/defining.html. Public domain data.

Colquitt (2016) explained the cause of childhood obesity was multidimensional and included individual, family, structural, and social factors. Colquitt's systematic review study, which assessed the interventions for the treatment of overweight or obesity in preschool children up to the age of 6 years, concluded that an effective treatment option for children of this age had multicomponent interventions that addressed diet,

physical activity, and behaviors. Another study concurred with the interventions mentioned in Colquitt's study also adding the suggestions of frequent follow-ups with a healthcare team and adherence by the child's family (Wickham & DeBoer, 2015). Ultimately, these researchers noted that this severe disorder needed to be prevented or detected early to avoid the challenges of successful treatment once the condition was established.

## Risk Factors

According to Rahman, Cushing, and Jackson (2011), it is undisputable that obesity along with minimum physical activity would increase chronic diseases, mortality, and resultant healthcare costs. Colquitt (2016) noted that children's overweight and obese rates had increased worldwide and could be linked with short- and long-term health consequences. The same short and long term health consequences associated with childhood obesity will potentially affect the individual as an adult. One study indicated that an overweight preschooler, specifically around age 4, had a 20% likelihood of becoming an overweight adult (Hernandez, Thompson, Cheng, & Serwint, 2012). According to the CDC (2015), a vast amount of research indicated that a predictor of childhood obesity continued into adulthood when it developed into larger health issues.

Childhood obesity has a strong association with current and future comorbidities such as heart disease, stroke, sleep apnea, hypertension, and hyperlipidemia (Wickham & DeBoer, 2015). The severities of current and future comorbidities of childhood obesity are likely to be associated with the significance of the child weight status. Branscum, Sharma, Wang, Wilson, and Rojas-Guyler (2013) reported that the higher the weight, the

greater risk of high blood pressure; high cholesterol; insulin resistance; musculoskeletal disorders; and respiratory, skin, and fertility conditions. In addition, childhood obesity can affect psychosocial health because obese young people are vulnerable to decreased self-esteem, quality of life, and stigmatization (Tremblay et al., 2011). The severity of the diagnosis of childhood obesity was classified as a severe medical condition, which required aggressive multidisciplinary treatment (Wickham & DeBoer, 2015). The basis of multidisciplinary treatment for severe pediatric and adolescent obesity includes intensive, family-based lifestyle adjustment, and behavioral therapy (Wilson & Sato, 2014). However, data from Pulgaron (2013) showed the dominance of severe childhood obesity differed by socioeconomic status and culture and could result in greater health risk events and severe obesity in adulthood. The rise in the rate of childhood obesity risk factors among adolescents is substantial because obese children grow up to be obese adults with multiple health problems.

## Poverty and Obesity

The Center for Study of Rural America reported that children living in the United States rural areas were about 25% more likely to be overweight or obese compared to those who lived in urban areas (Peters et al., 2016). The only longitudinal study published since 2004 regrading changes in weight among youth income communities concluded that in a 1-year period, there was small improvement with BMI percentiles (Peters et al., 2016). However, this same study continued to acknowledge the remarkable high rate of childhood obesity and the constant need for creative public health interventions to

improve it. Specifically, the researchers expressed concern that minority youth in low-income communities had such high steady rates of severe obesity.

Ganter et al. (2015) used the family ecological model to focus on the main community stakeholders' perceptions and experiences regarding barriers that low-income parents come upon when engaging in childhood obesity prevention. These researchers found that families would eat whatever food they could afford, regardless of the nutritional value. The researchers concluded that a significant need existed for community health programs to help families in low-income communities to make healthier choices. Most importantly, stakeholders need to gain more knowledge about the complexity of barriers encountered by families in low-income communities. The characteristics and structure of low-income communities contribute to the complications of poor nutrition and physical inactivity among rural populations (Lawman et al., 2014). Lawman et al. (2014) used a cross-sectional analysis using data obtained from 651 fourth–sixth graders comprised of 61.2% African Americas from low-income communities and showed that among these children, those who did not eat breakfast had a higher BMI percentage compared to those who ate breakfast.

Another study, which focused on physical activity among children with lower family incomes, showed these children had a higher risk of being less physically active and obese than did children from higher-income communities (Jin & Jones-Smith, 2015). Jin and Jones-Smith explained that children within low-income communities had barriers to physical activity and healthful eating. However, at the time of data collection, few studies had examined the effect of socioeconomic status on physical fitness.

Low-income communities are hampered by social and economic barriers related to living in poverty and unsafe environments, which can affect a person's healthy food choices and opportunity to engage in physical activity (Khan et al., 2012). Khan et al. gave an example of a single mother's ability to ensure that both she and her children pursued outdoor activities would be limited by safety concerns, such as being outside after dark or during certain hours of the day. Jurkowski et al. (2013) explained that the realism of a person's community and financial status related to preventing childhood obesity was unlikely to be corrected by the individual alone. These systemic factors are more likely to be addressed through modifications to schools, community service, and other public policy interventions (Jurkowski et al., 2013). This evidence can be used to support policies and provide programs aimed at improving fitness, nutrition, and decreasing obesity risk among low-income children (Jin & Jones-Smith 2015). Jurkowski et al.'s study results showed that choosing the population from low-income communities for evidence –based practice could address the massive issue of childhood obesity by reaching out to a population with significant and chronic health problems.

## Built Environment

The built environment of an area consists of the physical structure, such as buildings and healthy food stores as well as their lighting and outdoor spaces, such as parks, as well as the policies that form them (Alexander, Alfonso, & Hansen, 2015). Features of the built environment may be imperative dynamics, which cause inactivity, either directly through physical obstacles or indirectly through social aspects, and may cause families to avoid outdoor physical activity because they fear their safety. In a

mixed method study on African Americans' perceptions of childhood obesity, a vast number of participants identified inadequate physical activity, venues, programs, safety of parks, and neighborhood crime as barriers within the built environment (Alexander et al., 2015).

The availability of quality affordable and nutritious food in built environments is a major issue, and researchers define these communities as *food desert* (Yousefian, Leighton, Fox, & Hartley, 2011). A mixed method study determined it was important to understand how food deserts impact childhood obesity to create programs that help individuals increase healthy foods in the home (Yousefian et al. 2011). The accessibility of inexpensive healthy foods can be a major challenge to families who are attempting to change to a healthy lifestyle.

