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Health disparities are prevalent in the U.S, with low-income African American children suffering from higher rates of obesity and chronic diseases compared to White children. Currently, little is known about parental perceptions of healthy eating, and concerns related to child health and weight in this at-risk population. The main purpose of this study was to examine perceptions, motivating factors and barriers to healthier eating in a sample of low-income African American parents of 3-5 year old children. The second purpose was to assess parental concerns about health and/or weight and to examine the accuracy of parental perceptions of child weight status. Participants were recruited from Head Start Programs in North Carolina. The Social Cognitive Theory constructs guided focus groups and a survey administered to the participants. Content analysis of 8 focus groups generated the following themes: 1) lack of nutrition knowledge and misconceptions; 2) healthy meals are home-cooked, include meat and starch; 3) family members, lack of maternal modeling, and child pickiness are main barriers to healthier eating; 4) strong awareness of family history of chronic disease, including obesity; 5) lack of concern about child's current weight. Over 25% of mothers underestimated their child's weight status. Our findings highlight important maternal perspectives influencing children's diet quality and long-term health outcomes among low-income at-risk preschoolers. Nutrition educators should be aware that low-income African American mothers may be aware of chronic disease risks, but do not perceive food choices in early childhood as having strong impact on the child's future health.

PERCEPTIONS AND CONCERNS OF HEALTHY EATING IN LOW-INCOME AFRICAN AMERICAN MOTHERS OF PRESCHOOLERS

by

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CHAPTER I

INTRODUTION

The broad range of health consequences of excessive adiposity made childhood obesity a critical public health issue in the U.S. (Ogden et al., 2014). Although the prevalence of childhood obesity has somewhat stabilized between 2008 and 2011 (Odgen et al. 2104; Centers for Disease Control and Prevention (CDC), 2014), nearly one third of children and adolescents remain to be overweight or obese nationwide (National Collaborative on Childhood Obesity Research 2014). Furthermore, low-income and minority children suffer from greater rates of obesity compared to others and other obesity-related health disparities are apparent by race/ethnicity and income level (CDC 2014 and NCCOR; Dubowitz, Heron, Bird, Lurie, Finch et al. 2008).

Currently, 36% of African American children are overweight or obese compared to 28% of White children (Odgen et al. 2014). Furthermore, 11.4% of African American preschoolers are classified as obese compared to "only" 3.5% of Non-Hispanic White children (Odgen et al. 2104). The impact of childhood obesity on low-income African American youth is detrimental to their health status, with children from this minority group being at a substantially greater risk for type 2 diabetes, hypertension, asthma and other conditions compared to White children (Narayan, Boyle, Thompson, Sorensen, Williamson, 2003; Al-Shawwa, Al-Huniti, DeMattia, Gershan, 2007).

Diet quality is an important factor influencing energy balance, which is critical for maintaining a healthy weight among both adults and children (Wright & Arrone, 2012). Research indicates that dietary intakes of children in the U.S. do not meet the current recommendations for healthy eating (Hiza, Guenther & Rihane, 2013; Leung, Blumenthal, Hoffnagle, Jensen, Foerster, Nestle M et al., 2013). However, overall diet quality tends to be higher among children from higher-income families and those of non-Hispanic White race/ethnicity compared to low-income and minority children (Lorson et al., 2009; Dubowitz, Heron, Bird, Lurie, Finch et al. 2008). Several studies found that low-income and African American children consume less fruit, fewer vegetables, whole grains and low-fat dairy than White, but also other minority children (Lorson et al., 2009; Dubowitz, Heron, Bird, Lurie, Finch et al. 2008). A study by Wang et al. (2010) also identified other more specific trends in the diets of low-income African American children, such as greater dietary intakes of sodium, cholesterol, snack foods, sweetened beverages and fried foods compared to White children.

Food preferences and dietary habits begin to form early in life (Birch & Fisher, 1998; Birch, 1999). Thus, there is an urgent need to optimize dietary intakes to achieve energy balance and promote more nutrient-dense diets from very early childhood (Birch & Fisher, 1998; Drewnowski & Specter., 2004). Parents serve as the main gatekeepers of the household food supply and thus influence what, when and how much children eat (Birch & Fisher, 1998; Hearn, Baranowski, Baranowski, Doyle, Smith, Lin, et al. 1998). A number of personal, behavioral and environmental factors influence what and how parents feed their children and what foods they make available and accessible to them

(Dave, Evans, Condrasky & Williams, 2012). Such factors include parental nutrition beliefs, perceptions of specific foods, concerns related to child health or growth, parental dietary behaviors, and social or physical environmental conditions (Alderson & Odgen, 1999; Nicklas, Baranowski, Baranoski, Cullen, Rittenberry & Olvera, 2001). Although availability, cost and parental modeling have been identified as important correlates of children's food consumption (e.g., fruit and vegetables) (Blissett, 2011; Birch & Fisher 1998), only a few studies have, to date, explored parental attitudes and beliefs related to healthy eating, what specific foods parents encourage their young children to consume, and what concerns parents have related to diet or nutrition (Adamo & Brett 2014).

Study Objectives

1) To examine perceptions of healthy eating, motivating factors and barriers to healthier eating in a sample of low-income African American parents of 3-5 year old children, utilizing a mixed-method approach.

2) To assess parental concerns about health and/or weight and to examine the accuracy of parental perceptions of child weight status.

CHAPTER II

REVIEW OF THE LITERATURE

Childhood Obesity: Prevalence and Consequences

Obesity rates have increased tremendously among children and adolescents in the U.S. over the last several decades (Odgen, Carroll, Kit , & Flegal, 2012; Ogden, Carroll, Kit & Flegal, 2014). Currently, more than 23 million children and teenagers are considered overweight or obese, which makes up nearly one third of all youth in the U.S. (National Collaborative on Childhood Obesity Research 2014). According to the data recently released by the NCCOR, 4 year-old children who are obese have a 20% chance of becoming obese as adults (NCCOR, 2014). Because excessive adiposity starting early in life has long-term health implications, childhood obesity prevention has become one of the national health priorities in recent years (United States Health and Human Services (USHHS), 2009).

The prevalence of obesity in children has relatively stabilized between 2008 and 2011 (Odgen et al. 2104; Centers for Disease Control and Prevention (CDC), 2014). However, a disproportionally greater number of minority and low-income children continue to suffer from overweight and obesity compared to other youth (CDC 2014 and NCCOR). Research indicates that among African American children, 35.9% aged 2-9 are overweight or obese (Odgen et al. 2014). Among preschoolers alone, 11.4% of

African American children are classified as obese. Furthermore, the prevalence of obesity among young children is highest in economically disadvantaged households, with an income ratio of <100% of the poverty level (CDC 2014).

The high obesity rates in low-income African American youth have been linked to increased prevalence of a variety of health conditions in recent studies (Biro and Wie, 2010; Dietz 1997). For instance, African American children have been shown to be at an increased risk for type 2 diabetes, hypertension as well as asthma compared to Caucasian children (Narayan, Boyle, Thompson, Sorensen, Williamson, 2003; Al-Shawwa, Al-Huniti, DeMattia, Gershan, 2007). According to the report released by the 2010 Robert Wood Johnson Foundation (RWJF), Caucasian boys and girls born in 2000 have a 26.7% and 31% chance of developing diabetes within their lifetime whereas African American boys and girls have 40.2% and 49% chance of developing the same chronic disease (RWJF 2010). Given that childhood obesity treatment costs approximately $14 billion annually and individuals most likely to be treated are those covered by Medicaid, prevention of childhood obesity is one of the top health-related priorities in the U.S. (NCCOR 2014).

Dietary Quality Among Children

It is well established that excessive adiposity is the result of energy imbalance, stemming from either excessive dietary intake of calories, low energy expenditure through physical activity or a combination of both (Wright & Arron, 2012). As obesity rates increased since the 1970's, a variety of trends related to diet and/or physical activity

have been linked to the increased adiposity across the population groups (Hedley, Odgen, Johnson, Carroll, Curtin, Flegal, 2004; Odgen et al. 2012; Odgen et al. 2014). Research shows strong evidence that children's diets currently do not meet the dietary recommendations for healthy eating. According to the Dietary Guidelines for Americans 2010 and the associated MyPlate guide, children aged 3-5 should consume between 2 to 6 1/2 cups of fruits and vegetables (depending on age and gender), make half of their grains whole, and consume 2 to 2 1/2 cups of low fat dairy per day (depending on their age and gender) (U.S. Department of Agriculture (USDA) and United States Health and Human Services (USHHS), 2010). Studies indicated that children's dietary intake falls short of these recommendation with respect to vegetable, whole grain, as well as dairy intake (Hiza, Guenther & Rihane, 2013; Leung, Blumenthal, Hoffnagle, Jensen, Foerster, Nestle M et al., 2013; Wang Y., Jahns L., Tussing-Humphreys L., Xie B., Rockett H., Liang H. et al., 2010). Leung et al (2013) found that children consumed less than one serving of fruits, vegetables, and whole grains a day and these children exceeded the limits set for refined grains, processed meat, high-fat dairy and sugar-sweetened beverages.

Furthermore, diet quality appears to be even lower among some minority groups and among children from low-income children (Lorson et al., 2009; Dubowitz, Heron, Bird, Lurie , Finch et al. 2008). In a study by Lorson et al. (2009), African American children and those from low-income families reported consuming less fruits and vegetables than other children and they also met less of their overall recommendations for whole grains and low-fat dairy. Similarly, Dubowitz et al. (2008) found that African American children consumed significantly fewer servings of fruit and vegetables than

their Caucasian or Hispanic counterparts, and the fruit and vegetable intake was correlated with socioeconomic status (Dubowitz, Heron, Bird, Lurie , Finch et al. 2008). Thus, existing research suggests that the dietary quality among low-income African American children is less than adequate and more effective interventions targeting this population are warranted.

Barriers to Better Food Choices in Low Income Minority Populations

Several barriers to healthy eating in low-income and minority families have been well established in current literature (Shriver, Hildebrand & Austin, 2010; Henry, Reicks, Smith, Reimer, Atwell & Thomas, 2003). The literature has revealed that disadvantaged populations may lack adequate nutrition education to plan nutritious meals, and lack knowledge/awareness of what healthy eating represents (Rawlins, Baker, Maynard, Harding, 2013). Some studies have revealed a lack of specific nutrition knowledge about healthful foods and low self-efficacy to prepare healthy foods for their children (Shriver, Hildebrand & Austin, 2010). Additional major barriers, such as lack of time and limited funds, have been implicated as contributors to less healthy diets among low-income and minority populations (Cassady, Jetter & Culp, 2007; Berge, Arikian, Doherty & Neumark-Sztainer, 2012; Hildebrand & Shriver, 2010; Shriver et al., 2010).

