# A QUALITATIVE EXPLORATION OF THE INFLUENCE OF CULTURE AND EXTENDED FAMILY NETWORKS ON THE WEIGHT-RELATED BEHAVIORS OF URBAN AFRICAN AMERICAN CHILDREN

by
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## ABSTRACT

**Background:** Childhood obesity is a public health problem with significant long-term implications and racial/ethnic disparities.[1-3] African American extended family members play a significant role in child rearing and socialization,[4,5] and research suggests that grandparents, in general, may influence children's weight-related behaviors.[6,7] There is, however, a lack of research exploring how urban African American children's relationships with extended family members may influence children's weight-related behaviors. Therefore, this study examines how extended family members' roles and responsibilities may influence urban African American children's weight-related behaviors, how extended family members socialize children to adopt weight-related behaviors, and how extended family members' socialization practices may differ from those of primary caregivers.

**Methods:** This study builds upon and extends the work of a previous, mixed-methods study of 31 primary caregiver-child dyads, which was designed to examine household and neighborhood factors related to childhood obesity. In Phase 2, individual semi-structured, in-depth interviews were conducted with 8 Baltimore City children; paired interviews were conducted with their primary caregivers and one adult member of each child's extended family. Manuscript 1 combines qualitative data from both studies to present case studies of the 4 families that participated in both studies. Manuscripts 2 and

3 focus on data collected from Phase 2's 8 family units, and present detailed analyses of familial influences on children's physical activity and dietary behaviors, respectively.

**Findings:** Manuscript 1 indicates that mothers and extended family members may differ in their influences on children's weight-related behaviors, which may be related to differences in the adults' roles and responsibilities with the children. Manuscript 2 suggests that extended family members may be more physically active with children; this may be influenced by perceived familial closeness and different relationship dynamics. Manuscript 3 indicates that children are consistently taught to value food-based family traditions; however, adults may be inconsistent in the socialization strategies used in day-to-day dietary routines. These findings suggest that future family-based obesity interventions for African American children should extend beyond the immediate family to include key extended family members and consider the extended family networks' norms and values.

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# 1.0 INTRODUCTION

The percentage of obese children in the United States increased from 4% during the 1960s to 18% in 2003-2006; in 2003-2004, 34% of all children in the country were overweight or obese.[8,9] National health trends data show that racial/ethnic disparities exist in the prevalence rates of these conditions and in the increases of the prevalence rates since the 1980s, with the highest prevalence of overweight being among African American girls, and the greatest rate of increase in obesity prevalence being among African American boys.[3,8] These trends in childhood overweight and obesity rates and disparities are mirrored among the children of Baltimore City, Maryland.[10] With 50% of all children and adolescents in the United States predicted to be obese during adulthood, this will likely be a long-term burden with negative psychosocial, socioeconomic, and chronic health implications.[1,2,11-15] Given the racial/ethnic disparities observed in childhood overweight and obesity prevalence, it is plausible that these long-term implications will disproportionately affect African American children as they continue through the life course.

Due to their significant role in preventing and contributing to premature death, *Healthy People 2020* identifies "Physical Activity" and "Nutrition and Weight Status" as topic areas of importance with regards to the nation's health.[16] These topic areas and their corresponding goals, objectives, and recommendations emphasize the importance and

implementation of caloric energy balance as the basis for healthy weight management in children and adolescents.[16] However, research shows that there is a complex set of factors leading to childhood overweight and obesity, thereby requiring the consideration of multiple aspects of the child's life when seeking to understand, prevent, and/or treat these and related health conditions.[11,17-20] In addition to the child's physiology (i.e., sex, age, genetic predisposition, etc.)[11,21,22] and surrounding environment (i.e., neighborhood safety, access to physical activity-related resources and/or healthful food sources, etc.),[19,23,24] the absence or development of childhood overweight and obesity may also be influenced by the child's cultural background[11,25-27] and familial characteristics.[28-31]

Research suggests that both culture and the related concept of ethnic identity play a role in developing and maintaining healthy dietary and physical activity behaviors for weight loss and management.[32-36] For African Americans, foodways (i.e., "…the procurement, preparation, and consumption of food"[37, para. 1]) help to define ethnic identity as much as cultural norms govern dietary habits. The inclusion of "soul food" and similar foodways in the African American diet are culturally embedded and passed on from generation to generation.[33,34,38-40] Similarly, there is a perpetuation of the absence of physical activity norms between generations.[26,27,33,41-44] African American children are often socialized to follow these and other cultural norms through extended family members.[4] This is due, in part, to the high degree of familism that is often observed in African American families.[5,45,46] The altruistic acts associated with familism typically result in a sense of familial closeness and is widely accepted as a core cultural value among racial/ethnic minority groups.[47-49] Among African Americans, this frequently leads to families that are multigenerational and dynamic in regards to structure and

functioning.[5,45,46] Because of this, African American children, particularly those belonging to families of lower socioeconomic position, are more likely to live with or share a residence with extended family members.[5,46] In addition, there are often co-parenting arrangements that involve extended family members and have fluid boundaries in gender roles as they relate to child rearing responsibilities.[5,46] There has been extensive research conducted to understand familism among racial/ethnic minority groups and how African American families, specifically, define, express, and perceive familism differently than White American families.[50,51] Due to the historical experiences of African Americans as a whole, and the societal demands placed on matriarchs, patriarchs, and other members of African American families, Gadsden notes the importance of adopting an intergenerational framework for exploring the diverse and unique aspects of African American family life, particularly when addressing how individual actions and cultural heritage work together to promote or hinder the healthy development of African American children.[52]

While there is evidence to suggest that weight loss interventions for children are more effective when a family component is included,[53] there has been little improvement in the efficacy of family-based behavioral weight loss and management interventions for children.[54] The persisting and widening racial/ethnic health disparities in childhood overweight and obesity suggest a continued need to develop a contextual understanding of the underlying causes of these disparities so that effective, culturally appropriate interventions can be developed to address overweight and obesity among African American children. Research shows that mothers and fathers may use different socialization strategies for conveying acceptable dietary behaviors to their children,[55] so

it stands to reason that socialization practices utilized for teaching children cultural values and norms around dietary and physical activity behaviors may differ between primary caregivers and the extended family members involved in caring for children. An extensive review of the literature shows that there have been no studies that qualitatively examine the relationships urban African American children have with their extended family members and how the children's engagement with extended family members may be associated with the children's dietary and physical activity behaviors. This suggests that there remains a lack of understanding about family dynamics and interactions, particularly concerning the potentially complex mechanisms by which these factors influence the dietary and physical activity behaviors of children. Because the structure and functioning of African American families often includes heightened involvement of extended family members in the lives of the children, particularly in regards to socialization practices,[4,5,45,46,56] developing a deeper understanding of how extended family networks and their socialization practices (e.g., displaying positive/negative attitudes toward healthful dietary and physical activity behaviors) influence children's dietary and physical activity behaviors may be of particular importance for developing interventions that are effective and culturally appropriate for preventing and treating overweight and obesity among African American children.[57]

## 1.1 SPECIFIC AIMS

Although there is extensive evidence of the various influences of the immediate family on children's weight-related behaviors and weight status,[17,19,58,59] as well as

substantial literature documenting the history of research examining functioning, structure, parenting, and general child socialization in African American immediate and extended families,[5,45,46,52] there is a lack of research that explores the intersection of these two fields of study. Given the evidence presented by these bodies of literature, as well as the knowledge I gained as a research assistant for a study designed to explore neighborhood and household influence on childhood obesity in Baltimore City (described in Chapter 3), I hypothesized that extended family members may have distinct and active roles in influencing the weight-related behaviors of children. Subsequently, the goal of this research is to develop a greater understanding of Baltimore City children's dietary and physical activity behaviors, how the socialization practices experienced as part of their relationships with extended family members, as well as the roles and responsibilities of extended family members, may be associated with those diet and physical activity behaviors. This study utilizes qualitative methodologies to gain an understanding of the meaning of these socialization practices, roles, and responsibilities within the context of core cultural values and familial structure and obligations.