Duncan et al.'s (2014) study pointed to individuals' built environments as the chief barrier to reducing childhood obesity in low-income communities. The same study showed that certain built environment characteristics, such as sidewalks and safe playgrounds in low-income communities, were associated with lower BMI *z*-scores in a large sample of children and adolescents from an electronic health record database. Salois's study (2012) results were similar but suggested that adding sidewalks, recreation centers, and increasing the fruit and vegetable sections in local stores could decrease childhood obesity in low-income communities. The results of this study showed that many people who reside in low-income communities have no control regarding the number of sidewalks, availability of community centers, or foods offered in local stores. These issues are more of a public policy issues than one of individual choice.

A research study performed at Duke University that studied the association between the social context of a built environment, neighborhood characteristics, and childhood obesity indicated that each variable had a significant association (Miranda, Edwards, Anthopolos, Dolinsky, & Kemper, 2012). Salois (2012) explained that most research done on evaluating obese families, their activity, food choices, and genetics needed to include their environments as a major variable that would impact the efficacy of the outcome. The infrastructure of a built environment can be a major challenge to families who are attempting to adhere to a healthy lifestyle (Alexander et al., 2015). Therefore, until researchers and society understand and then educate families on the effects of obesity, as it relates to the built environment, the progression of obesity will continue (Duncan et al., 2014). According to Rahman et al. (2011), strong evidence shows that families must be educated on how to modify their built environment to increase physical activity and healthy food choices to obtain a long-term solution to rising epidemic of childhood obesity.

## African American Childhood Obesity in Low-Income Communities

Childhood obesity affects African American children from underprivileged backgrounds differently from those of other ethnics and greater social, economic status (Hawkins et al., 2016). The rates of childhood obesity among African Americans is rapidly increasing greater than any other race; however, research on the association between African Americans' obesity, lifestyle factors, and socioeconomic status is limited (Chen, & Wang, 2012). In 2012, of all African American children in South Carolina, 43.8% were overweight or obese (Callahan-Myrick & Heidari, 2012).

## Parents and Childhood Obesity

The Healthy People 2020 (2014) reported that childhood obesity was the number one health concern among parents in the United States, outnumbering drug abuse and smoking. According to Akhtar-Danesh, Dehghan, Morrison, and Fonseka (2011), parents are one of the most dominant factors responsible for childhood obesity. Pulgaron (2013) explained, when addressing childhood obesity, parents have been considered the agents of change because of their significant role and authoritative and leadership parent skills. A systematic review published from 2009 to 2015 obtained studies on childhood obesity and parenting and found that parents shape their children's behaviors through demonstrating to and supervising their children through reinforcement and governing their surroundings (Aftosmes-Tobio et al., 2016). The same study showed evidence that parents have been the blame for childhood obesity by the public and media for many years. Because children have little to no control over their choices, they mainly depend on their parents or caregivers. Aftosmes-Tobio et al. also explained that high-profile public awareness campaigns frequently center on parents as their target audience regrading childhood obesity and even classifying individual failings as parental abuse and neglect.

Conversely, another study showed that parents have different beliefs or perceptions about their children being overweight, which lead to them not understanding the risk and, therefore, not engaging in activities that address obesity (Wolfson et al., 2015). If parents do not identity their children as having a weight problem, then an intervention will be ineffective or will not last the duration (Akhtar-Danesh et al., 2011).

In some instances, parents may be aware of the incidence of childhood obesity but may hesitate to label their children as obese or over weight. Many parents think this may portray them as bad parents (Akhtar-Danesh et al., 2011). To begin to decrease the growth of childhood obesity, parents, caregivers as well as the public policy sector need more education. Parents' limited knowledge about childhood obesity, physical activity, and nutrition is a barrier and makes it difficult for them to choose healthy foods and promote active lifestyles (Wolfson et al., 2015)

A study showed for children under 12 years of age, the current best practice for the treatment of childhood obesity involved lots of family-based interventions including health eating, physical activity, and social involvement (Pulgaron, 2013). For example, stakeholders from The Special Supplemental Nutrition Program for Women, Infants and Children (WIC), healthcare, and early education noted through questioning thoroughly about their children's physical activity repeatedly that parents had limited nutrition and physical activity knowledge (Wolfson et al., 2015). The WIC stakeholders noted that parents believed that WIC foods were healthy; therefore, they could consume as much as they wanted (Wolfson et al., 2015).

Another study involving 150 parents of preschoolers compared reports between those who had children of healthy weight and those who had children who were overweight, and found that 7.4% of them considered minimum physical activity a priority risk factor for childhood obesity compared with other known risks (Hernandez et al., 2012). Interesting, 34% recognized the inability to regulate the food choices of alternate caregivers was the ultimately perceived barrier to achieving a child's healthy weight

(Hernandez et al., 2012). Although previous literature examined the perceptions and responsibility of parents, few studies examined educating the parents about factors regarding childhood obesity, which could improve lifestyle factors and, in turn, decrease childhood obesity. More resources are needed to increase parents' childhood obesity literacy levels, ensure community involvement, and openly include extended family members as project targets in health promotion.

## Interventions

Community project developments are used to build up community participation, empower, and increase public health knowledge within people's built environment, which profoundly impact their health (Subica, Grills, Douglas, & Villanueva, 2016). Few researchers regard African Americans' community health promotion for reducing traditional and cultural health disparities. A research study performed to address this literature gap found that community-based programs that execute environmental and policy interventions to encourage healthier behavior can decrease health-related risk factors and, possibly, disease incidence (Subica et al., 2016).

Using a qualitative, descriptive design, interviews were performed with six African American pastors from a Southern, low-income community and found that health promotion programs implemented through churches can influence a huge number of individuals in the community and provide a significant source of viable efforts to improve the health of African Americans (Ford, 2013). Because of the limited resources in the African American low-income communities, churches are considered an effectively source for health promotion programs. Researchers have noted that

implementation of health promotion programs within African American communities are often effective when church leaders are supportive because their hierarchy role serves as liaisons and agents of change (Ford, 2013).

Stephens, Resinicow, Latimer-Sport, and Walker (2015) performed a study across 14 churches and examined dietary behaviors using the SCT and found that churches were the perfect location for health educators to design, implement, and evaluate health education and health promotion programs within African American communities. Based on the current evidence related to childhood obesity, poverty, African Americans, and faith-based interventions; this project supported the concept of an educational program within a church setting to increase the knowledge of African American parents on risk factors and interventions on childhood obesity. Given the magnitude of this epidemic, it is vital that researchers, community leaders, and healthcare providers meet families were there are and provide interventions that promote healthy modifications in the built environments where their children live, learn, eat, and play (Rahman et al., 2011).