Higher cost of and harder access to high nutrient dense foods have been suggested as determinants of household food availability (Grier & Kumanyika 2008) and thus, environmental barriers to healthier food choices in disadvantaged populations have been examined in previous studies (Kumanyika, Whitt-Glover, Gary, Prewitt, Odems-Young

& Banks-Wallace, 2007; Lucan, Barg, Karasz, Plamer & Long, 2012). Research has shown that fast food restaurants and convenience stores are more likely present in low-income neighborhoods, with many neighborhoods classified as "food deserts." (Dutko, Ver Ploeg & Farrigan, 2012; CDC 2011). A study by Grier et al. (2008) showed that neighborhoods that were >80% populated by African Americans had more fast food chains per square mile than neighborhoods that were >80% populated by Caucasians (Grier et al. 2008). Thus, those who live in predominantly African American neighborhoods are less likely to have access to stores offering a high amount of fruits, vegetables and low-fat options (Baker et al., 2003). One study in New Orleans found minority neighborhoods have a greater number of fast-food restaurants per square mile than neighborhoods predominantly populated by Caucasian families (Block, Scribner & DeSalvo, 2004).

African Americans are also exposed to heavier marketing of high fat and high sugar foods and beverages (RWJF, 2010). Studies suggest that African Americans respond differently to advertisement than other populations and are more susceptible to them (Grier et al., 2008). African American individuals have been shown to shop for food more often and spend more money on food compared to the overall population, because of this, marketing efforts to advertise high-fat and high-sugar foods have been targeting this population. Food industry is able to target these minority households relatively easily because African American families tend to live in ethically segregated communities (Block et al., 2004).

While socio-economic and environmental barriers to healthier food choices are important and need to be addressed among low-income African American families, children's dietary intake is heavily influenced by parental nutrition knowledge, health awareness, self efficacy, perceptions, attitudes, and practices related to healthy eating. Thus, parents play a key role in establishing young children's eating habits and thus optimizing their long-term weight and health status at the family level (Birch & Fisher, 1998).

Parental Role in Children's Diet Quality

Early childhood is an important time period for establishing dietary habits that will translate into adulthood (Birch & Fisher, 1998). Preschooler-aged children are not only more easily influenced but also more easily impressed by other individuals, which makes a dietary change more likely than in older childhood or adolescence (Hearn, Baranowski, Baranowski, Doyle, Smith, Lin, et al. 1998). Parents are typically the primary persons responsible for feeding the child and helping to create food-related habits and patterns (Birch & Fisher, 1998). Thus, it is important to understand how parents influence children's food preferences, dietary habits and overall diet quality (Birch & Fisher. 1998; Hesketh, Waters, Green, Salmon &Williams, 2005)

Because parents control the food environment within the household, availability/accessibility, parent modeling, as well as parental support/encouragement related to healthy foods have been associated with better diet quality among children (Birch & Fisher 1998; Hearn et al. 1998). Parental modeling has been shown to influence

not only the child's intake, but also taste preferences and self-efficacy for eating particular foods (Dave, Evans, Condrasky & Williams, 2012). Research on observational learning indicates that children learn to develop healthy eating patterns through modeling (Nicklas, Baranowski, Baranoski, Cullen, Rittenberry & Olvera, 2001). Nicklas et al (2001) also describes the process of food socialization as how a parents beliefs and attitudes towards foods shape knowledge and preferences. If the parent shares information about a food while eating it, a child's preference and/or acceptance of the food increases (Nicklas et al., 2001). The parent's beliefs and concerns about certain foods also influence the types of meals and snacks served to their children (Alderson & Odgen, 1999). Studies indicate that parents tend to serve foods they believe or perceive as healthy for their children (Alderson & Odgen 1999). Given that strong influence parents have on children's taste preferences and eating habits at an early age, it is critical to understand parental perceptions of different foods, eating, concerns and motivating factors that determine which foods they encourage their young children to consume on a regular basis.

Perceptions of Eating Healthy

The current 2010 Dietary Guidelines for Americans call for individuals aged 2 and older to establish a healthy and balanced diet with a variety of low-fat and high-fiber foods, including fruit, vegetables, whole grains, legumes and low-fat/non-fat dairy (USDA, 2010). The recommendations also emphasize the need to limit foods and beverages that are high in sodium, sugar and fat (USDA, 2010). Research indicates that

foods that are cited and widely recognized as "healthy foods" across different age, gender and income groups are typically fruit and vegetables (Croll, Neumark-Sztainer, Story, 2001; Shriver et al., 2010). However, the level of nutrition knowledge, specific healthy foods, and what a healthy diet should consist of appears to be vague among children as well as adults. For instance, Croll et al. (2001) examined what "healthy eating" meant within a sample of adolescents. Many teens reported healthy eating as "the right types of food", "the natural stuff" and other words such as "fruit", "salad" and "yogurts" (Croll et al., 2001). Some teens stated that healthy eating meant "eating less junk food" and "not eating greasy or fattening food." However, none of the responses provided more information or offered specific foods that were considered healthy by the individuals (Croll et al., 2001). In a study by Hesketh et al. (2005) with elementary school aged children, fruit juice was considered healthy "because it is fruit." Rawlins et al. (2013) reported similar statements from a sample of 70 children from the ages of 8-13 about the definition of balanced meals: "like if you want sweets you can have the same amount of fruit as well, so you can combine." In the same study, some individuals reported having heard the concept of eating "healthy" but really did not know what it meant or where to get the information (Hesketh et a., 2005).

Heavy and frequent marketing of foods and beverages has lead to uncertainty and confusion about what healthy foods are among the general public (Hesketh et al., 2005). While many adults identify and choose fruits and vegetables because they know they are healthy (Henry et al., 2003), little research examining parental awareness of healthy foods, other than fruit and vegetables, exists in current literature (Airhihenbuwa,

Kumanyika, Agurs, Lowe, Saunders & Morssink, 1996). A recent study by Kharofa et al. (2014) explored parental perceptions of eating healthy in a sample of 219 WIC participants. The findings revealed a large discrepancy between the reported healthiness of the children's diet and the actual responses. For instance, while parents reported their child to have a consistent nutritious diet, they only shopped for fruit and vegetables once per 2 weeks and nearly ¾ of the sample served more than 1 serving of fruit juice to their young child (Kharofa, Meurer & Nelson, 2014). Additionally, WIC participants reported no perceived barriers to healthy eating in this study, in contrast to previous research with low-income populations. Thus, it is apparent that nutrition professionals cannot assume that the parental perceptions of eating healthy and the actual dietary and feeding practices are aligned (Kharofa et al., 2014).

Cultural Influences on Parental Food-related Behaviors

Culture has a multifactorial impact on individuals' diet, including the type of foods eaten, time, location, the overall feeding environment and the personal attitudes towards specific foods/meals (Wetter, Goldberg, King, Sigman-Grant, Baer, Crayton, et al., 2001; James, 2004). Previous studies have identified important racial and/or ethnic differences in feeding styles and parenting practices related to food between Caucasian, African American and Hispanic parents of young children (Skala, Chuang, Evans, Hedberg, Dave, Sharma, 2012; Hoerr, Hughes, Fisher, Nicklas, Liu, Shewchuck, 2009). For instance, Hispanic mothers tend to use the authoritarian feeding style compared to

African American mothers who are more likely to use permissive feeding style (Hughes, Anderson, Power, Micheli, Jaramillo, Nicklas, 2006).

When examining African American families, individuals' perceptions about food tend to be strongly influenced by family traditions (Airhihenbuwa et al., 1996; James et al., 2004). Soul food is an important part of African American culture, with examples including fried chicken, fatback, chitlins, grits, and greens (Airhihenbuwa et al., 1996). Research suggests that some African American individuals may perceive "eating healthy" as giving up on their traditional foods that include fresh meats and vegetables and spices but are often prepared with added animal fat and sodium (Airhihenbuwa et al., 1996). Traditional foods represent a big part of African American culture as they have been associated with slavery in the southeastern states and have been historically associated with comfort (James et al., 2004). There is an emotional component to these unhealthy foods commonly consumed by the African American community (Airhihenbuwa et al., 1996). While individuals may be aware of which traditional foods are not healthy, some research suggests there is a lack of nutrition knowledge and skills necessary to modify these foods or choose healthier options (Airhihenbuwa et al., 1996).

Nutrition and Concerns About Child Health

Research on adult and older children indicates that concerns about obesity or disease may serve as a motivator for healthier food choices and improved diet quality (Lampard, Byrne, Zubrick, Davis, 2008; Keller, Olsen, Kuilem, Meyermann, van Belle, 2012). However, studies with parents of preschoolers are mixed, with some showing that

the younger the child, the less the parent is concerned about his/her weight (Eckstien, Mikhail, Ariza, Thomson, Millard, Binns, 2006; Crawford, Timperio, Telford, Salmon, 2006). Jain et al., (2001) revealed that mothers are not concerned until the child became inactive or teased. Although of those mothers who identified having an overweight child most were concerned about their current weight and their weight in the future (Baughcum, Chamberlin, Deeks, Powers, Whitaker, 2000).

Family history of disease such as illness of the grandparents could be some potential motivators for concern. Parents indicated they would like to be more educated on consequences of overweight and obesity (Eckstein et al., 2006). Research has shown that the greater concern of a child's weight results in more monitoring and regulation of child's food choices and habit (Baughcum et al., 2000). Child's BMI has been identified as a motivator for parental concern, as a child's weight increases so does the parental concern (Lampard et al., 2008). Keller and researchers assessed parental concern in mothers of 4-6 year olds compared to fat distribution of their child. Mothers were more concerned about their child's weight and health risks if the child carried more upper body fat than lower body fat because this can be perceived as a potential health risk by parents (Keller et al., 2012). Research has shown that parents of 3-5 year olds are more concerned about risks in the future than the current risk of overweight (Carnell, Edwards, Croker, Boniface, Wardle, 2005). Although studies have examined concern about overweight status, further research is needed to examine what specifically motivates parents of preschoolers to improve their children's dietary quality and food choices

Parental Perceptions of Child Weight Status and Obesity Risk

Lack of parental concern may be associated with inaccurate recognition of the child's overweight or obese weight status (Moore, Harris, Bradlyn, 2012). Parents may underestimate the weight status of their child as shown in a study by Baughcum et al., (2000) where 79% of participants with overweight children failed to perceive their child as overweight. In another study of the mothers without college education, 11% did not believe their preschooler was overweight when in fact he or she was (Jain, Sherman, Chamberlin, Carter, Powers, Whitaker, 2001).

African American mothers have been shown to underestimate their own body weight and they do no not consider an overweight individual to be "too fat" (Lynch & Kane, 2014) described a cultural threshold where these participants considered a BMI of 30-35 as overweight versus the medical definition of overweight BMI is 25-29.9. Most of the mothers in Jain and colleagues sample did not trust or accept a health care professional's definition of overweight and do not believe growth charts are good measurements for child weight status. They tend to use their eyes instead of scales or growth charts in order to determine if a child is over, under or at a normal weight (Goodell, Pierce, Bravo, Ferris, 2008). Additionally, other children are being used as a comparison instead of the established "untrusted" growth charts.

Previous studies have identified cultural differences related to perceptions of weight (Lynch et al., 2014; Bennett & Wolin, 2006; Dorsey, Eberhardt, Odgen, 2009). Most particularly in the African American population the views on overweight are not congruent with existing standards. African Americans tend to value a person or child

with a little more weight on them. They will refer to an overweight child or adult as thick, big-boned, solid or strong rather than overweight or obese (Jain et al., 2001). In addition to the cultural values among African Americans, low income parents may believe a child will "grow out of" their extra weight (Goodell et al., 2008). These cultural perceptions along with low concern about child weight among parents of preschoolers may put low-income African American children at risk for poor diets and increased obesity risks (Jain et al., 2001, Goodell et al., 2008).