The main objective of this research is to perform a cross-sectional, qualitative study of cultural and familial influences on the diet and physical activity behaviors of Baltimore City. The aims of the study are as follows:

1. To describe how, if at all, children's diet and physical activity behaviors are associated with the children's relationships with extended family members
2. To explore the core cultural values related to dietary and physical activity that are transferred to children via the socialization practices of extended family members
3. To describe how, if at all, the basic tenets of familism are related to the roles and responsibilities of extended family members in the socialization of children regarding diet and physical activity behaviors

The corresponding research questions for the specific aims are:

1. How, if at all, are children's dietary and physical activity behaviors associated with the children's relationships with extended family members?

2. What are the core cultural values related to diet and physical activity that are transferred to children via extended family members?
    a. What socialization practices are employed by extended family members to instill these values into the children?
    b. How, if at all, do these socialization practices differ from those employed by primary caregivers/parents?
    c. How, if at all, are the basic tenets of familism related to the roles and responsibilities of extended family members in the socialization of children regarding dietary and physical activity behaviors?

Because this is early-stage, exploratory research, it is anticipated that this study will identify additional, relevant concepts and provide guidance for future studies designed to understand the potential associations between family dynamics and child weight status and diet and physical activity behaviors. In addition, it may provide a foundation for developing evidence-based and culturally appropriate family-level interventions to address childhood overweight and obesity, particularly among African Americans.

# 2.0 LITERATURE REVIEW

## 2.1 CHILDHOOD OBESITY: UNDERSTANDING THE PROBLEM AND EXPLORING SOLUTIONS

### 2.1.1 Magnitude of the Problem

Overweight and obesity are public health problems that affect countries across the globe. The most recent World Health Organization[60] estimates indicate that approximately 1.6 billion individuals, aged 15 years or more, are overweight, while at least 400 million adults are obese. High-income, developed countries, such as the United States, continue to experience an exceptionally high prevalence of overweight and obesity.[60,61] In the United States, the combined prevalence of overweight and obesity among adults, aged 20-74 years, was 45% during 1960-1962.[62,63] As summarized in Table 1, data from the 2009 Behavioral Risk Factor Surveillance System indicate that there has been a noticeable increase in the prevalence of unhealthy weight status among adults, and there are similarities in the prevalence of overweight and obesity at the national, state, and local levels.[64]

**Table 1. Weight Status Estimates Among Adults (18+ Years), 2009**

| Weight Status | United States | Maryland | Baltimore City |
|---|---|---|---|
| Overweight | 36% | 36% | 33% |
| Obese | 27% | 27% | 32% |
| Neither Overweight nor Obese | 36% | 37% | 35% |

Source: 2009 Behavioral Risk Factor Surveillance System

Due to the increased risk of mortality and the development of several chronic diseases, including type 2 diabetes, cardiovascular disease, musculoskeletal disorders, various types of cancer, overweight and obesity were recognized as leading indicators of health in *Healthy People 2010,*[65,66] and *Healthy People 2020*[16] promotes the prevention of chronic disease through the achievement and maintenance of a healthy weight status. The medical expenses for these and other obesity-related health conditions further highlight the serious nature and implications of overweight and obesity. Data from the 1998 Medical Expenditures Panel Survey and the 1996 and 1997 National Health Interview Surveys indicate that there was $27 to $79 billion worth of obesity-related expenses, which accounts for nearly 10% of all medical expenses during those time periods.[67,68] More recent estimates indicate that indirect and direct obesity-related medical expenses may be as much as $147 billion per year.[69] In 2003, the cost of obesity-related medical expenses for Maryland adults was approximately $1.5 billion dollars.[70]

The negative implications and burden of obesity are further complicated by the trend of rising prevalence of overweight and obesity among children in the United States. The percentage of obese children, aged 2 to 19 years, increased from 5% in 1971-1974 to approximately 17% in 2007-2008,[71] and in 2007-2008, 32% of all children and adolescents were overweight.[72] As is the case with adults, there are also concerns about

the prevalence rates of childhood overweight and obesity at the state and local levels, and data from the Youth Risk Behavior Surveillance System indicate that the problem may be greater among Baltimore City's adolescents (Table 2).[73,74] In addition, among younger children, aged 2 to 5 years, who were receiving services from the Women, Infants, and Children program in Baltimore City, an estimated 13% were obese in 2007.[73]

**Table 2. Weight Status Estimates Among Adolescents (9th – 12th Grades)**

| Weight Status | United States, 2009 | Maryland, 2009 | Baltimore City, 2007 |
|---|---|---|---|
| Overweight | 16% | 16% | 20% |
| Obese | 12% | 12% | 19% |
| Neither Overweight nor Obese | 72% | 72% | 61% |

Source: 2007 and 2009 Youth Risk Behavior Surveillance System

Research suggests that obese children are likely to experience obesity and related health problems in adulthood;[75,76] however, many obesity-related health conditions begin to manifest during childhood. In addition to the co-morbidities described above, obese children are at greater risk of impairments in some aspects of developmental functioning, sleep and nervous system disorders, gastrointestinal and respiratory complications, and skin conditions.[1,11-13] Children who are overweight or obese may also be subject to negative psychosocial and socioeconomic consequences due to weight stigma, pressure to lose weight, and/or physical limitations.[2,14,77] Data from the National Hospital Discharge Survey indicate that obesity-related medical expenditures for children, aged 6 to 17 years, increased from $35 million during 1979-1981 to $127 million during 1997-1999.[15] The rise in obesity prevalence continues to contribute to increased medical expenses, with an estimated $236 million being spent in obesity-related hospitalizations for children in 2005.[78]

### 2.1.2 Racial/Ethnic Disparities in Obesity Prevalence

The nation's obesity epidemic is also complicated by the existence of racial/ethnic disparities. Data from the 2009 Behavioral Risk Factor Surveillance System indicate that obesity prevalence is greatest among African American adults at the national, state, and local levels, with the greatest racial/ethnic disparities being exhibited among Baltimore City's adults (Table 3).[64,79]

**Table 3. Comparison of Obesity Rates Among Adults (18+ Years), 2009**

| Race/Ethnicity | United States | Maryland | Baltimore City |
|---|---|---|---|
| African American | 39% | 39% | 41% |
| Hispanic American | 29% | 32% | ----- |
| White American | 27% | 23% | 20% |

Source: 2009 Behavioral Risk Factor Surveillance System

The disparities exhibited among adults are mirrored among the nation's children. In addition to the high prevalence rates of childhood obesity, there are also notable racial/ethnic disparities that persist and, in some race-gender comparisons, continue to grow (Table 4).[71,72] Data from the 2007-2008 National Health and Nutrition Examination Survey indicate that the highest rates of obesity were found among African American girls (29%) and Mexican American boys (27%),[71,72] and similar racial/ethnic disparities were found among the children of Maryland.[80] There is also evidence to suggest that these disparities are mirrored among Baltimore City's children.[10]

**Table 4. Comparison of Obesity Rates Among Children**

| Race/Ethnicity & Gender | United States, 2007-2008 (12-19 Years) | Maryland, 2007 (10-17 Years) | Baltimore City, 2000 (8-10 Years) |
|---|---|---|---|
| African American Girls | 29% | 21% | 19% |
| African American Boys | 20% | | |
| Hispanic/Mexican American Girls | 17% | 28% | ----- |
| Hispanic/Mexican American Boys | 27% | | |
| White American Girls | 15% | 8% | 15% |
| White American Boys | 17% | | |

Sources: 2007-2008 National Health and Nutrition Examination Survey; The Nutrition and Physical Activity of Baltimore City School Children Study

Given the magnitude of the health and economic consequences of obesity, it is plausible that the immediate and long-term negative impact of childhood obesity could be greater among racial/ethnic minority groups. Furthermore, the Committee on Prevention of Obesity in Children and Youth[81] notes that the similarities in the obesity trends and corresponding racial/ethnic disparities indicate that children and adults may experience similar sociocultural factors (e.g., cultural norms and values, family structure and functioning, ethnic or group identity, attitudes and beliefs, etc.) that may contribute to obesity development. These factors, as experienced by children and the adults with whom they interact, may be helpful to consider in developing future obesity interventions.