## Published Outcomes and Research

Certain online databases, including MEDLINE, CINAHL, and Dissertation Abstracts, was searched from February 2014 through January of 2016. Date limitations were set to 2011, and full text articles only filters were applied. The following key terms were used to search: *childhood obesity, built environment, low-income community, African-American, churches, participation, social-behavioral cognitive theory, health risk, poverty,* and *faith based health care.*

## Evidence Generated for the Doctoral Projects

The COP survey was given pre- and postintervention to parents to analyze their knowledge of obesity risk factors, the child's weight status, features of the built environment, and significance of obesity prevention strategies. The intervention was a community health educational program presented by the church health ministry on those specific concepts. These educational sessions centered on the SCT, which permitted the comprehensive assessment of this project's major components of childhood obesity complications, weight status, features of the built environment, and prevention strategies. The educational sessions included (a) a childhood obesity risk factor overview, (b) a description healthy weight status, (c) an explanation of built environment, and (d) a presentation of preventative strategies of nutrition and physical activity. The excepted outcomes for this educational intervention were to increase African American parents in low-incomes communities' (a) knowledge, (b) complications and risks, and (c) preventive strategies of childhood obesity within a built environment.

## Participants

Participants for this project consisted of a sample of African American parents, 18 years of age or older, who attended a church-based community health promotion service in a low-income area within a county in South Carolina. The church is a predominately African American church centered in an area below the poverty level. These particular church services give the community an opportunity to take advantage of free health screenings, education, and resources, along with food and entertainment. Of the 10

participants, nine completed the pre- and postsurveys, one participant completed only the presurvey, and all participants attended the educational session.

## Procedures

The participants were given the COP survey developed for a research study that focused on the African American caregivers' perception of childhood obesity in a rural Georgia community (Alexander et al., 2015). The development of the COP instrument was created because researchers from Alexander et al.'s study were not able to identify a survey that assessed African American caregivers' perceptions of childhood obesity. This 59-question survey (see Appendix A) was developed based on the social ecological model and SCT and uses two 5-point Likert-type scales, including five sections of perceptions of risk factors, child weight status, features of the built environment, the importance of obesity prevention strategies, and demographics. The survey has a reliability coefficient of 0.81 (Alexander et al., 2015). Approval from the primary author to use this tool was received via e-mail on May 20, 2016 (see Appendix C).

## Protection

This project was reviewed and approved by the Walden University Institutional Review Board before implementing this intervention to ensure the ethical protection of the participants. The IRB approval number for this study is 08-09-16-0321200. A secured and appropriate process was conducted to obtain voluntary informed consents. The minster and director signed a Letter of Cooperation granting me permission to conduct this study at their facility. The de-identified data were safeguarded and privacy measures were followed.

## Analysis and Synthesis

The sample was comprised of African American parents of school-aged children who attended a low-income community church in South Carolina. During Sunday mornings, the attendance of the local church is typically about 600 individuals, who are predominantly African American. The project was implemented on the third Sunday of the month, which had already been established as *Fitness Sunday* by the health ministry committee. Surveys for data collection were conducted by using a standard organized approach. In addition, written consent was obtained from the organization to participate in my DNP project. Ongoing phone calls and in-person conferences with the health ministry director and fitness instructor were conducted up until the day of implementation. COP presurveys were completed by parents before entering the sanctuary for Sunday morning service. Postsurveys were conducted after the education sessions had been carried out by the health ministry committee during the Sunday morning service.

The local church health ministry committee had a survey table outside of the sanctuary, which was where parents were given a brief description of the project, consents, and surveys. As the project developer, I tracked surveys using a numerical system where numbers were used as code identifiers and tracking logs. The unique ID numbers were placed on each page of the pre- and postsurveys for each participant. All surveys were collected on the same day. Data from the surveys were analyzed using SPSS version 21. A paired-sample *t* test was used to compare the significance of each presurvey and postsurvey knowledge question response. Significance was set at .05, and

data were triple checked to ensure accuracy by I the DNP student, committee chair. These data results were saved on a password-protected external drive and stored in a secured place.

The presurvey and postsurvey data were entered into a SPSS variable view using columns including: survey question number, numeric variables, labels, values, missing, and ordinal measures. In all, 59 vertical columns represented each survey question, excluding Question Number 20, which was analyzed with a visual aid and with graphed results. Data entry of the questions were divided based on questions relating to demographics, childhood obesity risk factors, childhood obesity health complications, child's weight status, built environment, and childhood obesity prevention strategies. The values of Survey Questions 1–34, excluding question 20, were coded based on responses of: (C1) *strongly disagree,* (C2) *disagree,* (C3) *neither,* (C4) *agree,* and (C5) *strongly agree,* in addition to (99) for the missing variables.

Data collected included questions from specific categories wherein responses helped to evaluate the level of knowledge gained from education sessions. These categories included child's weight status, built environment, and childhood obesity prevention strategies. Data was then analyzed and explained based on these categories.

## Summary

The major goals of all project team members, products, personal goals, and pre- and postsurveys were to address the results of this study. In turn, these goals helped to reduce the major risk factors of childhood obesity that impact the targeted community. I chose specific project team members, location, and strategies because these allowed

multiple interventions that required active involvement from the community. Childhood obesity is a modifiable disease in which a person's environment stands as a major risk or a protective factor. The environment, limited resources, and lack of awareness are factors that cause families to make unhealthy choices. For example, Salois (2012) explained that the accessibility of fresh fruits and vegetables is limited in stores in the low-income communities.

An assessment of the level of education regarding the lack of awareness, inadequate resources, and environmental influences in obese children was conducted with parents. In addition, participants' daily physical activity and eating habits were assessed to see how these might impact childhood obesity. This study could be an efficient method in furthering local research because it was time-saving, simplistic, and employed reasonable measures (Friis & Sellers, 2014).

In Section 4, I will detail how the data were analyzed and will provide both a written and graphic summary of the results. In addition, recommendations, contributions, strengths, and limitations of the doctoral project will be discussed. In Section 5, I will present the dissemination plan and my final thoughts.