Exploring Parental Influences on Children's Eating: Social Cognitive Theory

Historically, researchers have been attempting to explain human behaviors and the process of a human behavior change using a variety of theoretical frameworks, such as the Social Cognitive Theory (SCT) (Maibach & Murphy, 1995; Sandvik, Gjestad, Brug, Rasmussen, Wind, Wolf, et al., 2007). The SCT was originally developed in the field of psychology (Bandura, 1986), and it has been successfully used to explain and facilitate a behavior change, such as cessation of smoking, in health promotion interventions (Bricker, Lui, Comstock, Peterson, Kealey, Marek, 2010; Miabach et al., 1995; Bandura, 1998). According to Bandura (1977), the construct of self-efficacy lies in the center of a human behavior change. Self-efficacy represents one's belief in his/her ability to perform a specific behavior. Self-efficacy allows for one to set goals and specific outcomes for a desired behavior change. Because self-efficacy is influenced by a variety of factors within the person's environment, a successful behavior change cannot be achieved without carefully addressing potential facilitators and barriers of self-efficacy

(Bandura 1998; Bandura, 2004). Within the SCT, the personal, behavioral as well as environmental factors are believed to have important influences on one's self-efficacy (Bandura, 1998).

SCT-Personal/Cognitive Influences on Health Behavior

Individual or personal factors are influenced by our thoughts and beliefs. Outcome expectancies and self-efficacy play a big role in the personal factors of the SCT. Outcome expectations refer to one's belief about potential outcomes for engaging in a certain behavior and in this case, healthy eating. These outcomes can be positive or negative. Positive outcomes would be reducing risks for obesity and other comorbidities and negative outcomes would be healthy food not tasting good or filling enough. Self-efficacy as mentioned before is the belief in one's ability to achieve this outcome.

Gimme 5! was a program that implemented the SCT in each stage of their development, intervention and even evaluation. (Baranowski, Domel, Gould, Baranowski 1993, Kirby, Baranowski, Reynolds, Taylor, Binkley, 1995) The program used taste tests and fun activities to increase their preferences in fruits and vegetables. This changed the children's outcome expectancies and self-efficacy. Another study explored current fruit and vegetable consumption using the SCT. (Reynolds, Hinton, Shewchuk, Hickey, 1999) A questionnaire was used and items such as "eating fruits and vegetables will make me smarter", " I can drink a glass of my favorite juice with my dinner" included to test outcome expectancies and self-efficacy of the elementary school children. For the purposes of this study, the personal influences will be the main factor of the social

cognitive theory that will be addressed. Anticipated negative outcomes or low self-efficacy will present barriers in the personal factor of the SCT.

SCT-Behavioral Factors

Behavioral factors refer to one's nutrition and food related knowledge and skills. This knowledge may be about MyPlate and how to use it or knowing how to prepare healthy foods in a healthy way. Other important parts of behavior are self-regulation or self-control as well as goal setting. (Bandura, 1986) The Gimme 5! Program implemented activities to teach self-regulation and goal setting to the 4th and 5th graders (Baranowski et al., 1993, Kirby et al., 1995). Actual dietary intakes and behaviors can be measured by 24-hour recalls or Food Frequency Questionnaires (Reynolds et al., 1999). Barriers can arise in behavioral factors such as the lack of knowledge and skills about food and food preparation. There may also be issues with self-regulation or self-control when it comes to foods someone likes but may not be healthy.

SCT-Environmental Factors

Environment refers to external factors that may influence behavior. Environmental factors of the SCT can be physical availability and accessibility of healthy foods or whether or not friends or family eat healthy foods. The Gimme 5! Study finally incorporates environment into the program by teaching the students to ask their parents to buy more fruits and vegetables thus changing the child's food environment (Baranowski et al., 1993; Kirby et al., 1995). This could also be applied for all healthy foods including

low-fat dairy, lean meats and whole grains. The environment can also be the child's school or neighborhood and the availability of a variety of healthy choices in those areas. Understanding a person's environment will provide a greater understanding of their food choices.

SCT in Nutrition Research

Over the last several decades, SCT has been commonly utilized to explain eating behaviors across different life stages in nutrition research (Lewis, Shannon, Sims, 1989; Contento, 2010). Recently, Vaughn et al., (2013) conducted a systematic review of research addressing parental food practices among 2-18 year old children. Out of the 101 studies reviewed in this study, the SCT represented the most frequently utilized theoretical framework, indicating its usefulness and relevance for child nutrition research (Vaughn, Tabak, Bryant, Ward, 2013). By addressing personal/cognitive, behavioral as well as environmental influences on a human behavior, the SCT helps target potential determinants of self-efficacy and thus identify important constructs necessary for a successfully health behavior change (Bandura, 2004). Given the purposes of this study, the SCT model guided an in-depth examination of parental perceptions, concerns, motivations and barriers related to encouraging healthy eating among low-income African American preschoolers. The conceptual model is shown below (Figure 1).

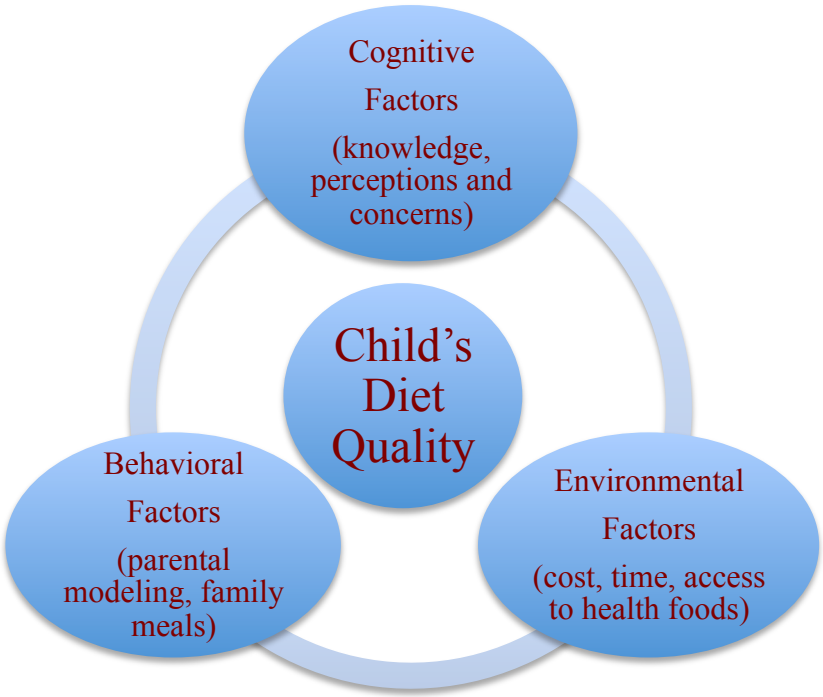

Figure 1. Cognitive, Behavioral and Environmental Factors of the Social Cognitive Theory Influencing the Child Diet Quality

Summary

High cost and limited access to nutritious foods have been identified as major barriers to healthier diets in low-income minority populations (Cassady et al., 2007; Berge et al., 2012; Hildebrand & Shriver, 2010; Shriver et al., 2010). However, much less is known about the cognitive, behavioral, and cultural factors that influence what foods and beverages low-income African American parents serve to their preschool-aged children. To date, parental perceptions of healthy eating, culture-specific attitudes and beliefs toward these foods, and factors that motivate parents to serve certain foods to their preschool-aged children have not been well investigated. Better understanding of these perceptions is critical for informing future nutrition interventions with this population.

The purpose of this study was to examine perceptions of healthy eating, motivating factors and barriers to healthier eating in a sample of low-income African American parents of 3-5 year old children. The second purpose was to explore parental concerns about weight and disease as relates to selection of foods/beverages for their young children and to assess parental perceptions of child weight.

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CHAPTER III

RESEARCH ARTICLE

Introduction

Childhood obesity and its consequences represent a critical public health issue in the U.S. (Ogden, Carroll, Kit & Flagal, 2014). Currently, more than 23 million children and adolescents aged 2-19 are considered overweight or obese, which makes up nearly one third of all youth across the country (National Collaborative on Childhood Obesity Research 2014). While the prevalence of childhood obesity has somewhat stabilized between 2008 and 2011 (Odgen et al. 2104; Centers for Disease Control and Prevention (CDC 2014), a disproportionally greater number of minority and low-income children are overweight or obesity compared to other youth (CDC, 2014; NCCOR, 2014).

The latest estimates indicate that 36% of African American youth are overweight or obese compared to 28% of White children (Odgen et al. 2014). Furthermore, the racial/ethnic disparities exist among very young children as well, with 11.4% of African American preschoolers being classified as obese compared to 3.5% of Non-Hispanic White children (Odgen et al. 2104). In addition, children from economically disadvantaged households suffer from higher rates of obesity than others (Dubowitz, Heron, Bird, Lurie & Finch et al., 2008). All together, there is strong research evidence

that, low-income minority children are at the highest obesity risk in the U.S. (CDC 2014; Biro & Wie, 2010). The impact of childhood obesity on low-income African American youth is detrimental to their health status, with children from this minority group being at a substantially greater risk for type 2 diabetes, hypertension, asthma and other conditions compared to White children (Narayan, Boyle, Thompson, Sorensen & Williamson, 2003; Al-Shawwa, Al-Huniti, DeMattia, & Gershan, 2007).

Overall diet quality appears to be higher among White children and those from higher-income families compared to low-income minority children (Lorson, Melgar-Quinonez & Taylor, 2009; Dubowitz et al., 2008). Diet quality is an important factor influencing energy balance, which is critical for maintaining a healthy weight (Wright & Arrone, 2012). Research indicates that dietary intakes of children in the U.S. do not meet the current recommendations for healthy eating (Hiza, Guenther & Rihane, 2013; Leung, Blumenthal, Hoffnagle, Jensen, Foerster, Nestle M et al., 2013). However, several studies found that low-income and African American children consume even less fruit, fewer vegetables, whole grains and low-fat dairy than White as well as other minority children (Lorson et al., 2009; Dubowitz, et al. 2008). A study by Wang et al. (2010) found that low-income African American children consumed higher amounts sodium, cholesterol, snack foods, sweetened beverages and fried foods when compared to a similar sample of mostly White children.

Because dietary habits and preferences for foods begin to form early in life, there is an urgent need to optimize dietary intakes to achieve energy balance and promote more nutrient-dense diets from early childhood (Birch & Fisher, 1998; Drewnowski &

Specter., 2004). Parents serve as the main gatekeepers of the household food supply and thus influence what, when and how much children eat (Birch & Fisher, 1998; Hearn, Baranowski, Baranowski, Doyle, Smith, Lin, et al., 1998). They control availability and accessibility of foods, which are influenced by a number of personal, behavioral and environmental factors (Dave, Evans, Condrasky & Williams, 2012). Such factors include parental nutrition beliefs, perceptions of specific foods, concerns related to child health or growth, parental dietary behaviors, and social or physical environmental conditions (Alderson & Odgen, 1999; Nicklas, Baranowski, Baranoski, Cullen, Rittenberry & Olvera, 2001). A recent study by Kharofa et al. (2014) found discrepancies between children's actual diet quality, parental perceptions of their child's eating, and parenting practices related to child feeding in a sample of low-income divers parents (Kharofa, Meurer & Nelson, 2014). More than half of the 219 parents in the sample identified their child to have a healthy diet, while majority provided their child more than one serving of juice per day. In addition, nearly half of the parents shopped for fruits and vegetable only every two weeks, with a few parents reporting they had no fruit or vegetables available where they typically shop. Despite availability of foods, cost and parental modeling have been identified as important correlates of children's healthy food consumption (e.g., fruit and vegetables) (Blissett, 2011; Birch & Fisher 1998), very few studies have, to date, examined parental perceptions related to healthy eating, what specific foods parents of young children encourage to consume, what concerns parents have related to diet or nutrition (Adamo & Brett 2014).