### 2.1.3 Contributing Factors and Intervention Approaches

Childhood obesity presents with a myriad of contributing factors that may also affect the increasing prevalence of the condition and widening racial/ethnic disparities. *Healthy People 2020* highlights the importance of adopting an ecological and determinants approach to promoting healthy behaviors and environments and preventing childhood obesity and other health conditions.[16] While it is important to consider a child's physiological attributes, it is also important to consider how the child's dietary and physical activity behaviors and subsequent weight status are directly or indirectly influenced by multiple levels of the surrounding social and physical environment.[82] As described by Davison and Birch,[83] a child's weight status is encompassed by and rooted within 3 levels of influence: 1) child characteristics and risk factors (i.e., gender, age, dietary and physical activity behaviors, and genetic predisposition for weight gain); 2) parenting styles and characteristics (e.g., food availability, encouragement of child activity, parent dietary and physical activity behaviors, family television viewing patterns and monitoring, parent weight status); and 3) community, demographic, and societal characteristics (e.g., ethnicity, socioeconomic position, parent work hours, neighborhood safety, accessibility of physical activity venues, school lunch programs). Although this perspective includes the influence of parenting styles and characteristics, there should also be a direct consideration of family functioning and structure, which may have direct and indirect influences on a child's weight status.[28,31,59]

Over the past 20 years, there have been many childhood obesity interventions to address these factors utilizing a variety of approaches.[84-87] Families, schools, clinics, and communities are frequently used as the settings in which childhood obesity interventions

are implemented, and it is common for multiple settings to be combined within a single intervention.[84-88] Childhood obesity interventions are often education-based; aim to modify specific behaviors, such as fruit and vegetable intake, water consumption, television viewing, and physical activity participation; and frequently measure effectiveness using outcomes such as BMI, blood pressure, fitness level, physical activity participation, diet, and knowledge.[85,87] Family-based interventions have primarily focused on the immediate family unit.[53,89-92] This has also been the primary focus of family-based interventions for racial/ethnic minority children.[93-95] There is evidence to suggest that, overall, these interventions have experienced limited effectiveness in preventing and treating childhood obesity.[90]

Given the magnitude of the childhood obesity problem, particularly among African American children, there may be a need for the development of tailored interventions for this population.[96] According to Stevens,[95] there are fewer obesity interventions specifically designed for and implemented among racial/ethnic minority children, and those that have been implemented report limited effectiveness. The focus of family-based interventions for African American children has been primarily on parental inclusion. However, due to the historical experiences of African Americans as a whole, and the societal demands placed on matriarchs, patriarchs, and other members of African American families, Gadsden[52] notes the importance of adopting an intergenerational framework for exploring the diverse and unique aspects of African American family life, particularly when addressing how individual actions and cultural heritage work together to promote or inhibit the healthy development of African American children.

The intersection of culture and the family environment play an important role in how these influences are impressed upon children. Children's behaviors are directly influenced by family socialization practices, and because parents typically socialize children to adopt the behaviors necessary to be accepted by and successful within a particular cultural group, these influences and socialization practices must be examined within the cultural contexts in which they occur.[97] It is also important to consider the sociocultural resources that impact those influences and practices and how and why they are carried out.[98] Taking this approach may help to enhance understanding of how parenting behaviors and family socialization practices may contribute to the prevention or promotion of childhood obesity. In addition, developing a greater understanding of how cultural values and norms related to diet and physical activity interact with the family environment may provide valuable insight for the development of effective obesity interventions for African American children and their families.

## 2.2 CULTURAL INFLUENCES ON THE WEIGHT-RELATED BEHAVIORS OF AFRICAN AMERICAN CHILDREN

### 2.2.1 The Health Implications of Culture and Cultural Norms Among African Americans

Culture is a theoretical concept that encapsulates the shared and learned knowledge that guides how individuals within a society live, how they communicate and interact with one another, what they believe and value, and their customs and habits.[99] Because culture

is constructed and reconstructed by historical and contemporary experiences and events, it is a dynamic concept, the substance of which may be defined in various ways by different individuals and/or groups of people.[100] In addition, culture plays a significant role in constructing the related concepts of ethnicity, ethnic groups and their boundaries, and ethnic identity.[100]

There are several factors that may contribute to the development of one's ethnic identity, including the individual's perspective on the manner in which members of his/her race should behave and how the individual perceives his/her race, particularly in terms of positive or negative influences on his/her behaviors.[101] These and other factors may also contribute to the creation of a 'circle of culture', which represents the boundaries of acceptable behavior within a racial/ethnic group, community, family, or any other group of individuals in which there are culturally shared norms.[102] The acceptable behaviors are determined by norms that are generated by traditions and cultural heritage, and behavioral boundaries are shaped and reinforced by the group's shared history that is passed from one generation to the next, group members' sense of accountability to others within the group, and group members' reaction towards other group members who behave outside of the boundaries or towards those who are not within their circle of culture.[102] A group's circle of culture, along with these determining and contributing factors, may play a significant role in the development of the group's collective identity (i.e., a sense of belonging) and in the creation of a sense of cohesiveness among group members.[103,104]

The circle of culture around the African American community began its formation during slavery, and, being a dynamic concept, continues to evolve.[104,105] Because food

can be a powerful force in defining groups and constructing identity,[106] this concept may have important implications for the health behaviors of African Americans, particularly those dietary behaviors related to the prevention and management of chronic diseases.[102] As discussed by Peters et al.,[102] the passing of history and culturally shared norms from generation to generation creates a sense of loyalty toward certain potentially unhealthy dietary behaviors, which may cause an individual to continue in such behaviors even when it is known that those behaviors (e.g., the use of large amounts of fat, salt, or sugar in meal preparation and food consumption; maintaining a sedentary lifestyle) promote the development of chronic health conditions such as hypertension and obesity. Furthermore, individuals who may desire to adopt healthier behaviors may experience being ostracized for attempting to step outside of the boundaries that inherently promote unhealthful behaviors.[102] In other words, an individual who begins to improve health-related behaviors may receive negative feedback from family members or others within the community for "acting different" or "acting White".[102,104]

Being ostracized for adopting healthful behaviors may manifest in the form of reduced tangible and non-tangible support from and interaction with the group (i.e., general lack of support for healthy behaviors, being left out of group activities, etc.) and being symbolically moved to the edges of the circle of culture.[102,104] This may prompt an individual who is heavily dependent on support from and interaction with his/her group to quickly abandon attempted behavior changes.[102] On the other hand, because of the sense of accountability that is a part of the circle of culture, individuals may also feel compelled to initiate or continue with positive behavior changes out of obligation to set a positive example for younger generations and/or to set an example of healthy living and

help others in the community with health improvements.[102] Therefore, individuals may struggle to balance the need to feel accepted by other group members with the desire to be a responsible member of the group.