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Section 4: Findings and Recommendations

## Introduction

This project focused on the local problem of obese African American children who resided in low-income communities. According to the South Carolina Department of Social Services 2012 Health Report, African American children in low-income communities had the highest rate of obesity in South Carolina (Callahan-Myrick & Heidari, 2012). The gap-in-practice was the need for interventions, community programs, and health awareness events, which focused on educating parents about the risks, healthy diet, physical activity, and prevention methods of childhood obesity (Hernandez et al., 2012). The practice-focused question for this project was: Does educating parents about the obesity risk factors, healthy weight status, built environment, and prevention strategies associated with childhood obesity in a low-income community increase their knowledge of healthy lifestyle behaviors?

The purpose of this doctoral project was to support African American parents by increasing their knowledge on obesity risk factors, healthy weight status, and built environment. I collected the data used in the study from African American parents who attended a health promotion faith-based service. Participants ($n$ = 10) completed the COP survey both pre- and posteducation intervention. Surveys were tracked using a numerical system in which numbers were used as code identifiers and tracking logs. Data from the surveys were analyzed using SPSS version 21, and a $t$ test was used to compare the mean scores of the pre- and post-COP surveys. Overall, this project used the SCT to express

that educating these parents on the major factors related to childhood obesity could lead to a positive outcome and decrease childhood obesity in this population.

## Finding and Implications

The COP survey was completed by 10 participants in this study. Of the survey participants, (90%) were female and aged 28–54 years. Sixty-percent self-identified as African Americans, and 40% chose not to disclose their race. Of these participants, 80% resided in the local South Carolina county, 30% had a one-parent household, 20% had a two-parent household, and 50% did not respond to the number of parents per household question. Approximately, 60% of the sample described their highest education level as "some college" or a "bachelor degree." All participants said they worked 30 hours or more, but household income ranged from those making less than $10,000 per year to $74,000 per year. As a result of the education program on childhood obesity, the following outcomes were met:

- Parents validated a perceived statistically substantial increase in risk factors and health complications related to childhood obesity.
- Parents validated a perceived statistically substantial increase in understanding the importance childhood obesity.

I used the SPSS version 21 to calculate quantitative descriptive statistics. A paired-sample *t* test was conducted analyzing each survey response using SPSS version 21 to show the comparison of the each presurvey and postsurvey knowledge question response (see Appendix B). In this project, I analyzed the in-depth assessment of five components: (a) risk factors, (b) health complications, (c) weight status, (d) built

environment, and (e) prevention strategies. The Likert-type scale responses on the COP skills tool were coded as follows: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither*, 4 = *agree*, and 5 = *strongly agree*. Table 2 shows the questions that were significant from the surveys. The pre- and postsurvey lowest mean was 1.99 (*SD* =.87), and the highest mean was 4.80 (*SD* =.42) (see Table 2). There were multiple responses with a statistically significance of $p < .05$, which means the of childhood obesity education increased after the intervention. Table 2 below shows selective questions with $p < .05$. An unanticipated limitation that potentially impacted the findings was the number of participants and the length of the survey, which caused one participant not to complete the postsurvey.

Table 2

*Paired Sample t test of Selective Pre and Post Survey Responses*

**Paired Samples Test**

| | | Paired Differences | | | | | *t* | *df* | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 95% Confidence Interval of the Difference | | | | |
| | | *M* | *SD* | Std. Error Mean | Lower | Upper | | | |
| Pair 1 | Q1 - Q1P | -.55556 | .88192 | .29397 | -1.23346 | .12235 | -1.890 | 8 | .095 |
| Pair 7 | Q7 - Q7P | -.40000 | .51640 | .16330 | -.76941 | -.03059 | -2.449 | 9 | .037 |
| Pair 8 | Q8 - Q8P | -.50000 | .52705 | .16667 | -.87703 | -.12297 | -3.000 | 9 | .015 |
| Pair 9 | Q9 - Q9P | -1.10000 | 1.28668 | .40689 | -2.02044 | -.17956 | -2.703 | 9 | .024 |
| Pair 10 | Q10 - Q10P | -.44444 | .52705 | .17568 | -.84957 | -.03932 | -2.530 | 8 | .035 |

## Risk Factors and Health Complications

Concerning childhood obesity risk factors and health complications, survey participants were likely to strongly agree that lack of money (30% pre, 40% post); parents' eating habits (70% pre, 60% post); the importance of exercise (60% pre, 50% post); and African American health problems (40% pre, 60% post) were related to a child's risk for obesity. In addition, participants agreed on the presurvey that if a child

were obese, he or she was likely to develop diabetes (70%), stroke (90%), and cancer (30%). After being educated about these important risk factors, the same participants strongly agreed that childhood obesity would lead to diabetes (70%), stroke (60%), and cancer (50%).

## Weight Status

To evaluate the perception of the parents' idea of the child's weight, they were asked to choose from different images (see Figure 1). Seventy percent of parents (pre- and postsurvey) reported an underweight child, a healthy weight (20% pre, 10% post), none for overweight, and 10% obese (see Figure 2). Consequently, there was a mixed response for agreed and disagreed regarding participants being concerned about their child's weight. In addition, 80% of survey participants disagreed or strongly disagreed that their child was obese when completing both surveys, and 70% disagreed or strongly disagreed that their child was overweight.

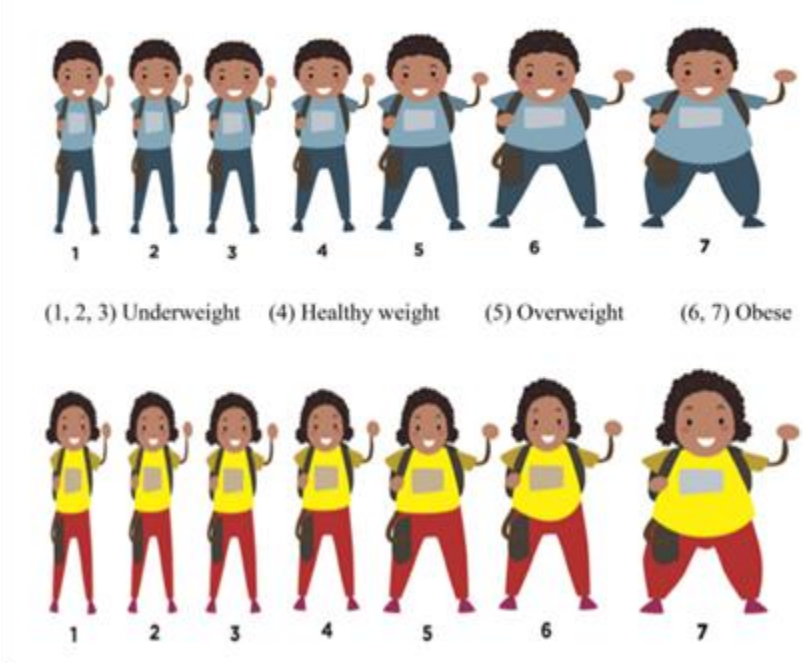


*Figure 1.* Picture used to determine parents' perceptions of child weight status