In health-related research, it is increasingly clear that cultural influences and the role of family traditions when examining parental perceptions, beliefs and concerns related to food, weight and health in young minority families must be considered (Lynch & Kane, 2014; Bennett, Wolin, Goodman, Samplin-Salagado, Carter, Dutton., et al 2006). Although limited, previous research have shown that traditional foods are important for African American families and provide a sense of comfort to many individuals. Some of them report that "eating healthy" means giving up their traditions (Airhihenbuwa, Kumanyika, Agurs, Lowe, Saunders, & Morssink, 1996). In addition, weight-related research has suggested that African American mothers are more likely to value a "thicker" or more "solid" child compared to White mothers (Jain, Sherman, Chamberlin, Carter Y, Powers, & Whitaker, 2001). Thus, such cultural differences in weight-related attitudes may make it more difficult to accurately identify an overweight or obese child and as a result, mothers may underestimate their child's actual weight status (Lynch & Kane, 2014; Bennett & Wolin, 2006; Dorsey, Eberhardt, Odgen, 2009). Because parental awareness of their child's diet quality and weight status are important components of childhood obesity prevention and treatment programs, examination of parental beliefs, attitudes and concerns based on ethnicity/race and/or culture is warranted to identify effective facilitators and barriers to healthful eating among African American parents of young children.

The Social Cognitive Theory (SCT) is a theoretical approach that lends itself to examining the role of parental perception in child feeding and diet quality (Bandura, 1998). The constructs of SCT address not only personal or cognitive factors, but also

behavioral and environmental factors that may influence children's eating within the family. Although, originally used for smoking cessation and other public health issues, SCT has become popular for use in explaining nutrition related behaviors over the last several decades (Bricker, Lui, Comstock, Peterson, Kealey & Marek, 2010; Baranowski, Watson, Bachman, Baranowski, Cullen, Thompson et al., 2010; Kirby, Baranowski, Reynolds, Taylor & Binkley, 1995;). Parental perceptions and concerns have direct implications for development of self-efficacy of the parent to feed his/her child healthfully (Campbell, Hesketh, Silverii & Abbott 2010). Because taste preferences and eating habits develop in early childhood and track into later years, it is critical to understand what factors influence low-income African American parents' self-efficacy in relation to healthy eating among their preschoolers. The purpose of this study was to utilize the SCT theoretical framework to examine perceptions of healthy eating, motivating factors and barriers to healthier eating in a sample of low-income African American parents of 3-5 year old children. The second purpose was to assess parental concerns about health and/or weight and to examine the accuracy of parental perceptions of child weight status.

Methods

Design, Setting, and Participants

This mixed-method study was conducted as part of a larger research project examining parenting practices related to healthy eating in young children. The larger study utilized a convenience sample on low-income and ethnically diverse parents in

Head Start Programs in two counties in North Carolina. During the initial recruitment phase, flyers were posted in the participating Head Start centers in classrooms and hallways and sent home with the children. Parents interested in participation signed up through the Family Advocates at their respective centers and provided their information to be contacted by the researchers. In addition, trained researchers attended multiple summer health screening events to recruit potential participants.

Participants for the current study were recruited from the list of parents who participated in focus groups in summer 2014 (parents expressed interest to take part in future studies about nutrition or eating) or those who provided their contact information for future contact. Flyers were also posted in the Head Start sites to recruit participants. The participant inclusion criteria for the current study included the following: 1) being the parent or legal guardian of 3-5 year old child enrolled in the Head Start program; 2) identifying as an African American individual; 3) being the primary person feeding the child; 4) being 18 or older; and 5) the child having no condition/disease that requires a special diet (i.e., celiac disease or diabetes). The study protocol was reviewed and approved by the Intuitional Review Board at the University of North Carolina at Greensboro, and by the participating Head Star programs.

Study Procedures and Measures

After contacting the interested participants (the term "parents" will be used from here on to refer to the participating parents/legal guardians) via phone, trained researchers screened each parent to ensure their eligibility for the study. Participants were then

scheduled to attend to take part in a 1-1.5 hour long visit during which they participated in a focus group and completed a survey at their child's respective Head Start center. Incentive in the form of a $20 gift card was offered to each parent after completing the visit. Free childcare and transportation were also provided upon request.

Qualitative Data: Focus Groups

Focus groups were facilitated by a trained researcher using a semi-structured focus group guide that was developed based on the SCT constructs (Bandura, 1977). Three experienced researchers reviewed the focus group guide prior to data collection, including two early childhood nutrition faculty members and one research faculty with parenting/family dynamics expertise. Guided by the SCT, parental perceptions and attitudes around four main themes were explored through the focus groups: 1) healthy eating and healthy foods 2) facilitators of healthier eating 3) concerns about disease and obesity 4) barriers to healthier eating; and 5) concerns associated with child eating and/or weight. The facilitator completed field notes after each focus group to assist with data analysis. Comparative content analysis was utilized to evaluate each focus group immediately in order to guide completion of the next focus group. Each focus group was audiotaped, transcribed verbatim and reviewed immediately after each focus group to inform the subsequent focus group; this was done to ensure accuracy and the amount of detail of the qualitative data collected (Hewitt-Taylor, 2011). The ongoing analysis allowed for identification of any topics that needed further clarification, or new themes, that needed to be explored further in the subsequent focus group (Krueger 2000). The

saturation approach, in which focus groups are conducted continuously until no new themes emerge during the discussions of the participating, was utilized in the current study to ensure all topics related to the purpose of the study were explored (Morse et al., 1995)

Quantitative Data: Parent Survey

Participants completed a self-administered questionnaire titled the "Parent Survey" at the end of the focus group. The survey was administered as part of the larger study and included sections related to demographics, anthropometrics, household information, feeding practices and physical activity environment (note: not all variables were analyses in the current study). The Parent Survey also included the Child Feeding Questionnaire (CFQ), which is a widely utilized and validated tool for assessing feeding practices and concerns about eating and weight among parents (Birch, 2001; Spruijt-Metz, Lindquist, Birch, Fisher, Goran, 2002). The CFQ includes 5 feeding-related scales: monitoring, pressure, reward, restriction, and parental concern about child weight. In addition, the CFQ includes scales that assess parental perceptions of their own weight status, and parental perceptions of their child's weight. For the current study, parental concern about child's weight and parental perceptions of their own weight and their child's weight were assessed using the CFQ. The parental concern scale included 3 items: 1) "Are you concerned about your child eating too much when you are not there with him/her?;" 2) "Are you concerned about your child having to go on a diet to avoid being overweight?;" and 3) "Are you concerned about your child becoming overweight?

“ The answer options ranged from 1 to 5 with a possible total score of 3-12 (1=unconcerned; 2=a little concerned; 3= concerned; to 5=very concerned. The CFQ parental concern scale was found to have good internal reliability in previous research (e.g., α =.74) (Corsini et al., 2008). Parental perception about their own weight were measured by asking parents to rate their own weight separately during childhood, adolescence, 20s and at present as: 1) very underweight; 2) underweight; 3) average; 4) overweight; or 5) very overweight. For the perceptions of their child’s weight, parents were asked to use the same answer categories to rate their child’s weight separately “during the 1st year of life,” “between the age of 1 and 2;” and “between ages 3 and 5” (Birch, 2001).

Data Analysis

After the focus groups were audio-recorded and transcribed verbatim (Krueger RA, Kasey MA 2010), the transcripts were analyzed using the SCT constructs as a guide. Two trained researchers analyzed each transcript independently to identify common themes under each predetermined area. A four-step process was utilized to conduct the content analysis. First, “bracketing” process was completed by reading the transcripts and setting aside any preconceived ideas of the researchers related to the focus group topics (Fisher 2012). Although originally grounded in the field of philosophy, it has become a widely used method in qualitative research to prevent pre-conceived notions from altering study findings (Gearing 2004). Second, specific SCT-based codes were utilized to mark individual segments of the text. Third, the codes and corresponding SCT

constructs were discussed to complete exhaustive content analysis, with the coders reaching agreement when disagreement arose. Finally, the resulting themes were reviewed independently by a third researcher who had expertise in early childhood feeding to summarize the final results and develop the final list of themes (Hewitt-Taylor, 2011).

The Statistical Package for Social Sciences (SPSS Inc., Mac version 22 Chicago, IL) was used for analyses of the quantitative data. Descriptive statistics were generated from the Parent Survey to describe the sample characteristics (i.e., means, standard deviations (SD), frequencies and percentages). Children's weight status was classified based on their Body Mass Index (BMI-for-age) percentile into one of the following 4 categories: 1) underweight ($\leq 5^{th}$ percentile); 2) normal weight (>5->85^{th} percentile); 3) overweight ($\leq 85^{th}$-$<95^{th}$ percentile); 4) obese ($\geq 95^{th}$ percentile). The BMI-for-age percentiles were calculated using the child's most recent height and weight measurements obtained, with parental permission, from the official Head Start health records. Average means score of parental concern about child's weight was estimated (raw score range of 3-12) and compared to findings of previous studies. Accuracy of parental perceptions of their own weight and their child's weight was assessed by creating three categories: 1) underestimate (e.g., perceive child as normal weight but the child was overweight; 2) match (e.g., perceive the child to have an average weight while she/he was within normal weight); 3) overestimate (e.g., perceive the child as overweight/obese while the child was average weight). Although the sample size did not allow for statistical comparisons

because of low power, the proportion of parents classifying their child's weight accurately was estimated to inform future research efforts in this area.

Results

Eight focus groups were conducted with eligible African American parents of 3-5 year old children enrolled in the participating Head Start Programs. Parent demographic and socioeconomic characteristics are displayed in Table 1. All participants were females, with most being the mother of the child included in the current study's focus (the term "mothers" and "maternal" will be used from here on to refer to the findings of the study). Over 70% of the mothers had a college degree or at least some college (Table 1). The reported household income was less than $20,000 a year for most mothers, with most being unemployed. However, the unemployed category included both mothers who were searching for a job and those who stayed at home by choice at the time of the study (Table 1).

The mean age of the mothers was over 30 years of age and the majority was categorized as obese using their self-reported height and weight measurements (Table 2). Children's mean age and weight status are reported in Table 2. Nearly 35% of the children in the sample were overweight or obese based on their BMI-for-age percentile and the established weight category cut offs for children (Table 2).