### 2.2.2 The Historical Context of Culturally Shared Dietary Norms among African Americans

Foodways are the processes and patterns surrounding how food is acquired, prepared, and eaten, coupled with the meanings assigned to those processes and patterns by the group the carries them out;[37] food and foodways both play an important role in constructing one's identity and defining groups and their boundaries.[106] As described by Yentsch,[107] there are two primary dimensions of foodways: 1) the societal places and spaces in which people earn their living, live their lives, and consume their food and 2) the social relationships that determine how those actions are carried out. The history of Africans and their descendants in America and what it means to be Black in America have contributed to the development of a reciprocal relationship between historical and contemporary African American foodways and the cultural identity and norms of the African American community.[38,108]

Collectively, traditional African American foodways are called "soul food". This term describes traditional food preparation techniques and dietary patterns used within African American communities.[38,40] However, as noted by Whitehead,[40] the meaning of these foodways is of greater importance than the context or preparation style. This is because the term "soul food" and its meaning also encapsulate the African American community's bonds to and within the African Diaspora; provides additional meaning and

definition to racial identity and what it means to be Black; and facilitates a unique, and often emotional form of communication through food.[38,109]

To understand what soul food is, one must first understand the meaning of "soul". During the 1960s and 1970s, the term "soul" came to represent African American culture in general.[108] From this stemmed terms such as "soul music" and "soul food", all of which were developed as part of a larger social movement to increase awareness of Black identity and enhance the empowerment of African Americans through cultural expressions that were distinct from those of White Americans and society at large.[38,40,108] In addition to being perceived as a political statement, preparing and consuming soul food enhanced collective identity and strengthened the boundaries of the circle of culture in the African American community by insinuating that those who practiced these foodways were insiders while those who did not were outsiders who did not understand, respect and/or participate in the traditions established by through the community's cultural heritage.[108] For many, soul food became a representation of African Americans' resilience in the face of hardship, and for some today, it continues to be a way to pay homage to previous generations and their ability to use wisdom and create something enjoyable and unique from what others in society deemed to be worthless.[38,40]

Although the development of the term "soul food" occurred fairly recently in African American history, it describes food preparation techniques and dietary patterns that began during slavery.[38] During the Atlantic slave trade, a large variety of foods were imported into the Americas with the African slaves.[110] In Africa, food and its production and usage were integral parts of community life, demonstrated by the fact that for most food sources, every part of the plant or animal served a purpose, thereby reducing the

wasting of resources.[107,111] Many plant foods were used for medicinal and household purposes, not just general consumption.[111] However, the slaves' foodways underwent significant modifications as the slaves adjusted to the harsh living conditions and extreme restrictions they faced in the Americas.[107,112] In most cases, slaves' dietary needs came secondary to their labor requirements on the plantation, yet they needed substantial energy from food to carry out their physically demanding duties.[107,112] Furthermore, there were limited cooking and eating utensils available in the slave quarters, and slave owners usually only provided the slaves with the least desirable cuts of meat and the unwanted leftovers of other foodstuffs (e.g., flour and sugar).[107,110,112] Food rationing was highly regulated, and slaves received portions of staple foods such as salt, corn, and sweet potatoes on a weekly or monthly basis and at the slave owners' discretion.[107,110,112]

To compensate for these living conditions, the slaves developed a new set of foodways by combining components of traditional African foodways with those of Europeans and Native American foodways.[34,40,112,113] The slaves integrated African foods that were grown from seeds brought to the Americas via the Atlantic slave trade (e.g., peanuts, okra, and watermelon) with North American foods that resembled those from Africa (e.g., sweet potatoes, cucumbers, tomatoes, and leafy green vegetables) and staple foods from the Native American diet (e.g., corn, pumpkins, and beans).[110] The slaves also developed food preparation techniques that complemented their work demands and available food and cooking resources.[40,107,112] For example, slow cooking, one-pot meals, such as stews, soups, and other mixed dishes were common because they required few cooking utensils, could be cooked slowly throughout the day, did not require a great deal of attention while they were prepared, and were easily prepared with the lower quality

cuts of meat and other foods provided to the slaves.[107,112] In contrast, to facilitate the need to quickly prepare foods either before the workday commenced or after duties were completed, the slaves began the practice of frying foods in hot oil; foods prepared with this cooking technique were also high in calories and provided the slaves with calorie dense dishes to help meet the high energy demands set forth by plantation life.[107,112]

These food preparation techniques were used in conjunction with traditional African cooking methods, such as fireside grilling, boiling, and baking in ashes.[107,112] Over time, the verbal passage of these food consumption and preparation patterns became a central component of the slaves' foodways.[107] The slaves did not have the means to measure ingredients in food preparation, and because it was illegal for them to learn to read or write, they did not create records of their recipes.[107] Instead, they used their physical senses and to help them create and recreate dishes, and oral instruction was used to teach others the techniques and to pass the techniques on to their children.[107]

One African tradition that the slaves were able to continue was the practice of food-based rituals and celebrations. On most plantations, the slaves received their weekly food rations on Saturdays; this facilitated large dinners in celebration of the day of rest on Sunday.[110,112] Larger celebrations took place in observance of holidays, particularly Christmas and New Year's Day.[107,112] During that time of the year, slaves would often hold hog-killings, at which hogs were slaughtered; the choice meats were preserved and given to the slave owners, but the slaves used the organ meats to season side dishes such as black-eyed peas and collard greens.[107,112] These celebrations were often linked to spiritual or religious rituals, as was demonstrated each July when the slaves gave thanks to God for a good harvest of hay and cotton.[112] This time of thanksgiving also included a

large celebratory meal that was distinctively characterized by the consumption of ripe watermelon; after Emancipation, the freed slaves combined this harvest festival with Independence Day celebrations.[112] These celebrations provided the rare opportunity for the slaves to express themselves creatively through food preparation, particularly through the barbequing and fireside grilling of foods, as this allowed the for a public display of cooking talents.[107,110]

In its historical context, soul food can be viewed as a symbol of intangible concepts, such as power and freedom of choice, that were not typically associated with slaves and, later, free African Americans.[38,108] Since the slavery era, African American foodways have continued to be a subtle form of expression of African American identity, particularly during periods when open expression was dangerous to African American individuals and communities.[38,108] Today, soul food can be described in many different ways, just as there are many ways to describe African American culture and what it means to be Black in America. Some individuals may simply describe soul food as southern food, while others may describe it as foods and preparation techniques that African Americans consume and utilized more frequently than White Americans or other racial/ethnic groups.[108]

Regardless of how soul food is described, contemporary African American foodways embody and reflect characteristics of African foodways, as well as those of slaves and freed slaves, as is demonstrated through the continued practice of the food preparation and consumption patterns described above.[38,108] For many African Americans, however, soul food is now perceived as a being reserved for Sunday dinners and special occasions.[38,108,113] Therefore, the current day-to-day diet of most African

Americans does not have the same type of variety as it did for African Americans during the 1960s and 1970s, when soul food was embraced as a part of daily life.[108]

African Americans, particularly those of lower socioeconomic position, have lowered their intake of fruits, vegetables, grains and legumes and increased their intake of foods high in fat and oil since the 1960s.[33,34,39,40,114] Other research indicates that African American adults, as compared to White American adults, are less likely to meet the U.S. Department of Agriculture's (USDA) recommendations for fruit, vegetable, and dietary fat intake, especially among African Americans adults who are 50 years or younger and who are of lower socioeconomic position.[115-117] These food consumption patterns are reflected in the diets of African American children and adolescents, who, despite greater intakes of fruits and vegetables as compared to White American children and adolescents, are less likely to meet the USDA recommendations for grain and dairy intake, and may acquire 40 to 50% of their daily caloric intake from high fat foods (i.e., fried chicken, potato chips, pastries, etc.)[118] and approximately 60% of their daily fluid intake from sweetened beverages (i.e., soft drinks and fruit-flavored drinks).[119] These disparities exist despite the increase in the availability of healthful food options since the 1970s,[120] and likely have had an effect on the racial/ethnic disparities in overweight and obesity rates among adults and children.