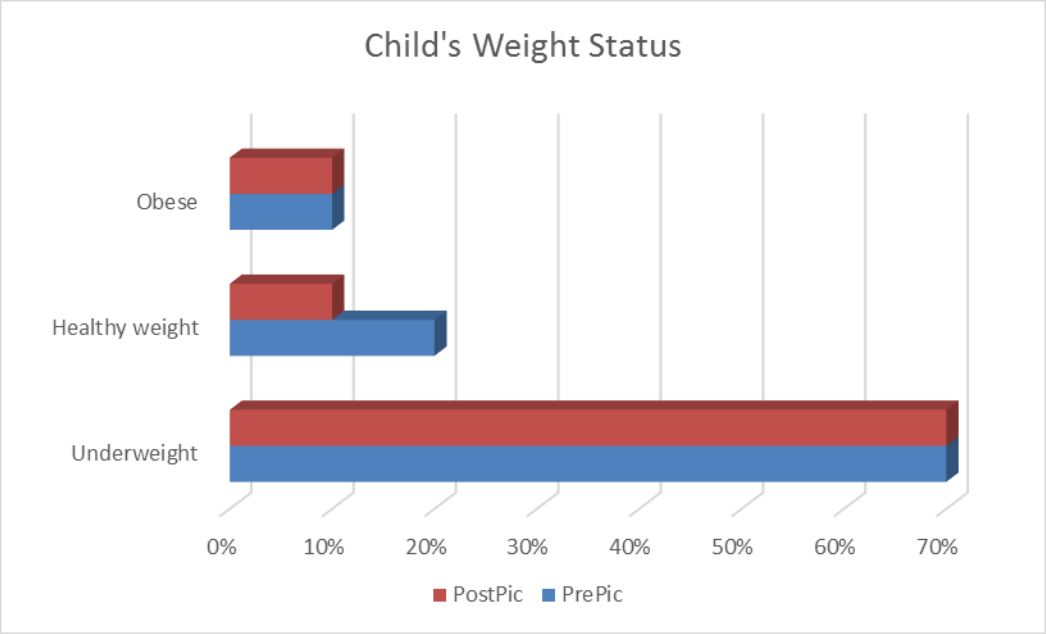


*Figure 2.* Comparison of parents' pre- and postperceptions of child's weight status

## Built Environment

Fifty percent (pre and post) of participants disagreed that the lack of community programs played a part in increasing childhood obesity rates, while 40% (pre and post) agreed this was an issue. Along with this, 80% (pre and post) agreed or strongly agreed that their child having a playmate in the neighborhood could help prevent obesity. Yet, 99% (pre and post) strongly agreed or agreed that activities were held in their community to motivate their child to engage in some sort of physical activity. Safe communities were an important factor to most (90% post) participants. In addition, there were various responses of those who disagreed (40% pre and post) and agreed (30% pre, 50% post) to the school having a greater ability to preventing childhood obesity than the parents.

## Prevention Strategies

Seventy percent of survey participants strongly agreed they could help their children live a healthier lifestyle, and 60% (pre) and 70% (post) had an influence on their children's weight status. The parents strongly agreed they would encourage preventive strategies such as decreasing sugary drinks (60% post), limiting portion sizes (70% rated this as extremely important), providing healthy snacks (90% rated as extremely important), increasing exercise (90% post rated as extremely important), and limiting high caloric foods (80% post rated as extremely important). Nevertheless, regarding preventing childhood obesity, 50% (pre and post) strongly agreed their child's doctor discussed weight with them and explained the growth chart. Most importantly, 60% (post) of the participants stated that their child's doctor explained preventive measures to prevent childhood obesity.

## Implications for Findings

These finding and implementations supported the evidence-based educational intervention within the faith-based health promotion program for the community. Because the church evaluated the effectiveness of previous programs, this project provided concrete data to show the need for similar interventions. The success of the intervention in providing vital knowledge regarding childhood obesity should increase the motivation of parents to work successfully to implement healthy lifestyle factor among their family. This project can also be adapted to other community healthcare providers, churches, health fair coordinators, and community leaders to educate the community's other programs or health fairs.

## Implications for Future Research

Numerous associations could conduct future research using this project as a foundation. Research on the awareness, resources, and built environment for aiding with preventing childhood obesity should be continued throughout other communities. Families in low-income communities with risk factors associated with childhood obesity should be assessed during community health promotion programs using the evidence-based practice education intervention. Additional research on the interventions, knowledge level, and lifestyle changes should also be assessed over an extended period. Replication of Alexander et al.'s (2015) study within schools located in low-income communities should also be initiated to allow refinement of the COP instrument and provide more research that focuses on preventing and addressing childhood obesity within a built environment. The introduction of the educational intervention involving an

interactive fun day with at-risk children should also be assessed. Development of nursing knowledge, preventive standards, and treatments is essential to decrease the growing rate of childhood obesity within low income communities.

## Implications for Social Change

This childhood obesity project provided education that was beneficial to the parent who resided in built environments and aided in early childhood obesity detection, prevention, and treatments. It is a valuable project tool for the families, the community, and other health professionals to implement to support the decrease of childhood obesity. This community-based awareness project used evidence-based practice and social change knowledge to increase physical activity and healthy eating (Rogers et al., 2013). The association between evidence-based practice and social change will improve the families understanding of the need for healthy behavior changes and promote positive social change to parents within this vulnerable population (Rogers et al., 2013).

## Recommendations

The gap-in-practice, as reinforced by the findings of this study, is the necessity for continuous community health involvements and health awareness events aimed at educating parents about the risks, healthy diet, exercise, and prevention approaches of childhood obesity (Hernandez et al., 2012). Childhood obesity should be a topic that is regularly addressed during community health events in low-income communities. Although the education session during Fitness Sunday in the study site church community demonstrated significant differences between selected pre- and postsurvey questions, the inclusion of some group education component could provide more

opportunities for participants to ask questions and share personal experiences. More data should be gathered on parents' perceptions of their built environment and how the parents' perceptions contribute to childhood obesity. For future studies, qualitative data should be gathered through one-on-one interviews and then analyzed. The participants' personal experiences might offer researchers other variables to consider as a cause for childhood obesity among those in a built environment.