Focus Groups: Qualitative Results

The findings of the content analysis are presented here based on the five topical areas explored during the focus groups. Representative quotes under the identified theme within each area are presented in Table 4. Most participants thought of a healthy meal as a dish that includes meat, a vegetable and a starch, indicating that a healthy meal should include several different foods and be home cooked:

> My plate have to have at least like three to four things on it so I try to do the meat, I do the starch…
>
> well I just think of well-balanced meals. Meat, vegetables, you know starch

The participants reported a number of foods when thinking of healthy items, such as fruit, vegetables, baked chicken, water, eggs, cheese, milk, seafood, fruit snack and peanut butter. The theme of foods that are "baked" being healthier than "fried" foods emerged as a common construct related to food preparation. Parents also discussed trying to limit processed foods and foods they felt were unhealthy:

> …bake more because I fry everything. I got to do a lot of baked more.
>
> …like baked foods over fried foods
>
> I try to stay away from as much processed food
>
> …things like spaghettios and all that kind of stuff cuz it has so much sodium so I try to keep him away from stuff like that

Parents also reported fruit snacks, juicy juice and pork as foods or beverages that are unhealthy. A common theme also emerged around bread products, with parents reporting

that they tried to purchase wheat bread instead of white bread, suggesting that wheat bread is the healthier choice for their children.

In terms of facilitators of healthier eating, mothers reported they felt that their own childhood experiences were motivating them to feed their children more healthfully. They remembered how and what they were fed in their own childhood and expressed desire to be "better parents" than their own parents or grandparents. Parents felt they knew more about nutrition and healthy foods than their parents did:

> and I think try to get him to eat healthier than I remember eating
>
> Ya'll made me obese when I was a child…that's why I'm trying to prevent my child from being that way

When mothers were asked about their thoughts and perceptions related to chronic diseases, strong awareness of family history of a variety of conditions emerged as a major theme. Mothers reported being concerned about heart disease, sleep apnea, obesity, diabetes and other conditions running in the family. The analysis of the transcripts revealed that most mothers had someone in the immediate family affected by a chronic disease, and often, it was the mother herself who was experiencing health problems, such as diabetes, heart diseases or obesity-related complications:

> Sleep apnea because they all play on being big, cause my oldest she has sleep apnea and it plays a big part of it
>
> I'm obese that's why I'm trying to prevent her from being that way
>
> I try to feed them somewhat healthy because obese runs in my family

The main perceived barriers reported by parents to healthier eating was the negative influence of other family members on the child's eating within and/or outside the household. Partners, older siblings, aunts and grandmothers were specifically mentioned by mothers as having a negative influence on their child's eating during the focus groups. However, parents also admitted a lack of their own healthy eating modeling for their child. Another barrier that emerged during the focus group discussions was the perceived "difficulty" or "pickiness" of their child. Many mothers felt their child was not easy to feed and expressed frustrations around meal times:

> I'll be talking about healthy stuff and he'll be like why are you talking about that stuff, he's a bad role model
>
> her sister is gonna give her what she's not allowed to have
>
> Cause me I love my potato chips and cake and so and my Pepsi so I'm bat at that
>
> my child's very stubborn
>
> well mine's he's really really picky

When mothers were asked to assess their child's eating habits at the current time, most mothers felt that their child had a relatively healthy diet. The majority of the mothers were not concerned about their child's weight at the time of the study. The emerging theme was the positive maternal perception of their children's diet. This positive assessment of the child eating was coupled with a general lack of concern about the child's current weight (Table 3).

She's just big boned but they have her labeled right now obese

because they eat and then they run and then they just run everywhere so its like they burning it off so it's alright

we don't really eat bad as a whole

Parental Concern and Perceptions of Weight: Quantitative Results

Results from the CFQ are presented in Table 2. On average, maternal concern about child weight was 1.66 ± 1.01 (score range 1-5; unconcerned to very concerned). Mothers rated their child's weight at 3.05 ± 0.74 (score range 1 to 5) and their own current weight at 3.91 ± 0.73 (score range of 1-5). As shown in Table 1, the average BMI-for-age percentile of the children was 59.54±33.66. Out of 23 mothers, 35% inaccurately estimated their child's weight. A total of 26% of mothers underestimated their children's current weight status (Table 3). There were 8 children who are categorized as overweight or obese. Of those children, 5 mothers underestimated their weight and 3 mothers correctly identified their child's weight status. Only 2 mothers overestimated their child's weight status in the sample (Table 3).

Discussion

The purposes of this study were to explore perceptions, barriers, facilitators and concerns associated with healthy eating of low-income African American parents of preschoolers. Overall the study has found that low-income African American parents of preschoolers have general knowledge of nutrient dense foods, such as fruit and

vegetables, but that nutrition knowledge is limited and misconceptions related to eating and different foods exist in this population. The notions that "wheat" bread is the same as "100% whole grain" and that juice must be healthy because one can get it from WIC benefits should be addressed within the overall eating context as part of nutrition education for this at-risk population. Similarly, parental perceptions that a meal is healthy only if it is home cooked and/or from scratch, may undermine parental motivation or self-efficacy for feeding the child healthfully (Shriver et al., 2010). Given the daily hassles, parental stress and socio-economic circumstances that make preparing home cooked meals and having family meals difficult (Cassaday, Jetter & Culp, 2007; Davis, Befort Steiger, Simpson & Mijares, 2013), nutrition educators need to keep these parental perceptions and beliefs in mind when developing future programs for this at risk population.

A number of previous studies found that cost, convenience and availability were the main barriers to healthier eating in disadvantaged populations (Cassaday et al., 2007; Baker et al., 2008; Davis et al., 2013). However, mothers in our study perceived a lack of support from other family members as the most frustrating factor that negatively influenced their efforts in keeping their children away low nutrient dense foods (i.e., "junk food"). Most mothers reported their partners, grandparents or siblings to have negative influences on the child's eating habits and/or food preferences. Mothers felt that other family members directly impeded their efforts by serving unhealthy foods to their child or discouraging the mothers to talk about healthy foods and nutrition with the child. The negative influence within the immediate family was largely perceived during specific

meal situations, such as when older siblings left the dinner table to watch TV while the younger child was still eating. Because behavior changes related to food choices and feeding environment do not occur in isolation, our findings speak to the importance of involving family members and utilizing a family-based approach to nutrition and obesity-prevention efforts with parents of young children (Waters, de-Silva-Sanigorski, Hall, Brown, Campbell, Armstrong et al., 2013; Showell, Fawole, Segal, Wilson, Cheskin, Bliech et al., 2013)

Parental modeling has been associated with a higher diet quality and decreased risks of obesity in pediatric populations (Blissett, 2011) because parents can directly impact children's eating habits and/or taste preferences for healthy foods (Pearson, Biddle & Gorley 2008; Wyse, Campbell, Nathan & Wolfden, 2011). In our sample, there was a discrepancy between their frustration with other family members and their own lack of healthy eating modeling. This is consistent with previous research on parental modeling, or lack of modeling in families with young children (Shriver, Hildebrand & Austin, 2010). Further qualitative research is warranted to identify specific facilitators of parental modeling of healthy eating in this at-risk population.

Children have a natural apprehension to trying new foods and research indicates that repeated exposure to a new food is necessary before children feel comfortable enough to try it (Bellows & Anderson, 2006). Based on the child's temperament, some may be "slower to warm up" and may be perceived as "picky eaters" which has been identified as one of the barriers to trying new foods among children (Peters, Parletta, Lynch, Campbell., 2014;). Interestingly, many mothers in our study reported having a

picky or stubborn child, and believed the child is more difficult to feed than other children. Although neophobia, the fear of trying new foods, peaks between ages 2-6, most children overcome this developmental phase through repeated exposures and supportive parental practices (Bellows & Anderson, 2006; Russell and Worsley 2008; Dovey, Staples, Gibson & Halford, 2008). While "picky eating" was not assessed in the current study, our findings suggest that mothers in our sample may have overestimated the degree of pickiness of their child, perhaps due to lack of knowledge related to the usual developmental phases in early childhood. Because understanding of the 'typical" preschool behavior is critical to foster positive feeding environment, nutrition education focused on typical eating patterns and taste preferences of preschoolers may help ease parental stress associated with feeding a young child (Russell et al., 2008; Dovey et al., 2008).

Lastly, a lack of concern about the child's current weight has emerged as a main theme in our study. Mothers shared that they were not concerned about their child's current weight and suggested that obesity is a concern for older children (e.g., their older children, siblings of the 3-5 year old child) or adults. This finding was consistent with the maternal responses on the CFQ of having little concern for their child's weight. Our results are also consistent with the previous studies showing that parents tend to worry about their child's future health, but have a harder time to link their concerns with active health behavior changes for their child at this young age (Goodall, Pierce, Bravo & Ferris, 2008; Shriver, Hubbs-Tait, Harrist, Topham & Page, 2015). Mothers in our study also have not translated their own, often deep, concerns about family history of chronic

diseases and obesity into their own healthy eating modeling for their child or actively making changes in their child's diet, suggesting an important disconnect in this area. In the current study, mothers did not appear to perceive preschool years as an important time period for establishing long-term healthy eating habits. In contrast, maternal comments suggested that they perceived early childhood as a time period when children were still protected against obesity because of their age and activity level (Jain, Sherman, Chamberlin, Carter Powers & Whitaker, 2001). A study by Goodell et al. (2008) also pointed our that African American parents in their sample believed their overweight or obese children would grow out of "it" (i.e., obesity), thus were not immediately concerned about their child's current weight (Goodell et al., 2008). In our sample, mothers of children within a healthy weight range assessed their child's weight accurately; however, mothers of overweight or obese children did not and perceived their child as "average." Previous studies have shown that parents tend to underestimate their child's weight status, with African American parents being more likely to underestimate their children's weight status than parents from other racial/ethnic groups (Killion, Hughes, Wendt, Pease, Nicklas., 2006; Jain et al 2001). Our findings are consistent with this argument; however, future studies need to identify the specific causes of the "inaccurate parental perceptions of child weight status perceptions," as the maternal perceptions may be a function of cultural beliefs about ideal weight, social bias or other factors (Jain et al., 2001).

The current study has several strengths as well as limitations that need to be noted. The study utilized a mixed-method approach, in which focus group approach was

supplemented with quantitative data collected form parents on perceptions of their own weight, their child's weight and their concern about the child's weight. Very few studies exist on perceptions and beliefs of low-income African American parents of young children related to eating and feeding behaviors and therefore, the findings of our study advance the current literature in this area. The focus group methodology strengthened the study by allowing a more in depth exploration of parental attitudes, beliefs and perceptions from a cultural point of view that is often difficult to capture through quantitative surveys (Kreuger & Casey, 2000). The ability to recruit and retain participants for the current study is one of the strengths as low-income diverse individuals are traditionally difficult to recruit for research studies. A limitation of the study is that the focus groups findings cannot be linked to actual child diet quality because dietary assessment was not conducted as part of this study. Other limitations include the self-reported nature of maternal height and weight and the associated potential for social bias. Finally, our findings reflect the perceptions and concerns associated with female caregivers only as no male participants volunteered for the study. Because child feeding occurs at the family level, it is important to conduct a future study that would compliment our findings and capture the perceptions and attitudes of male caregivers at the family level (Showell et al., 2013).