### 2.2.3 Culture and Physical Activity Norms Among African Americans

There is a noticeably smaller body of literature addressing specific cultural norms surrounding physical activity among African Americans. Research suggests that during childhood, African Americans, particularly women, lack role models who regularly

exercise and, therefore, have not been exposed to or taught how to exercise.[33,121] This, in turn, leads to a lack of physical activity norms, at least in the form of structured exercise activities, being passed on to their children.[33,41-44] For many African Americans, the lack of exercise may be tied to cultural norms surrounding body image and the acceptance of larger body size; for women in particular, these norms can help to promote and perpetuate the belief that exercising will cause one to lose too much weight and/or look too masculine.[122] Other barriers to exercise include hair management and lack of time due to care giving and other responsibilities.[122]

Although participation in structured exercise may not be a cultural norm for many African Americans, it is important to note that they have traditionally participated in other forms of physical activity in their day-to-day lives.[123] Historically, labor or job requirements have been the primary source of physical activity for most African Americans.[123] Plantation life required that the slaves carry out duties that were physically demanding; this was true for slaves who worked outdoors in the fields and caring for the animals, as well as for those who worked indoors maintaining the slave owners' homes and other plantation facilities.[107,123] This trend continued after the Emancipation, when freed slaves began to earn a living by farming their own land or that of others and/or by taking on other labor-intensive jobs.[123] Because of this, many African Americans perceived exercise to be an unnecessary task for which they had little time and/or energy, thereby creating a cultural norm of having a lifestyle with minimal structured exercise.[123]

Today, more African Americans are engaged in jobs that are less physically demanding, and they are less likely to meet physical activity recommendations set forth by the U.S. Department of Health and Human Services.[123] In 2007, 31% of African

American adults, as compared to 20% of White American adults, reported no participation in leisure-time activity.[124] Furthermore, while 52% of White American adults reached physical activity recommendations, only 40% of African Americans met those recommendations.[124] Data from the National Survey of Children's Health show that similar trends are found among children and adolescents, as 13% of African American children and adolescents did not participate in any type of physical activity within a week of being surveyed; this is compared to 7% of White American children and adolescents who had the same level of physical activity.[125]

## 2.3 FAMILIAL INFLUENCES ON THE WEIGHT-RELATED BEHAVIORS OF AFRICAN AMERICAN CHILDREN

### 2.3.1 The Family's Connection to Childhood Obesity

It has been established that the family environment is important to consider when developing childhood obesity interventions.[17,29,31,58,59,90,126-129] There is evidence that many of the behaviors that contribute to the development of childhood obesity originate within the home, as children have a tendency to model their parents' dietary practices and physical activity behaviors, and the household and surrounding environments, where most children spend a considerable amount time, possess characteristics that may promote or inhibit obesity-protective behaviors.[11,22,23,30,31,130-134] For example, research finds that children belonging to single parent families, families experiencing structure changes (i.e., divorce), and families of lower socioeconomic position are greater risk of

being obese due to lower levels of physical activity.[11,22,23,30,31,130,135,136] In addition, children are more likely to be overweight or obese when their parents have a weight status of overweight or obese;[31,130,134,137] this may be related to children's tendency to adopt their parents' dietary patterns and physical activity behaviors.[131-133]

Researchers have also found links between other, more complex factors, such as parenting styles, family communication and interaction patterns, family meal patterns, parental perceptions of child weight status, and family structure. There is some evidence to suggest that there are healthier BMI levels among children whose parents have more structured parenting styles and use clear, direct communication.[28] Regular family meals, which may be an indication of greater family stability and communication, may lead to healthier weight status and greater fruit and vegetable consumption among children.[138-142] Parents' perceptions of children's weight status may be another important factor. In African American and Latino American families, for example, it has been shown that parents are less likely to perceive their children as overweight or perceive any health risks associated with their children being overweight.[143,144] This may be due to cultural norms and perceptions surrounding body size and image. However, when there is a family history of obesity-related diseases, such as cardiovascular disease and/or type 2 diabetes, parents may have a more accurate perception of their children's weight status and a greater perception of obesity-related health risks for their children.[145]

As mentioned above, children have a tendency to adopt their parents' dietary and physical activity patterns. In addition, there are other mechanisms through which parents directly and indirectly influence their children's weight-related behaviors. These influences may come in a variety of forms, including role modeling, and the provision of

social support for healthful behaviors.[97,146,147] Welk[148] purports that there are four primary types of socialization influences that parents impress upon their children regarding the adoption of physical activity behaviors: role modeling, involvement, facilitation, and encouragement. Commonly-used parental strategies specific to children's dietary behaviors include direct monitoring of children's dietary behaviors and routines, pressuring children to consume certain foods, enforcing special food restrictions and/or granting special food allowances, praising children for food consumption, and using food as a behavioral reward.[58,59] There is evidence that diet-focused socialization strategies used differ within immediate and extended family units,[6,55] and it is likely that there are also differences in the socialization strategies focused on physical activity.

In addition to these diet- and physical activity-specific socialization strategies, one study of African American families suggests that in general, role-playing, role modeling, oral communication, and exposure are the four basic processes used by parents to socialize children to adopt acceptable behaviors, as dictated by cultural norms.[97] It is also plausible, however, that children experience these processes through interactions with other family members, due to the active role that extended family members have played in the socialization of African American children. Therefore, it is also important to consider the structure of African American extended family networks, as well as the cultural context in which it operates, when seeking to understand familial influences on childhood.

### 2.3.2 Family-Based Collectivism and the African American Extended Family Network

Family-based collectivism, also known as familism, and its effects on kinship support networks are concepts that have been studied for several decades.[47-49,149,150] As defined by Rogers and Sebald,[149] familism is "the subordination of individual interests to those of the group"[(p.26)]. This is an altruistic concept comprised of three major dimensions: tangible and non-tangible familial obligations, family members serving as behavioral and attitudinal referents, and perceived support from family members.[149,150] Family-based collectivism often results in a sense of familial closeness, which may be characterized by family members' trust amongst and respect for each other, sharing of life experiences with one another, and having the ability to depend on each other during times of hardship.[47]

The expression of family-based collectivism beyond one's nuclear family to extended family members is common. However, family-based collectivism and how it is defined and expressed may differ based on the race/ethnicity of the family. Family-based collectivism is viewed as a core value among many racial/ethnic minority groups, such as African Americans and Hispanic Americans, particularly in extended family networks, among these families as compared to the degree of family-based collectivism that is found among white American families.[48,49,151] As defined by Martin and Martin,[152] the African American extended family network embodies the tenets of familism:

> a multigenerational, interdependent kinship system which is welded together by a sense of obligation to relatives; is organized around a "family base" household; is generally guided by a "dominant family figure"; extends across geographical boundaries to connect family units to an extended family network; and has a built-

> in mutual aid system for the welfare of its members and the maintenance of the family as a whole.[p. 1]

This dynamic family structure and functioning has historical roots in slavery and bears characteristics of West African familial structures.[4,153,154] Similar to other cultural norms, this is a practice that slaves adapted and used as a survival mechanism.[5,153] Due to the widespread separation of families during that time, fictive kin networks were often established within the slave quarters, where the slaves shared limited resources and provided each other with other forms of support.[5] After slavery, the sharing of resources and households continued to be a trend among African American families, particularly during the years immediately following the Civil War, the Great Migration (1910 – 1930), and the Civil Rights movement.[153,155] In contemporary African American families, extended family living arrangements are commonplace in African American families; this may be due, in part, to the consistent practice of familism.[5,45]

### 2.3.3 The Effect of Family-Based Collectivism on Children's Well Being

In African kinship networks, children were taught family- and cultural-traditions by extended family members.[4] This continued, both forcibly and inherently, during slavery, when slave women were expected to share the responsibility of caring for the children, and grandmothers, and other matriarchal figures, in particular, continued fulfilling their responsibilities related to teaching the children cultural traditions and history.[153] Today, African American children are more likely to live in single-parent households, live with grandparents, and/or share a residence or live with non-nuclear family members.[5,46,56] Because several adult relatives may be involved in child rearing, each family member is a

potential resource for the family's children, and co-parenting arrangements are common, with fluid gender roles as they relate to child rearing responsibilities.[5,46]