## Contribution of the Doctoral Project Team

The doctoral project team consisted of me the DNP student, health ministry director, the minister, and a fitness expert. The process of working with all team members was professional and initiated valuable relationships for future projects. Each member upheld his or her responsibilities and made certain that the project's vision, objectives, and goals were met. The health ministry director initiated the surveys, assisted with coding, and assured the security and privacy of all documents. The fitness expert led participants in a physical activity routine as an example of a fun way to help children exercise. Each team member constantly supported the project by expressing to participants the importance of implementing the educational materials provided and proposing the need to extend the project for future programs.

## Strength and Limitations of the Project

The main strength of this evidence-based project was to provide knowledge and awareness to a group of African American parents within a built environment. Seeming accomplishment of the project purpose and goals were met based on the significant difference in *p*-values among the pre- and postsurveys. The location and support from

respectable community stakeholders, such as the minster, were beneficial and motivated participants. Correlations from the demographic data and surveys supported knowledge from parents regrading childhood obesity education. In addition, the face-to face education and the fitness demonstration provided more opportunities for participants to gain an effective education.

The major limitations included the use of a small sample size ($n$ = 10), despite 32 surveys distributed. Other limitations included self-report data and the length of the survey. To address the limitations, more opportunities and small classroom sessions would allow participants to share experiences, concerns, and obstacles. Qualitative data on the parents and children's experiences regarding their perception of childhood obesity should be collected. These data might provide information related to proposed future research to decrease the rate of childhood obesity in low-income communities.

## Summary

The results of this project addressed the goals, objectives, and the overall purpose of addressing childhood obesity in low-income communities. The project team members, faith-based setting, and I, the DNP student. promoted and obtained active involvement from the community. Participants overall gained understanding that childhood obesity is a modifiable disease with major risk factors that can be prevent by increasing knowledge about the disease. In addition, participants' daily physical activity and eating habits were factors that impacted childhood obesity. The results from the project regarding inadequate resources and built environment influences in obese children showed these as a barrier of change for the participants. In Section 5, I will outline the dissemination plan

and my final thoughts to ensuring continuous awareness and evidence-based practice of childhood obesity in low-income communities are brought to the forefront to promote positive social change

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# Section 5: Dissemination Plan

## Introduction

The plan to disseminate the results from my project study is to submit abstracts for publication to appropriate health journals targeting minorities, children, parents, and low-income families. My future plans are to analyze both qualitative through interviews and quantitative data to evaluate how the education session leads to increase healthy eating and physical activity. Ongoing implementations of this project will be initiated at local churches, community health fairs, daycares, afterschool programs, and/or health promotion events.

## Analysis of Self

### As Practitioner

According to Lathrop and Hodnicki (2014), the concentration of the DNP degree is to demonstrate clinical practice expertise, clinical leadership, improve patient healthcare outcomes, and use evidence-based practice. My practice background is nursing education, clinical leadership, and advanced nursing. In addition, I have a background of community health and congregational nursing, which allows me to have a great collaboration with various healthcare providers and community leaders. With a background of community health, hospital-based nursing, and graduate nursing education, this DNP project experience has provided me with a better understanding of translating research into practice to overall improve the safety and quality of healthcare (Lathrop & Hodnicki, 2014). My long term professional goal is to continue my research

and network with community leaders to develop interventions using a faith-based setting that will decrease the rate of childhood obesity in low-income communities.

**As Scholar**

The clinical scholarship and analytical methods of the DNP essentially involve supporting the student in converting research into practice through the critical review of literature, assessment, and the implementation and dissemination of new knowledge (Lathrop & Hodnicki, 2014). The DNP program and project has enhanced my ability to interpret research, integrate current literature, and communicate on an advanced professional level (Chism, 2013). In addition, this project provided me with the opportunity to develop the above skills. In planning to communicate my research via publications and face-to-face presentations, I hope to engage community leaders and colleagues to contribute to scholarly works regarding childhood obesity in low-income communities.

**As Project Developer**

Completing this evidence-based project improved my skills and ability to identify problem areas, develop a program, implement a project, evaluate the findings critically, and create social change. Practices included applying the SCT to implement the project. My execution of the project and specifically, my analysis of the findings, gave me the self-assurance to continue to implement the childhood obesity project at community health events and church health fairs. Being the project developer, I gained skills and confidence in working with others to continue the research of childhood obesity in low-income communities.

## Summary

The findings of this educational intervention demonstrated that childhood obesity education increased the parents' knowledge and motivation to promote a healthy lifestyle in their families. Increasing the knowledge of the parents in low-income communities regarding childhood obesity will decrease the number of obese children within this vulnerable population. However, the project sample size was small; therefore, further childhood obesity education programs, data collection, and outcome evaluations with parents in other low-income communities are necessary. My concentration on social change and the development of community programs that focus on decreasing childhood obesity in low-income African American communities is essential to meet the Healthy People 2020 goal of reducing the significant rise of childhood obesity in this population.

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Appendix A: The Childhood Obesity Perceptions Survey

## Childhood Obesity Perceptions (COP) Survey

The purpose of this survey is to assess caregiver's perceptions (understanding) about childhood obesity in 6-11 year old children, but not to identify any particular individual responses instead we will study group responses to help create and evaluate childhood obesity prevention programs. When completing this survey select one child per household. If you have two or more children who live in your household select the child who weighs more. As seen on this first page, at the top left-hand corner a code number is provided for each individual; this is to conceal your identity. There are no right or wrong answers to these items; we seek your honest answers. The survey will take approximately 30 minutes to complete. The completion of this survey is voluntary and all answers will be kept confidential (secret). Thank you for completing this survey.