Conclusion and Implications

Our study suggests several target foci for nutrition education that is needed to positively influence maternal perceptions and beliefs about healthy eating and the health

risks associated with poor diet among low-income African American mothers of young children. Because of the large disconnect observed between the maternal concern about chronic disease and obesity and the identified lack of maternal concern about the child's current diet quality, it is important for nutrition researchers and educators to address these unique themes in future intervention efforts. This step is critical before new and effective nutrition education programs can be developed for this at-risk population. Although our findings cannot be generalized to broader population of African American parents of young children, our study highlights important personal-, family- and cultural-factors that influence eating habits and diet quality among low-income African American preschoolers.

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Table 1. Demographic and Socioeconomic Characteristics of the Mothers in the Sample

Variables	*n*=23
	n (%)
Gender (female)	23 (100)
Education Level	
Some High School/Diploma	6 (25.0)
Some College	10 (41.7)
College Degree	7 (29.2)
Household Income	
Less than $20,000	19 (79.2)
More than $20,000	4 (20.8)
Employment Status	
Full-time	2 (8.3)
Part-time	3 (12.5)
Unemployed	18 (73.3)
Student	1 (5.9)

Table 2. Characteristics of the Mothers and Children in the Sample

Variables	*n*=23
	M±*SD*
Maternal Age (years)	32.52 ± 9.5
Maternal Body Mass Index (BMI)	34.97 ± 9.3
Maternal Weight Status[a]	*n (%)*
Underweight	0 (0)
Average weight	2 (8.7)
Overweight	7 (30.4)
Obese	14 (60.9)
Child age (years)	3.65 ± .7
Child BMI-for-age Percentile	59.54 ± 33.7
Child Weigh Status[b]	*n (%)*
Underweight	1 (4.3)
Normal weight	14 (60.8)
Overweight	4 (17.4)
Obese	4 (17.4)

[a]Self-reported weight status; [b] Categories based on the BMI-for-age percentile cut off values (CDC, 2000): ≤5th percentile = underweight, 5th-<85th percentile = normal weight; ≥85th-<95th percentile = overweight; ≥95th= obese.

Table 3. Maternal Concern about Child Weight and Perceptions

Variables	*n*=23
	M±*SD*
Maternal concern about child weight[a]	1.66 ± 1.01
Maternal perception of child weight[b]	3.05 ± 0.74
Accuracy of Maternal Perceptions of Child Weight Status[c]	*n (%)*
Underestimate	6 (26.1)
Match	15 (65.2)
Overestimate	2 (8.7)

[a]Score range of 1-5; [b]Score range of 1-5; [c] 3 categories created: underestimate (e.g., mother reported her child was of average weight but the child was "overweight" based on the BMI-for-age percentile cut offs); Match (mother reported her child was overweight and the child was "overweight" based on the BMI-for-age percentile cut offs or the mother reported average and the child was "normal" weight based on BMI-for-age percentile cut-offs); Overestimate (mother reported her child was obese but the child fell between the 5th and 85th percentile of his/her BMI-for-age percentile).

Table 4. Themes and Representative Quotes Related to Healthy Eating That Emerged During Focus Groups with African American Parents

Identified Themes	Selected Responses
Healthy Eating and Healthy Foods	"well I just think of well-balanced meals. Meat, vegetables, you know starch" "I just try to have something green on the plate at all times" "my plate have to have at least like three to four things on it so I try to do the meat, I do the starch…" "balanced meal" "baked foods over fried foods" "I try to stay away from as much processed food"
Facilitators of Healthier Eating	"and I think try to get him to eat healthier than I remember eating" "And you know I can take her in the grocery store and she be like I want this and I want that but you know when I was growing up I couldn't be like I want this from the store " "I'm more strict, I'm stricter on my kids" "Ya'll made me obese when I was a child…that's why I'm trying to prevent my child from being that way"
Concerns about Disease and Obesity	"my dad died of a heart attack when he was 43 " "I try to feed them somewhat healthy because obese runs in my family" "Sleep apnea because they all play on being big, cause my oldest she has sleep apnea and it plays a big part of it" "diabetes, high blood pressure, all that in my family" "my grandpa was a diabetic" "On my side of the family and her dad's side, so everybody's obese " "my cholesterol was high a few months ago" "I'm obese that's why I'm trying to prevent her from being that way"

Table 4. Themes and Representative Quotes Related to Healthy Eating That Emerged During Focus Groups with African American Parents (Continued)

Identified Themes	Selected Responses
Barriers to Healthier Eating	
Habits/attitudes of other family members	"I'll be talking about healthy stuff and he'll be like why are you talking about that stuff, he's a bad role model" "I'm not around people sneak her stuff" **"**her sister is gonna give her what she's not allowed to have" "my husband he just gonna eat fast food, he don't really cook"
Lack of Parental Modeling	**"**I don't want them to see what I eat. I don't eat right" **"**Cause me I love my potato chips and cake and so and my Pepsi so I'm bat at that" "I'm picky so its like I don't never drink water" "I'm not big on healthy foods"
Difficult Child/Pickiness	**"**my child's very stubborn;" **"**well mine's he's really really picky" " mine is irritating" "you know certain things, even if its healthy, certain things kids just don't like"
Lack of Concern	"because they eat and then they run and then they just run everywhere so its like they burning it off so it's alright" "I don't really see a concern of her eating so much because she was a premie so I'm like maybe she's trying to catch up" "we don't really eat bad as a whole" "I really don't have a problem " "When we take them to the doctor they're like average weight and they're balanced out" "it seems to me they're eating good" "She's just big boned but they have her labeled right now obese"

CHAPTER IV

EPILOGUE

In the second semester of my masters program, I began to work with Dr. Lenka Shriver to assist in the development of a large study on parenting practices related to fruit and vegetable consumption in young children. After being involved in literature review and as well as the organization and co-facilitation of focus groups over the summer, I realized something that struck my research interest. As I was conducting focus groups with parents for children enrolled in Head Start programs, various statements and misconceptions started to come through the focus group discussions about not only fruits and vegetables, but also other foods and nutrition-related behaviors. I became very interested in exploring what parents thought about healthy foods and eating and furthermore, what concerns or questions they might have about their child's nutrition, weight and general health. After a preliminary literature review, it became apparent that there is a gap in the current literature in this area and I proposed to conduct a mixed-method study with low-income African American parents of young children.

Overall, the current study did find that there is a lack of knowledge of healthy foods and many misconceptions when it came to whole wheat versus whole grains and about non- 100% juices. Mothers are not aware of portion size recommendations for juice and think it must be healthy because WIC offers it. Previous literature suggests that time, cost and convenience represent the main barriers to healthier diets in low-income

populations (Cassaday, Jetter & Culp, 2007; Baker et al., 2008; Davis, Befort, Steiger Simpson & Mijares, 2013). Contrary to previous research, the main barriers to healthier eating in our sample were lack of support from family member, the pickiness or stubbornness of their child, and maternal lack of healthy food modeling. While the negative influence of family members and child pickiness were fully acknowledged by mothers themselves, some mothers did not perceive lack of their own modeling as an issue. Lastly, the study found that most parents were not immediately concerned about their child's weight or diet quality at their young age. Also, although most of the children included in this study were of normal weight, 8 were overweight or obese and more than half of these children had mothers who did not accurately assessed their weight status, underestimating in all cases. This is of practical importance for any dietary and obesity prevention efforts with this population, because maternal awareness of the child's weight status is a necessary pre-requisite for motivating parents to take action and participate in the efforts. Parental perceptions, beliefs and concerns need to be taken into consideration by nutrition professionals in order for to optimize any intervention effectiveness. Childhood obesity treatment costs approximately $14 billion annually and individuals most likely to be treated are those covered by Medicaid. Until effective interventions can be put into place there will be severe society costs to childhood obesity.

My involvement with community nutrition research has really opened my eyes to a whole new world. Community research is very unique and complex, with many different research areas to focus on I have learned so many valuable skills and I feel fortunate to be able to get to know a population of low-income parents of young children

I otherwise would not have become familiar with. I have learned that in community nutrition work, one has to be flexible, creative and quick in regard to decision-making. Often times, I made great plans and thought every possible scenario through, just to see my plans falls through and be forced to adjust my plans on the spot. This experience has helped me grow not only as a scholar but also as a person. I feel that community nutrition not only teaches research skills but also patience, flexibility, perseverance and creativity. I am forever thankful for the experiences this project has given me as well as the connections I have made through this process. I feel my thesis research has really enriched my experience in the masters program and has prepared me well for becoming a registered dietitian in the near future.

APPENDIX A

INSTIUTIONAL REVIEW BOARD APPROVAL

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO

OFFICE OF RESEARCH INTEGRITY
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To: Lenka Shriver
Nutrition
Nutrition, 318 Stone Building, Campus, Greensboro, NC 27402-6170

From: UNCG IRB

Approval Date: 11/19/2014
Expiration Date of Approval: 4/20/2015

RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)
Submission Type: Modification
Expedited Category: Minor Change to Previously Reviewed Research
Study #: 14-0119
Study Title: Parental Strategies to Encourage Fruit and Vegetable Consumption in Preschool-aged
Children

This submission has been approved by the above IRB for the period indicated. It has been determined that the risk involved in this modification is no more than minimal.

Submission Description:

As part of the approved project that is still ongoing, we have so far conducted several focus groups on parenting practices related to fruit and vegetable consumption with parents from Head Star centers. These focus groups are still ongoing but as we have obtained and examined infomation from these focus groups, a need for exploring parental perceptions of practices related to other healthy foods in addition to fruit and vegetables has become clear. In order to do this, we would like to recontact parents who have already participated in our focus groups and those who have not participated yet but have provided us with their contact information (have expressed interest in participation already). Approximately 25-35 parents will be recruited for these new focus groups. Parental perceptions, concerns and barriers related to healthy eating will be explored in this new set of focus groups.

The new focus groups will focus on African American parents (limitations of the funds available for this project). The ocus group procedures will be identical to the original focus groups. The focus groups will explore what parents think about healthy eating, which foods they consider healthful and what their perceptions are related to barriers and practices related to these foods (see the Focus group guide attached for review). Parents will be asked to complete the Parent Survey at the end of the focus groups. The survey includes two sections, with items related to socio-demographics and anthropometric information, family environment at home when eating, feeding practices, and items related to which strategies parents see as potentially effective and ineffective for encouraging children to eat healthy (see the Parent Survey attached for review). The study remains to be of minimal risk.
Consent form and recruitment materials were also updated to reflect the modification.

Regulatory and other findings:

- **If your study is contingent upon approval from another site (additional recruitment sites), you will need to submit a modification at the time you receive that approval.**

Investigator's Responsibilities

Signed letters, along with stamped copies of consent forms and other recruitment materials will be scanned to you in a separate email. **Stamped consent forms must be used unless the IRB has given you approval to waive this requirement.** Please notify the ORI office immediately if you have an issue with the stamped consents forms.

Please be aware that valid human subjects training and signed statements of confidentiality for all members of research team need to be kept on file with the lead investigator. Please note that you will also need to remain in compliance with the university "Acc~~ess To and Retention~~ of Research Data" Policy which ca

APPENDIX B

INFORMED CONSENT FORM

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO

CONSENT TO ACT AS A HUMAN PARTICIPANT

Project Title: Parental Strategies to Encourage Healthy Eating in Preschool-aged Children

Principal Investigator and Faculty Advisor (if applicable): Lenka H. Shriver (PhD) from the Department of Nutrition and Cheryl Buehler (PhD) from the Department of Human Development and Family Studies

Participant's Name: _____

What are some general things you should know about research studies?
You are being asked to take part in a research study. Your participation in the study is voluntary. You may choose not to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. There may not be any direct benefit to you for being in the research study. There also may be risks to being in research studies. If you choose not to be in the study or leave the study before it is done, it will not affect your relationship with the researcher or the University of North Carolina at Greensboro. Details about this study are discussed in this consent form. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. If you have any questions about this study at any time, you should ask the researchers named in this consent form. Their contact information is below.