Much of the previous research concerning extended family interactions among African American families focused on the involvement of grandparents in rearing and caring for grandchildren.[5,156-164] However, given the dynamic structure of African American extended family networks, it is plausible that several other members of the family interact with the family's children and may influence their dietary and physical activity behaviors. The extensive involvement of grandparents and other family members in the rearing of and caring for children has health implications. Taylor and Roberts[165] contend that when African American female primary caregivers of low socioeconomic position perceive a greater level of support from their adult kin, there is greater overall well-being for the caregivers and their children, with caregivers displaying more supportive behaviors toward their children. In addition, regular, active involvement of and engagement with extended family members may reduce the potentially negative effects of single parenting, particularly for children belonging to families of lower socioeconomic position; these children are often better behaved and more adept at making social adjustments, which may be due to the support of extended family members.[5]

Sear and Mace[166] conducted a review of the literature to understand how members of the child's nuclear and extended family affect child survival, and the findings suggest that in some cases, grandmothers have a greater protective effect against child mortality than do fathers. Furthermore, the review indicates that paternal grandmothers and maternal grandmothers have differing effects on child survival and well-being, which is

due, in part, to different relationship dynamics with the child's mother. Grandfathers, on the other hand, appear to have little to no effect on child survival, while aunts and uncles, whether paternal or maternal, have varying effects depending on family structure and resource distribution. Although the Sear and Mace[166] review included studies set in various international settings (i.e., Kenya, Canada, and the Caribbean, etc.), their findings may have child health implications for African American families in which mothers and grandmothers typically play the most active role in children's lives.[153]

Based on an extensive review of the literature, there is clearly a need for more research on the influence of extended family members, both in general and specific to African Americans, on the dietary and physical activity behaviors of children within their extended family networks. The existing literature indicates that extended family members may influence children's dietary behaviors.[6,7] More specifically, these studies indicate that children, primary caregivers, and grandparents engage in intergenerational communication in efforts to adopt and encourage healthier dietary behaviors;[7] in addition, there may be matrilineal influences on mothers' food choices, which, in turn, may influence the dietary patterns and behaviors of children.[6] These influences may be greater among urban African American families, particularly those of lower socioeconomic position, due to the extensive engagement of extended family members in the care and socialization of children.[154,162] Additional research is needed to determine the potential influence extended family members may have on children's physical activity behaviors.[129]

# 3.0 RESEARCH DESIGN AND METHODS

This study took place in two phases and spanned a total of 23 months, from the start of data collection for the first phase (September 2008) to the end of data collection for the second phase (August 2010). Phase 1, the Childhood Neighborhood Study, included the collection of quantitative and qualitative data to examine multiple household and neighborhood factors related to childhood obesity. At the onset of the Childhood Neighborhood Study, Phase 2, the Extended Family Follow-Up Study, was not planned. During data collection and analyses for Phase 1, themes related to extended family networks emerged, and Phase 2 was developed to explore those themes in greater depth. Detailed methodologies for both phases of the study are described below. The Johns Hopkins Medicine Institutional Review Board approved the research protocols for each phase.

## 3.1 PHASE 1: THE CHILDHOOD NEIGHBORHOOD STUDY

The Childhood Neighborhood Study (Phase 1) was a cross-sectional, mixed-methods study that explored children's dietary and physical activity behaviors within the context of family- and neighborhood-level factors of racial/ethnic disparities. The underlying purpose of the study was to gain a better understanding of how these factors

may influence the risk and development of childhood obesity. Recruitment and data collection procedures for Phase 1 were conducted between September 2008 and January 2009. Figure 1 depicts the research design for Phase 1.

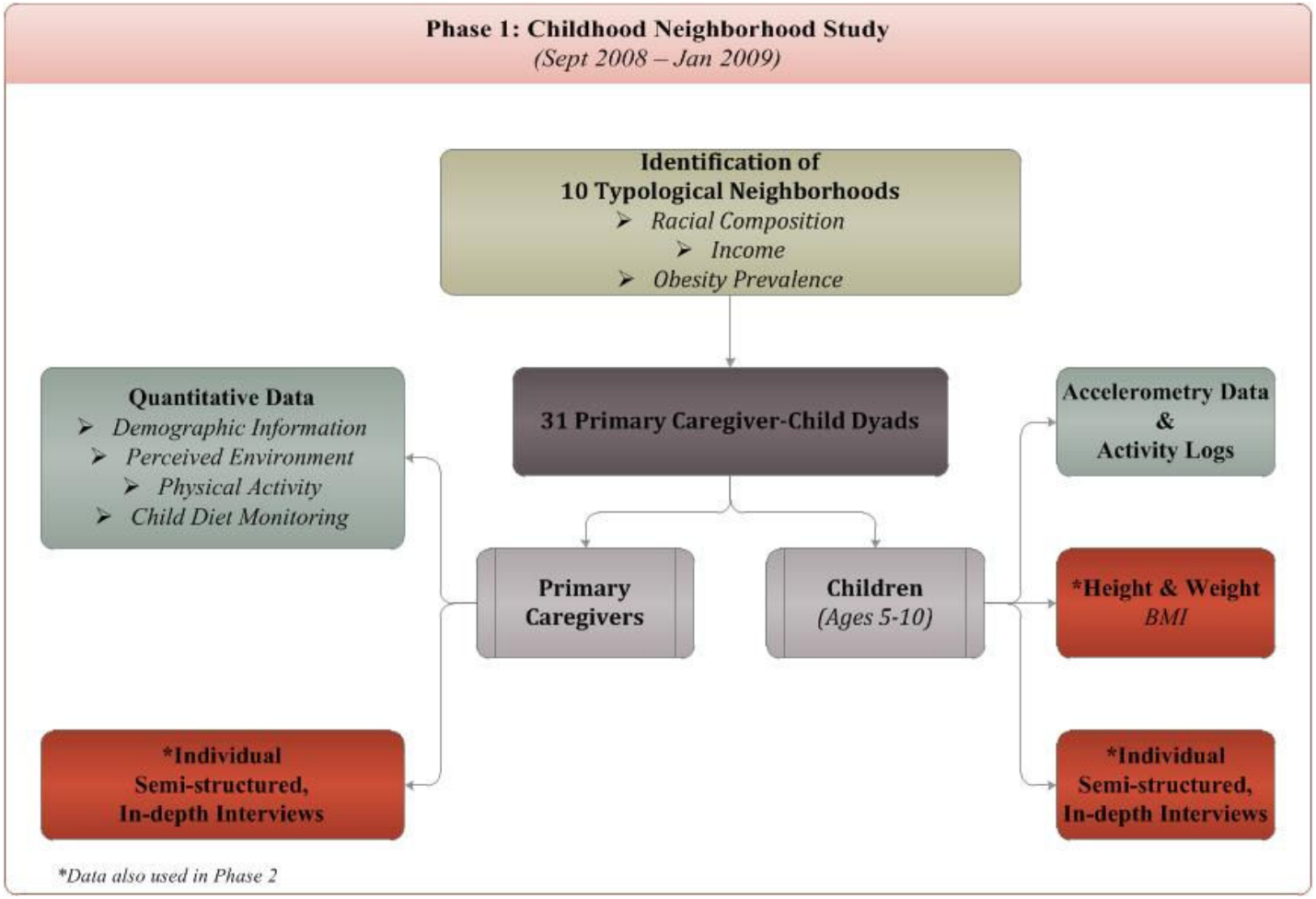



**Figure 1. Phase 1 Research Design**

### 3.1.1 Recruitment Strategy

The initial sampling frame for Phase 1 was a group of 8 Baltimore City neighborhoods that were selected based on the estimated obesity prevalence, percent of households with annual incomes below the poverty level, and percent of racial/ethnic minorities. The estimated obesity prevalence data for each neighborhood were obtained from the Neighborhood Influences on Adolescent and Young Adult Health Study, which was conducted by senior members of the study's research team; neighborhood poverty and racial/ethnic composition data were obtained via publicly available Census data sets. The sampling frame was expanded to include two additional neighborhoods to help increase the study sample's proportion of participants who were not African Americans. Table 5 details each neighborhood and its corresponding characteristics.