This set of survey questions relates to your **perceptions of obesity risk factors (causes)** in your child's home, school, or community environment **and obesity related health complications**. Choose whether you strongly disagree, disagree, neither, agree, or strongly agree with the following statement.

| **Survey Items** | **Strongly disagree** | **Disagree** | **Neither** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| 1. Lack of money increases the risk of childhood obesity. | 1 | 2 | 3 | 4 | 5 |
| 2. Parent's eating habits influences a child's risk for obesity. | 1 | 2 | 3 | 4 | 5 |
| 3. If a parent is obese, their child is likely to become obese. | 1 | 2 | 3 | 4 | 5 |
| 4. It is important for me to exercise so that my child exercises. | 1 | 2 | 3 | 4 | 5 |
| 5. Schools play a role in my child developing healthy behaviors. | 1 | 2 | 3 | 4 | 5 |
| 6. Childhood obesity is an important health problem among African American children. | 1 | 2 | 3 | 4 | 5 |
| 7. If a child is obese, he/she is more likely to develop DIABETES. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 8. If a child is obese, he/ she is more likely to have a STROKE. | 1 | 2 | 3 | 4 | 5 |
| 9. If a child is obese, he/she is more likely to develop CANCER. | 1 | 2 | 3 | 4 | 5 |
| 10. If a child is obese, he/she is likely to develop BONE and JOINT problems. | 1 | 2 | 3 | 4 | 5 |
| 11. If a child is obese, he/she is more likely to be INFERTILE. | 1 | 2 | 3 | 4 | 5 |
| 12. If a child is obese, she is more likely to have IRREGULAR MENSTRUAL CYCLES. | 1 | 2 | 3 | 4 | 5 |

This set of survey questions relates to your **perceptions of how you think you can prevent your child from becoming obese**. Choose whether you strongly disagree, disagree, neither, agree, or strongly agree with the following statement.

| **Survey Items** | **Strongly disagree** | **Disagree** | **Neither** | **Agree** | **Strongly Agree** |
|---|---|---|---|---|---|
| 13. I can help my child have a healthy lifestyle. | 1 | 2 | 3 | 4 | 5 |
| 14. With my help I can prevent my child from becoming obese. | 1 | 2 | 3 | 4 | 5 |
| 15. I can influence my child's weight. | 1 | 2 | 3 | 4 | 5 |
| 16. I encourage my child to drink water instead of sugary drinks. | 1 | 2 | 3 | 4 | 5 |

This set of questions relates to the **perceptions of your child's weight**. Choose whether you strongly disagree, disagree, neither, agree, and strongly agree with the following statement.

| **Survey Items** | **Strongly disagree** | **Disagree** | **Neither** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| 17. I am concerned about my child's weight. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 18. My child is the appropriate weight for his/her age. | 1 | 2 | 3 | 4 | 5 |
| 19. My child is obese right now. | 1 | 2 | 3 | 4 | 5 |
| 20. My child is overweight, but not obese. | 1 | 2 | 3 | 4 | 5 |

## You are almost done. ☺

Choose one picture from below that represent one child (son or daughter) from your household – select **ONLY ONE** child.

21. My child about whom I am answering questions looks **MOST** like:


This set of survey questions relates to your **perceptions of your child's doctor.** Choose whether you strongly disagree, disagree, neither, agree, or strongly agree with the following statement.

| **Survey Items** | **Strongly disagree** | **Disagree** | **Neither** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| 22. My child's doctor discusses my child's weight with me. | 1 | 2 | 3 | 4 | 5 |
| 23. My child's doctor has explained and shown me a growth chart. | 1 | 2 | 3 | 4 | 5 |
| 24. My child's doctor has told me what I should do to prevent my child from becoming obese. | 1 | 2 | 3 | 4 | 5 |

This set of survey questions relates to your **perceptions of barriers and benefits in your community environment.** Choose whether you strongly disagree, disagree, neither, agree, or strongly agree with the following statement.

| **Survey Items** | **Strongly disagree** | **Disagree** | **Neither** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| 25. Litter or garbage on the streets can prevent my child from exercising. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 26. Stray dogs in my community can prevent my child from exercising. | 1 | 2 | 3 | 4 | 5 |
| 27. There are not enough areas in my community for my child to participate in physical activity. | 1 | 2 | 3 | 4 | 5 |
| 28. Traffic can prevent my child from playing in our community. | 1 | 2 | 3 | 4 | 5 |
| 29. Lack of community programs can increase childhood obesity rates. | 1 | 2 | 3 | 4 | 5 |
| 30. My child having a playmate in the neighborhood can help prevent obesity. | 1 | 2 | 3 | 4 | 5 |
| 31. Safe communities encourage physical activity among children. | 1 | 2 | 3 | 4 | 5 |
| 32. My child's school can prevent childhood obesity more than I can. | 1 | 2 | 3 | 4 | 5 |

This set of survey questions relates to your **perceptions of the importance of childhood obesity strategies.** For the first question, choose whether you strongly disagree, disagree, neither, agree, or strongly agree with the following statement. For the next set of questions, circle your level of importance for preventing childhood obesity.

| **Survey items** | **Strongly disagree** | **Disagree** | **Neither** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| 33. Some of the activities within my community can motivate my child to participate in physical activity. | | | | | |
| | **Not at all important** | **Slightly important** | **Somewhat important** | **Moderately important** | **Extremely important** |
| 34. Limit portion sizes at meals. | 1 | 2 | 3 | 4 | 5 |
| 35. Provide healthy snacks. | 1 | 2 | 3 | 4 | 5 |
| 36. Participate in exercise with my child. | 1 | 2 | 3 | 4 | 5 |
| 37. Read nutritional labels. | 1 | 2 | 3 | 4 | 5 |
| 38. Limit high calorie foods. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 39. Talk to community members and leaders about having more programs in my community. | 1 | 2 | 3 | 4 | 5 |

## Thank you for completing this survey. Don't forget to complete the questions about yourself on the next page.

This set of questions ask about you.

1. What is the name of the county you live in? _____
2. How old are you today? _____ years
3. Are you a male or female? Male Female
4. What is your height in feet and inches? _____ feet _____inches
5. What is your weight in pounds? _____ pounds
6. How old is your child today? _____ years
7. Is your child a male or female? (Only choose one child) Male Female
8. Check the option that best describes your child:

   _____ Only child _____ Youngest _____Middle _____Oldest
9. What is your child's height in feet and inches? _____ feet _____inches
10. What is your child's weight in pounds? _____pounds
11. What is the highest grade or year of school you completed? Check the option that best describes you.