What is the study about?
This is a research project. Your participation is voluntary. We would like to invite you to be part of a research project that will tell us more about how families with young children think about eating healthy, what strategies they use to serve healthy foods and what barriers they experience related to feeding their young children. You are being asked to participate because you have a child that is between the ages of 3 to 5 years, and you are enrolled in the Head Start program of the Guilford County Child Development Program. We will ask you questions related to your perceptions, attitudes, barriers, concerns and practices related to healthy eating.

Why are you asking me?
We are asking you to participate because your child is enrolled in the Head Start Program of the Guilford County Child Development Program. You are eligible to participate if you meet the following criteria for the study: 1) you are 18 or older; 2) you are a parent/legal guardian and the primary feeder of a child enrolled in Head Start program) your child is enrolled in Head Start and is between 3-5 years old; 3) you identify yourself as Non-Hispanic Black, Hispanic White or Non-Hispanic White individual; 4) your child has no health conditions that require specialized dietary plans.

What will you ask me to do if I agree to be in the study?
You will be asked to participate in a discussion session during which you will be asked questions related to your behaviors, thoughts, and attitudes about healthy eating. Your ideas and experiences are important because they will help nutrition educators know more about how and when parents of young children do or don't serve certain foods. The information will be used to learn more about families with young

UNCG IRB
Approved Consent Form
Valid from:
11/19/14 to 4/20/15

children and plan future nutrition education programs. Several other parents will be present to share their experiences related to healthy eating during your discussion group session. The session will take about 1.5 hours. You will be asked to complete a parent survey at the end of the discussion group. The survey includes two sections with questions about your family, household environment related to eating, feeding practices, what you think is effective when encouraging children to eat healthy and other items. The total survey will take about 20 min and will be part of the discussion group time. We will also ask you to provide us with your child's most recent height and weight measurements that were completed in your Head Start center. We will ensure that the discussion session is scheduled at the time that is convenient for you and your family. We will provide childcare services for your child while you are taking part in the discussion session if needed.

Is there any audio/video recording?
The discussion group you will participate in will be audiotaped so we can analyze the data later. Because your voice will be potentially identifiable by anyone who hears the tape, your confidentiality for things you say on the tape cannot be guaranteed although the researcher will try to limit access to the tape as described below. However, you will be asked to use pseudonym and your real name will not be used during the discussion group.

What are the risks to me?
The Institutional Review Board at the University of North Carolina at Greensboro has determined that participation in this study poses minimal risk to participants. This study has minimal risk. You do not have to answer any questions that you do not feel comfortable answering. Due to the focus group format, confidentiality cannot be guaranteed. However, we will protect your confidentiality by only using pseudonyms during the discussion group, and storing the surveys and signed informed consent forms in a locked file cabinet in Dr. Shriver's office at UNCG and storing audiotaped data in password-protected UNCG computers.

If you have questions, want more information or have suggestions, please contact Lenka H. Shriver who may be reached at (405) 762-9746 or lenka.shriver@uncg.edu.

If you have any concerns about your rights, how you are being treated, concerns or complaints about this project or benefits or risks associated with being in this study please contact the Office of Research Integrity at UNCG toll-free at (855)-251-2351.

Are there any benefits to society as a result of me taking part in this research?
Findings of this study may help nutrition researchers better understand what practices parents use with their young children to encourage them to eat healthy. It may also advance current knowledge of common barriers parents face related to eating healthy in their family.

Are there any benefits to *me* for taking part in this research study?
The participation in the discussion session may help you explore your own beliefs, thoughts, and possible barriers related to healthful eating in your family. You will also hear other parents' experiences and ideas related to healthy eating among children.

Will I get paid for being in the study? Will it cost me anything?
If you decide to participate in this research project, you will be given a **$20 Walmart gift card**. This incentive will be offered to you after you reviewed this document and after you participated in the discussion session. The incentive will be given to you by one of the research investigators or your child's regular Head Start teacher.

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How will you keep my information confidential?
You will not be asked to use your name or any other information during the discussion. The discussion will be audio taped so we can analyze the discussion session later for research purposes. In order to find out which comments came from the same individual, you will be asked to identify yourself using a pseudonym during the discussion group. You will be asked to put your name on the parent survey; however, your name will be removed (cut out) and replaced by a special number unique to you as soon as the surveys are gathered and safely stored in Dr. Shriver's office. This will ensure that surveys are not mixed or misplaced before the information is entered into a dataset. The final dataset will not include any identifying information about you. The only document that will include your name (after the parent surveys are removed) will be the informed consent form. This signed informed consent form will be stored in a locked file cabinet in Dr. Shriver's office at UNCG. Nobody but Dr. Shriver and her research assistant will have access to the consent form. The audiotaped discussion groups will also stored in password-protected UNCG computers of the research personnel. Nobody but the research personnel will have access to the data. All information obtained in this study is strictly confidential unless disclosure is required by law.

What if I want to leave the study?
You have the right to refuse to participate or to withdraw at any time, without penalty. If you do not participate or withdraw, it will not affect you in any way. Furthermore, it will not affect your relationship with the Guilford County Child Development Head Start program. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identifiable state. As long as you participate in the discussion group, whether you allow us to use your data or not, you will receive the incentive for your participation. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

What about new information/changes in the study?
If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

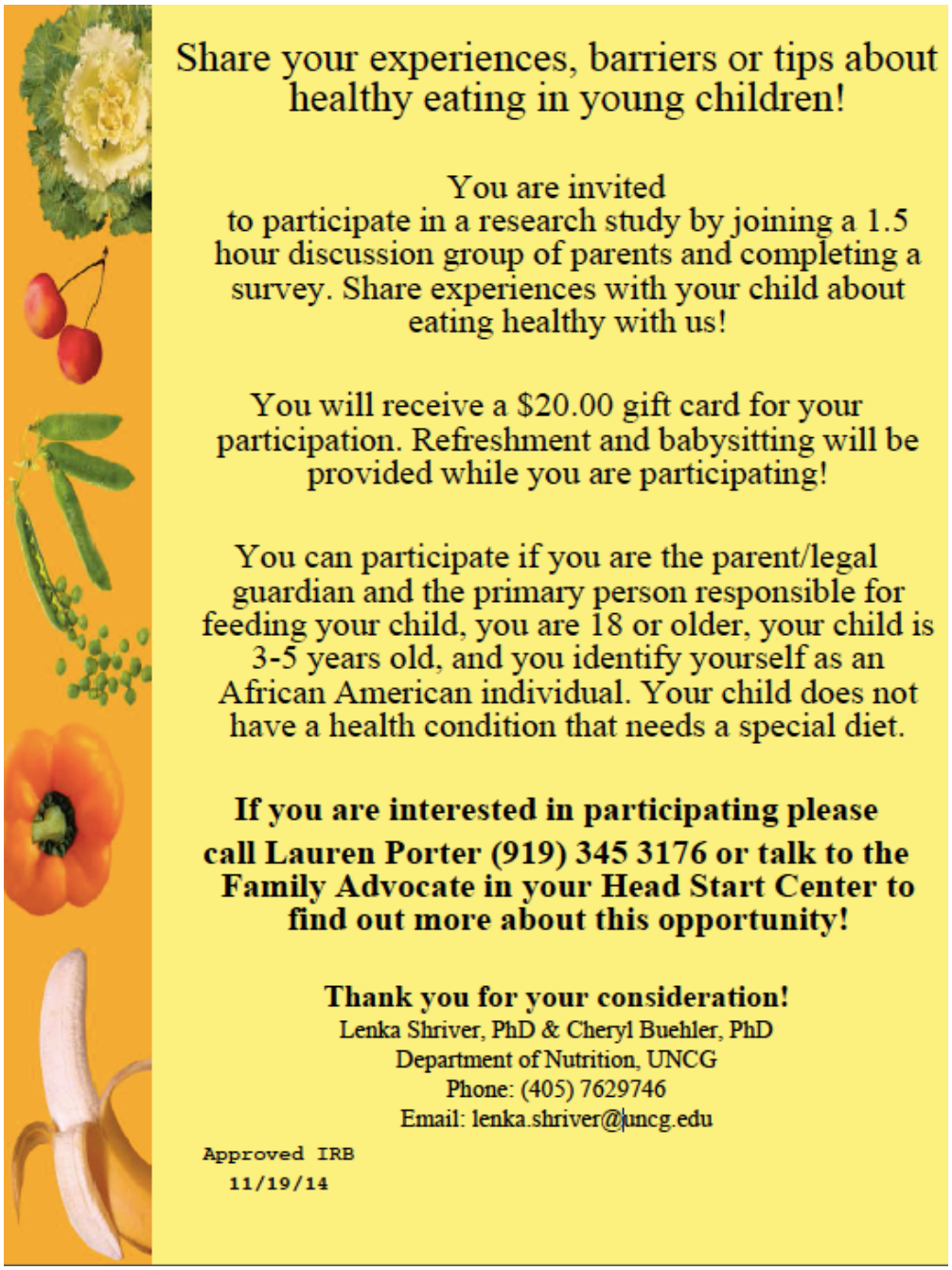
Voluntary Consent by Participant:
By signing this consent form/completing this survey/activity (used for an IRB-approved waiver of signature) you are agreeing that you read, or it has been read to you, and you fully understand the contents of this document and are openly willing consent to take part in this study. All of your questions concerning this study have been answered. By signing this form, you are agreeing that you are 18 years of age or older and are agreeing to participate, or have the individual specified above as a participant participate, in this study described to you by _____.

Signature: _____ Date: _____

UNCG IRB
Approved Consent Form
Valid from:
11/19/14 to 4/20/15

APPENDIX C

RECRUITMENT FLYER



APPENDIX D

FOCUS GROUP GUIDE

Focus Group Guide

Description of the topics discussed during focus groups

The focus groups will focus on learning about parental beliefs, attitudes and barriers related to feeding their 3-5 year old children. We will ask about parental perceptions, beliefs and perceived barriers using the Social Cognitive Theory as a guide. Thus, personal, behavioral and environmental factors of feeding, food choices and food-related behaviors will be explored during focus groups.

Script for focus group moderators

Welcome everyone. [If informed consent was not received yet, it will be obtained prior to the focus group. My name is……. And I will lead today's discussion about eating, foods and feeding your young child. We are interested in your perceptions of healthy eating and foods you serve to your child. We also want to hear your thoughts about daily challenges and barriers you may be facing when feeding your child certain foods or drinks [refresh everyone on the main purpose of the focus groups and what we hope to gain from focus groups. Remind everyone about the incentives for participation].

The first part of the focus group will focus on asking about your perceptions of what healthy eating is, what types of foods come to your mind and what influences what your child eats. So let's go ahead and start.