**Table 5. Phase 1: Neighborhood Characteristics**

| Neighborhood | Neighborhood Obesity Prevalence | Neighborhood Poverty | Neighborhood Racial/Ethnic Composition |
|---|---|---|---|
| 1 | HIGH | HIGH (59.8%) | >65 Minority |
| 2 | HIGH | MODERATE (22.4%) | <65% Minority |
| 3 | HIGH | LOW (6.3%) | >65% Minority |
| 4 | HIGH | LOW (13.1%) | <65% Minority |
| 5 | MODERATE | MODERATE (23.3%) | <65% Minority |
| 6 | LOW | MODERATE (29.5%) | >65% Minority |
| 7 | LOW | MODERATE (20.4%) | <65% Minority |
| 8 | LOW | LOW (2.9%) | >65% Minority |
| 9 | LOW | LOW (6.1%) | <65% Minority |
| 10 | LOW | LOW (13.9) | <65% Minority |

Adult residents of each neighborhood were contacted and screened via door-to-door recruitment. Those who spoke English and were primary caregivers of children (5 to 10 years of age) were eligible for study inclusion and were referred to the research team. Eligible primary caregivers were contacted by phone, and those who agreed to participate were scheduled for an in-home interview session; 31 primary caregiver-child dyads were successfully enrolled and completed participation in Phase 1. The majority of the primary caregivers were African American females (71%), and there were more African American boys than any other gender-race/ethnicity group. The average age of the children was approximately 8 years. Table 6 presents a matrix of the demographic characteristics of the study sample.

**Table 6. Phase 1: Participant Demographic Characteristics**

| | African American *n* (%) | White *n* (%) | Other *n* (%) | Total *n* (%) |
|---|---|---|---|---|
| **Adult, Male** | 2 (6%) | 1 (3%) | 0 | 3 (10%) |
| **Adult, Female** | 20 (65%) | 6 (19%) | 2 (6%) | 28 (90%) |
| **Total** | 22 (71%) | 7 (23%) | 2 (6%) | 31 |
| | | | | |
| **Child, Male** | 13 (42%) | 4 (13%) | 2 (6%) | 19 (61%) |
| **Child, Female** | 10 (33%) | 0 | 2 (6%) | 12 (39%) |
| **Total** | 23 (74%) | 4 (13%) | 4 (13%) | 31 |

### 3.1.2 Interview Procedures

The research team collected several forms of data from each primary caregiver-child dyad. The primary method of data collection involved conducting semi-structured, in-depth interviews with each of the children and their primary caregivers. Primary caregiver and child interviews were conducted separately and simultaneously, with all primary caregiver interviews being conducted by the same research assistant and the child interviews being conducted by one of the two additional research assistants. The primary caregiver interviews were designed to elicit data concerning the neighborhood (i.e., safety, availability of physical activity-related option, etc.) and household factors (i.e., composition, parental monitoring of child behavior, etc.). To supplement the primary caregiver interview guide and encourage discussion of neighborhood characteristics that may influence family routines around diet and physical activity, maps of each neighborhood were created with symbols to represent schools, food sources, and

physical activity venues. In addition, the child interview guide was accompanied by a series of pictures to help children identify foods and activities that were a part of their day-to-day routines. Each of the interviews was audio recorded and transcribed using a professional transcription service.

Quantitative surveys were used to collect data concerning primary caregivers' perceived environment (i.e., the Twin Cities Walking Survey), physical activity (i.e., the International Physical Activity Questionnaire), and child diet monitoring (i.e., the Child Feeding Questionnaire). The children wore accelerometers to facilitate data collection about their physical activity intensity levels. The accelerometers were worn during two 4-hour periods, one on a weekday and one during a weekend day, and provided data to indicate whether the children were sedentary or active while wearing the accelerometers. Data from the accelerometers were supplemented with primary caregivers' reports of the children's activities while wearing the accelerometers; these reports were collected to help provide context to the data produced by the accelerometers. Children's height and weight were also collected to determine their body mass indices.[1]

### 3.1.3 Data Analysis

Analysis for Phase 1 data began with coding the primary caregiver interviews using the Atlas.ti qualitative data analysis software.[167] A grounded theory approach was utilized by two coders to develop an initial list of codes, which were compared and developed into a

[1] The children's height, weight, and weight status based on the CDC's BMI-for-age categories (underweight, healthy weight, overweight, obese) were shared with the primary caregivers. If the primary caregivers raised additional questions or concerns about this information, they were advised to speak with the child's pediatrician.

final coding schema through an iterative process.[168] Using a sample of the primary caregiver interviews, the final coding scheme was also tested for inter-coder reliability prior to coding the entire set of primary caregiver interview transcripts.

## 3.2 PHASE 2: THE EXTENDED FAMILY FOLLOW-UP STUDY

The Extended Family Follow-Up Study (Phase 2) was designed to build upon and extend the Childhood Neighborhood Study (Phase 1) by conducting a more detailed examination of the family-level factors related to childhood obesity, particularly among urban African American children and their extended family networks. Figure 2 illustrates the research design for Phase 2.

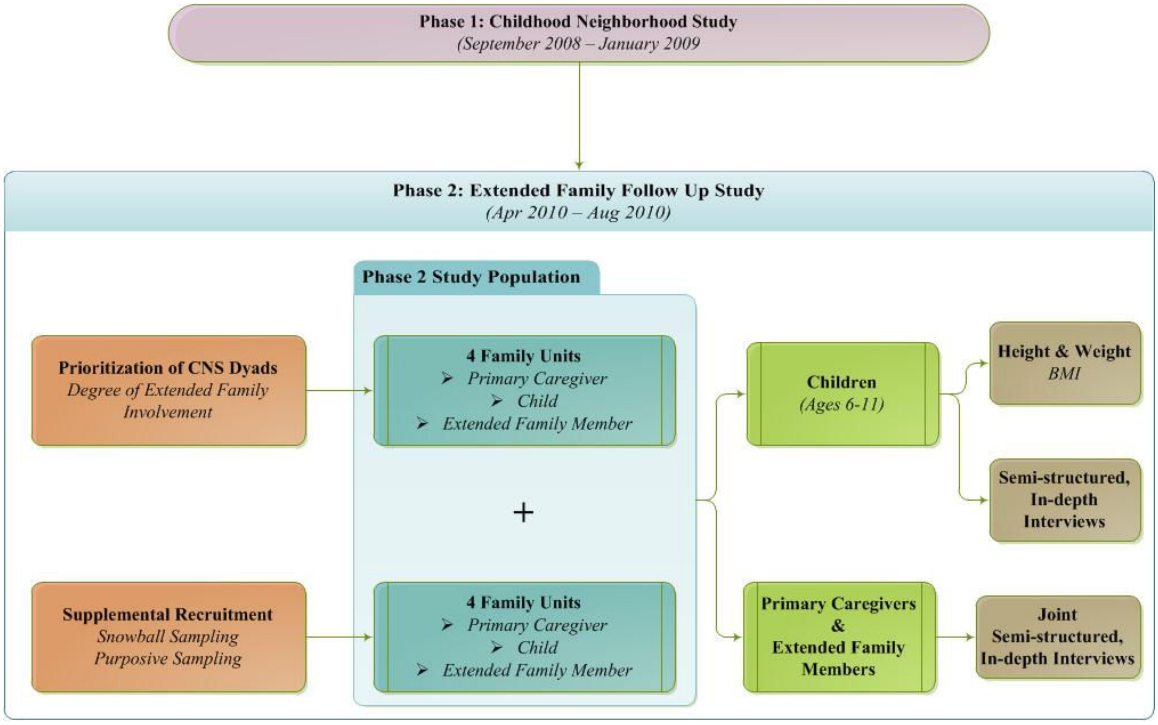



**Figure 2. Phase 2 Research Design**

### 3.2.1 Recruitment Strategy

Five recruitment categories were developed based on reviews of the primary caregiver and child interviews from Phase 1. These categories reflected the extent to which extended family members were involved in the child's physical activity, dietary, and/or general practices or routines and the subsequent anticipated degree of influence on the child's weight-related behaviors. For example, it was hypothesized that children residing in multi-generational and/or blended family households would experience a greater degree of interaction with and influence from extended family members, as compared to children who did not have any extended family members in the Baltimore Metropolitan Area.