    _____ Less than high school _____ Some high school, but did not graduate

    _____ High school diploma or GED _____ Some college or an associate degree

    _____ College degree (Bachelor's) _____ Some graduate degree study or completed
12. In a usual week, how many hours per week do you work for pay? _____

13. Check the option that best describes your household:

    _____ One-parent household  ____ Two-parent household

14. How many children less than 18 years of age live in your household? _____

15. Which of the following categories best describes your yearly household income from all sources? Check your response.

    ___ Less than 10,000  ___10,001-19,000  ___19,001-29,000  ___29,001-39,000

    ___ 39,001-49,000  ___49,001-59,000  ___59,001-69,000  ___69,001-74,000

    ___ 74,001-more  ___Don't know  ___ Prefer not to answer

16. How do you describe yourself? Check your response.

    ___ Black or African American

    ___ Other: _____ (please specify)

# Appendix B: Paired Samples Test

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference Lower | Upper | | | |
| Pair 1 | Q1 - Q1P | -.55556 | .88192 | .29397 | -1.23346 | .12235 | -1.890 | 8 | .095 |
| Pair 2 | Q2 - Q2P | .00000 | .66667 | .21082 | -.47690 | .47690 | .000 | 9 | 1.000 |
| Pair 3 | Q3 - Q3P | -.30000 | .67495 | .21344 | -.78283 | .18283 | -1.406 | 9 | .193 |
| Pair 4 | Q4 - Q4P | .10000 | .31623 | .10000 | -.12622 | .32622 | 1.000 | 9 | .343 |
| Pair 5 | Q5 - Q5P | -.30000 | .67495 | .21344 | -.78283 | .18283 | -1.406 | 9 | .193 |
| Pair 6 | Q6 - Q6P | -.30000 | .67495 | .21344 | -.78283 | .18283 | -1.406 | 9 | .193 |
| Pair 7 | Q7 - Q7P | -.40000 | .51640 | .16330 | -.76941 | -.03059 | -2.449 | 9 | .037 |
| Pair 8 | Q8 - Q8P | -.50000 | .52705 | .16667 | -.87703 | -.12297 | -3.000 | 9 | .015 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pair 9 | Q9 - Q9P | -1.10000 | 1.28668 | .40689 | -2.02044 | -.17956 | -2.703 | 9 | .024 |
| Pair 10 | Q10 - Q10P | -.44444 | .52705 | .17568 | -.84957 | -.03932 | -2.530 | 8 | .035 |
| Pair 11 | Q11 - Q11P | -.30000 | .82327 | .26034 | -.88893 | .28893 | -1.152 | 9 | .279 |
| Pair 12 | Q12 - Q12P | -.30000 | .48305 | .15275 | -.64555 | .04555 | -1.964 | 9 | .081 |
| Pair 13 | Q13 - Q13P | .00000 | .47140 | .14907 | -.33722 | .33722 | .000 | 9 | 1.000 |
| Pair 14 | Q14 - Q14P | .00000 | .47140 | .14907 | -.33722 | .33722 | .000 | 9 | 1.000 |
| Pair 15 | Q15 - Q15P | -.10000 | .56765 | .17951 | -.50607 | .30607 | -.557 | 9 | .591 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pair 16 | Q16 - Q16P | -.40000 | .84327 | .26667 | -1.00324 | .20324 | -1.500 | 9 | .168 |
| Pair 19 | Q19 - Q19P | .30000 | .67495 | .21344 | -.18283 | .78283 | 1.406 | 9 | .193 |
| Pair 20 | Q20 - Q20P | -.20000 | 1.13529 | .35901 | -1.01214 | .61214 | -.557 | 9 | .591 |
| Pair 22 | Q22 - Q22P | .20000 | 1.39841 | .44222 | -.80036 | 1.20036 | .452 | 9 | .662 |
| Pair 23 | Q23 - Q23P | .44444 | 1.33333 | .44444 | -.58045 | 1.46934 | 1.000 | 8 | .347 |
| Pair 24 | Q24 - Q24P | .30000 | 1.33749 | .42295 | -.65679 | 1.25679 | .709 | 9 | .496 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pair 25 | Q25 - Q25P | -.40000 | 1.17379 | .37118 | -1.23968 | .43968 | -1.078 | 9 | .309 |
| Pair 26 | Q26 - Q26P | .10000 | .99443 | .31447 | -.61137 | .81137 | .318 | 9 | .758 |
| Pair 27 | Q27 - Q27P | .00000 | 1.24722 | .39441 | -.89221 | .89221 | .000 | 9 | 1.000 |
| Pair 28 | Q28 - Q28P | .10000 | .87560 | .27689 | -.52636 | .72636 | .361 | 9 | .726 |
| Pair 29 | Q29 - Q29P | .60000 | 1.57762 | .49889 | -.52856 | 1.72856 | 1.203 | 9 | .260 |
| Pair 30 | Q30 - Q30P | .10000 | 1.28668 | .40689 | -.82044 | 1.02044 | .246 | 9 | .811 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pair 31 | Q31 - Q31P | -.20000 | .42164 | .13333 | -.50162 | .10162 | -1.500 | 9 | .168 |
| Pair 32 | Q32 - Q32P | -.40000 | .96609 | .30551 | -1.09110 | .29110 | -1.309 | 9 | .223 |
| Pair 33 | Q33 - Q33P | -.12500 | .35355 | .12500 | -.42058 | .17058 | -1.000 | 7 | .351 |
| Pair 34 | Q34 - Q34P | -.20000 | .42164 | .13333 | -.50162 | .10162 | -1.500 | 9 | .168 |
| Pair 35 | Q35 - Q35P | .00000 | .47140 | .14907 | -.33722 | .33722 | .000 | 9 | 1.000 |
| Pair 36 | Q36 - Q36P | .00000 | .47140 | .14907 | -.33722 | .33722 | .000 | 9 | 1.000 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pair 37 | Q37 - Q37P | -.10000 | .56765 | .17951 | -.50607 | .30607 | -.557 | 9 | .591 |
| Pair 38 | Q38 - Q38P | .00000 | .47140 | .14907 | -.33722 | .33722 | .000 | 9 | 1.000 |
| Pair 39 | Q39 - Q39P | -.10000 | .73786 | .23333 | -.62784 | .42784 | -.429 | 9 | .678 |

# Appendix C: Consent to Use Instrument

Good morning Cotella,

I hope all is well.

Yes, you can use the survey instrument for your capstone project. Per your email, please use the survey only for your research study and not receive any compensation or develop curriculum development activities; include the copyright statement on all copies of the instrument; and send me a copy of your completed research study. I have attached the article. Also, I have another article that is in the revise and resubmit phase that I will send to you as soon as I receive approval from the editor of Evaluation Program and Planning. This article is titled, Development and psychometric testing of the Childhood Obesity Perceptions (COP) survey among African American caregivers: A tool for obesity prevention program planning.

If you have any questions, feel free to also reach me at this email address.

Enjoy your day. I can't wait to read about your study.