[Warm-up question]: What is your child's favorite thing to eat right now?
[Moderator goes around the table and asks parents].
[Moderator]: I know you have a lot of experience with getting meals and snacks together for your children, and I'd like to understand your perspective about what it's like to feed a young child. Let's start with what you think are healthy ways for young children to eat.
[Moderator]: In your mind, when young children are eating healthfully, how are they eating? How would you want your child to eat? Specific foods, location, amount

[Moderator]: What kinds of foods come to your mind when you think of healthy foods? What kinds of foods do you encourage your own child to eat?
[Moderator]: What concerns do you have, if any, about how your child is eating right now?
[Moderator]: What kinds of benefits do you hope for your child to get from encouraging your child to eat certain foods? What kinds of potential benefits do you see for yourself in terms of health?

[Moderators]: How would you compare your childhood experiences with food to those of your child? How are your meals or snacks similar or different to those you remember from your childhood?

[Following are semi-structured questions listed below will be asked. Follow-up questions will be asked based on responses of the parents allowing for parental discussion during focus groups].

[Moderator]: What strategies do you typically use to encourage some of the foods and beverages that you want your child to eat? What works and what does not work from their experience?

[Moderators]: How confident are you about encouraging your child to eat healthy on a daily basis? About encouraging yourself to eat healthy?

[Moderators]: What types of things do you do that you would like to change in terms of how your child eats, where or how you plan meals/snacks?

[Moderators]: What are some things you do or say to your child about food, health or weight?

We can take a short break now and when we get back, we will talk about some of the things that you feel would help you feed your child a healthy diet.

[Following are semi-structured questions that will be used to explore barriers to eating and perceived healthy food intake by the parents' child].

[Moderator]: Based on your own experiences with feeding a young child, what are some of the things that are difficult in terms of encouraging them to have a healthy diet?

[Moderators]: How do other family members eat in your household? How similar or different are food preferences in your family from the foods you would like to see your child eat?

[Moderator]: Where and when does your child typically have meals? Who else typically eat meals with your young child and where?

[Moderator]: Do you feel like there are other things that make it difficult for you to feed your child a healthy diet? Influences from others, your time, work, stress level?

{Moderator]: Where do you typically shop for your groceries and why? Are there some changes you would like to see that would make it easier to feed your child a good diet?
[Moderator]: How do you feel about other family members influencing your child's food intake?
Thank you all for participating in our discussion groups. Is there anything else you would like to share with us? Please don't forget to receive your incentive for your participation before you leave. Thank you very much!

APPENDIX E

PARENT SURVEY

Eating and Physical Activity of Young Children
A Parent's Perspective

First, we would like to find out some information about your young child who is 3 to 5 years of age. If you have more than one child, please answer these questions relative to your oldest child that attends Head Start.

Q1. What is your relationship to this child? *(Please circle the number of your answer.)*

1 Father (biological, adopted, step, or foster)
2 Mother (biological, adopted, step, or foster)
3 Grandparent
4 Other Family Member
5 Other (specify)

Q2. What meals and snacks does your child usually eat at the childcare center/Head Start? *(Please circle all that apply.)*

1 Breakfast
2 Mid-morning snack
3 Lunch
4 Mid-afternoon snack
5 Other

Q3. Does your child have any special dietary needs that require attention at the center?

1 No
2 Yes → If yes, please briefly identify here: _____

Now, we would like to ask a few questions about activities at your home that relate to your child's eating and play time.

Q4. In a typical week, on how many days do you or at least some of your adult family members eat breakfast at home with your young child? *(Please write your answer in the space below.)*

_____ days

Q5. In a typical week, on how many days do you or at least one other adult family member eat the evening meal at home with your young child? *(Please write your answer in the space below.)*

_____ days

Q6. When both you and your child are at home, which of these statements best describes where you usually are when your child eats a meal? *(Please circle one answer.)*

1 I sit with my child at the table
2 I am in the room but don't sit or eat with my child at the table
3 I am not in the room with my child during snack/mealtime

Q7. Compared to what your child eats during meals at home, *what do you usually eat* at mealtime at home? *(Please circle one answer.)*

1 I eat the same food as my child
2 I eat different food than my child during my child's mealtime
3 I eat some of the same food as my child and some of my own food
4 I eat some of the same food as my child, but have my own meal later
5 I don't eat during my child's mealtime

Q8. How often does your child serve him or herself at mealtimes or snack times (put some or all of the food on his or her own plate)?

1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always

Q9. How many times a week does your child eat food from a fast food restaurant like McDonald's, Dairy Queen, or Pizza Hut?

1 Less than once a week
2 Once a week
3 2 times a week
4 3 to 5 times a week
5 More than 5 times a week

Q10. How often is your child allowed to get foods/beverages for himself/herself from the fridge or pantry?

1 Never
2 Once a week or less
3 2 times a week
4 3 to 5 times a week
5 More than 5 times a week

Q11. Think about a typical weekday at home for your child in the last month. How much time would you say your child spends playing outdoors in a typical weekday at home? *(Please write hours, minutes, or both in the spaces below as needed for your young child).*

_____ Hours _____ Minutes

Q12. Think about a typical weekend day at home for your child in the last month. How much time would you say your child spends playing outdoors in a typical weekend at home? *(Please write hours, minutes, or both in the spaces below as needed for your young child).*

_____ Hours _____ Minutes

Q13. What do you *usually do* when your child is playing outside (that is when you are at home with your child)

1 I play with my child outside
2 I am outside with my child but don't play with him or her
3 I am not outside with my child when he or she plays outside at home

Q14. Do you think your child gets:

1 More than enough of physically activity on a regular basis
2 Enough of physical activity on a regular basis
3 Not enough of physical activity on a regular basis
4 Nearly not enough of physical activity on a regular basis

Q15. During your child's mealtime at home, how often is the television turned on (your child can see it or hear it)?

1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always

Q16. Outside of daycare hours, on average, how many hours of screen time does your child have on the typical *weekday,* including videos or DVDs, video games, and television?

0 None
1 1 hour or less
2 2 hours
3 3 hours
4 4 hours or more

Q17. On average, how many hours of screen time does your child have on the typical *weekend day,* including videos or DVDs, video games, and television?

0 None
1 1 hour or less
2 2 hours
3 3 hours
4 4 hours or more

Q18. Outside of childcare hours, on average, how many hours a day does your child spend on a computer/smart phone (playing computer games, including educational games, or other)?

0 None
1 1 hour or less
2 2 hours
3 3 hours
4 4 hours or more

Finally, we'd like to ask you a few questions about yourself and your child.

Q19. What is your highest level of general education? *(Circle one answer.)*

1 Grade school
2 Some high school
3 High school diploma or GED
4 Some college
5 2-Year degree
6 4-Year degree
7 Some graduate school
8 Graduate degree

Q20. How tall are you? *If you do not know, please give us your best estimate.*

_____ Feet _____ Inches

Q21. What is your current weight? *If you do not know, please give us your best estimate.*

_____ Pounds

Q22. On how many of the last 7 days did you exercise or participate in physical activity for at least 20 minutes that made you sweat or breathe hard?

_____ number of days

Q23. What is your gender?

1 Male
2 Female

Q24. With which of the following racial/ethnic groups do you consider yourself a member? *(Please circle all that apply.)*

1 American Indian or Alaska Native
2 Asian or Asian American
3 Black or African American
4 Hispanic or Latino
5 White or Caucasian
6 Other (please specify): _____

Q25. What is your age?

_____ years old

Q26. What was your household/family income last year? *(Please circle your answer.)*

1 Less than $20,000
2 $20,001 - $35,000
3 $35,001 - $50,000
4 $50,001 - $65,000
5 Over $65,000

Q27. What is your employment status? *(Please circle your answer)*

1. Full time
2. Part-time
3. Unemployed
4. Other (please specify) _____

Q28. How many days a week do you prepare evening meals at home for your child?

1 Less than once a week
2 Once a week
3 2 times a week
4 3 to 5 times a week
5 More than 5 times a week

Q29. How many adults, including you, live in your home? _____

Q30. How many children, including your child who is between 3-5 year old, live in your household? _____

Thank you for your responses! Please hand this to the session moderator when you are done.

CHILD FEEDING QUESTIONNAIRE

Circle one number for each question which best corresponds to your answer.	Never	Rarely	Half of the Time	Most of the Time	Always
1. When your child is at home, are you responsible for feeding him/her?	1	2	3	4	5
2. Are you responsible for deciding how much food your child is served?	1	2	3	4	5
3. Are you responsible for deciding if your child has eaten healthy foods?	1	2	3	4	5

Circle one number for each question which best corresponds to your answer.	Never	Rarely	Half of the time	Most of the time	Always
4. Do you keep track of the *sweets (candy, pastries)* that your child eats?	1	2	3	4	5
5. Do you keep track of the *snack food (potato chips)* that your child eats?	1	2	3	4	5
6. Do you keep track of the *high fat* foods that your child eats?	1	2	3	4	5

Circle one number for each question which best corresponds to your answer.	Disagree	Disagree A Little	Neutral	Agree A Little	Agree
7. My child should always eat all of the food on his/her plate.	1	2	3	4	5
8. I have to be especially careful to make sure my child eats enough.	1	2	3	4	5
9. If my child say's "I'm not hungry", I try to get him/her to eat anyway.	1	2	3	4	5
10. If I did not guide or regulate my child's eating, he/she would eat much less than he/she should.	1	2	3	4	5
11. I have to be sure that my child does not eat too many *sweets.*	1	2	3	4	5
12. I have to be sure that my child does not eat too many *high fat foods.*	1	2	3	4	5

13. I have to be sure that my child does not eat too much of his/her *favorite foods.*	1	2	3	4	5
14. I intentionally keep some foods out of my child's reach.	1	2	3	4	5

Circle one number for each question which best corresponds to your answer.	**Disagree**	**Disagree A Little**	**Neutral**	**Agree A Little**	**Agree**
15. I offer *sweets* to my child as a reward for good behavior.	1	2	3	4	5
16. I offer my child his/her *favorite foods* as a reward for good behavior.	1	2	3	4	5
17. If I did not guide or regulate my child's eating, he/she would eat too many *junk foods*.	1	2	3	4	5
18. If I did not guide or regulate my child's eating, he/she would eat too much of his/her *favorite foods.*	1	2	3	4	5

RATE YOUR CHILD'S WEIGHT	**Very Underweight**	**Underweight**	**Average**	**Overweight**	**Very Overweight**
19. During the 1st year of life.	1	2	3	4	5
20. Between the age of 1 and 2.	1	2	3	4	5
21. Between the ages of 3 and 5.	1	2	3	4	5

RATE YOUR OWN WEIGHT	**Very Underweight**	**Underweight**	**Average**	**Overweight**	**Very Overweight**
22. Your childhood (5 to 10 years)	1	2	3	4	5
23. Your adolescence.	1	2	3	4	5
24. Your 20s.	1	2	3	4	5
25. At Present.	1	2	3	4	5

Circle one number for each question which best corresponds to your answer.		Unconcerned	A Little Concerned	Concerned	Fairly Concerned	Very Concerned
26.	Are you concerned about your child *eating too much* when you are not there with him/her?	1	2	3	4	5
27.	Are you concerned about your child having to go on a diet to avoid being overweight?	1	2	3	4	5
28.	Are you concerned about your child becoming overweight?	1	2	3	4	5