Table 7 lists the five categories, in order of greatest to lowest recruitment priority, as well as the number of primary caregiver-child dyads assigned to and interviewed from each category for Phase 2. There was no prioritization of individual families within each category. One primary caregiver-child dyad from Phase 1 was excluded because of the child's developmental and special needs status,[2] leaving a sampling frame of 30 primary caregiver-child dyads. All other primary caregiver-child dyads from Phase 1 were eligible to participate if the primary caregiver (a) still resided with and was the legal guardian of the child who participated in Phase 1; (b) was willing to allow the child to complete a 30-45-minute interview and to allow the child's height and weight measurement for Phase 2; and (c) was willing to identify and complete an interview with an adult member of the

[2] This dyad was excluded due to the child's difficulty in completing the Phase 1 interview and the primary caregiver's description of the child's general, dietary, and physical activity needs, behaviors, and routines that were markedly different from those described by other primary caregivers.

child's biological or fictive extended family, with the understanding that some information from the Phase 1 interview might be shared with the extended family member. Fictive kin encompassed individuals who were not biologically related to the primary caregiver and/or child but were considered by the primary caregiver to be "like family" and/or have a significant secondary caregiver role for the child; this was allowed because of the traditionally dynamic structure of African American families, in which the inclusion of fictive kin is common.[5,45,46] Each participating primary caregiver-child dyad from Phase 1 was combined with their respective extended family members to create a family unit for Phase 2.

**Table 7. Phase 2 Recruitment Priority Strategies**

| Category | Phase 1 PC-Child Dyads (*n*) | Phase 2: Recruited & Interviewed (*n*) | Phase 2: Other Recruitment Outcomes (*n*) |
|---|---|---|---|
| Multi-generational households | 8 | 1 | Ineligible (1)<br>Loss to follow-up (6) |
| Extensive EFM involvement AND influences and/or differences in diet/physical activity discussed explicitly by child and/or PC | 10 | 2 | Ineligible (2)<br>Loss to follow-up (4)<br>Refusal (2) |
| General, extensive EFM involvement discussed by child and/or PC | 7 | 1 | Loss to follow-up (5)<br>Refusal (1) |
| Extended family not in Baltimore, but visit regularly | 2 | 0 | Loss to follow-up (2) |
| Extended family not in Baltimore nor discussed by child or PC | 3 | 0 | Loss to follow-up (2)<br>Refusal (1) |
| **Total** | **30** | **4** | **26** |

Due to loss to follow-up ($n$ = 19), lack of eligibility ($n$ = 3), and refusal to participate ($n$ = 4), only 4 of the primary caregiver-child dyads from Phase 1 were successfully contacted and scheduled to complete an interview with their extended family members for Phase 2. The high rate of families loss to follow-up may have been attributable to several factors, one of which was likely the 20 months that lapsed between the start of the data collection periods for Phase 1 and Phase 2. In addition, at the time of data collection for Phase 1, almost half of the primary caregivers in the sampling frame indicated that they were renting their residences ($n$ = 14), and more than one-third of the primary caregivers provide cellular telephone numbers as their main form of contact ($n$ = 11), indicating that this group of the families may have been quite transient, thereby decreasing likelihood that they could be successfully contacted after 20 months.

A combination of snowball and purposive sampling methods was employed to supplement this sample with appropriate family units that had participated in Phase 1. Snowball sampling was implemented by requesting referral information for potential participants from each family unit after its interviews for Phase 2 were completed. Purposive sampling was used to identify and recruit potential family units during a "National Night Out 2010" event sponsored by several community-based organizations located in and/or providing services to the Oliver neighborhood of East Baltimore.

A primary caregiver identified through snowball and purposive sampling was eligible for participation if he/she (a) was a resident of Baltimore City (b) resided with and was the legal guardian of a child who was 6 to 13 years of age; (c) was willing to allow the child to complete a 30-45 minute interview and have his/her height and weight measured; and (d) was willing to identify and complete a 1-hour interview with an adult

member of the child's biological or fictive extended family. The 6 to 13 year-old age range was established to correspond with the expected age range of Phase 1 child participants at the time data was collected for Phase 2. Because Phase 2 did not focus on neighborhood-level factors of childhood obesity, there were no neighborhood-specific residency requirements. Four additional family units were successfully recruited and interviewed for Phase 2 using this sampling strategy, creating a final sample consisting of 4 family units whose primary caregiver and child participated in both phases of the study, 2 family units that were identified via snowball sampling, and 2 family units that were identified via purposive sampling.

### 3.2.2 Research Assistant Recruitment and Training

Two undergraduate students and one doctoral level graduate student served as research assistants (RAs) for Phase 2. The undergraduate students were recruited via a brief informative talk held during a course that was primarily composed of students majoring in Public Health Studies. Students were informed of the primary responsibilities of the position (i.e., conducting in-home interviews within Baltimore City children and writing summaries of the interview experiences) and were asked to have a history of positive experiences with working with children and foster a genuine interest in public health and/or qualitative research.

One male and one female student were selected to fill the RA positions. Each of the RAs completed research ethics education and training modules as required by the Johns Hopkins Medicine Institutional Review Board. In addition, the RAs completed 2 training sessions to prepare them for conducting interviews with children. During the first

training session, the RAs were provided with a complete description of the study, including the purpose, aims, and research questions; additional details concerning their responsibilities as RAs; and sample documents from Phase 1 (i.e., sample child interview transcripts and corresponding post-interview summaries) to help illustrate the structure of the child interviews and further clarify what would be expected of the post-interview summaries.

The second training session consisted of conducting pilot interviews. Two children were identified from the same family unit and were interviewed separately, but simultaneously, by the RAs. After the interviews were completed, the children provided the research team with general feedback concerning their interview experiences. This feedback was discussed at the team's debriefing session that took place after the pilot interviews. After I reviewed the audio files and post-interview summaries for the pilot interviews, additional feedback concerning the strengths and weaknesses of the RAs' interviews was also provided. To help increase the RAs' understanding of what was required in the summaries, the post-interview summaries were shared with the entire team, highlighting the strengths and weaknesses of each.

Early in the Phase 2 data collection process, the female RA became unavailable to continue assisting with the interviews. A doctoral level graduate student, who had extensive experience with conducting semi-structured, in-depth interviews with children and adolescents from various neighborhoods across Baltimore City, replaced her. The graduate student conducted 2 interviews, the male RA conducted 4 interviews, and the female RA conducted 2 interviews. Although each of the undergraduate RAs was paid

$10.00 per hour for their work with the study, the graduate student volunteered her time to conduct the interviews.

### 3.2.3 Interview Procedures

Each family unit participated in semi-structured, in-depth interviews that took place in the home of the primary caregiver. The interviews required one visit to the home, during which time a research assistant conducted a one-on-one interview with the child, while I conducted a joint interview with the primary caregiver and extended family member. The average lengths for the child and primary caregiver-extended family member interviews were 40 and 50 minutes, respectively. Each adult was compensated for participation with a $25.00 gift card for a local retail store, and each child received a $5.00 gift card for a local retail store, an age appropriate book, and a bookmark. The interviews were audio recorded and transcribed verbatim by a professional transcription service. Within 48 hours of each interview, each interviewer completed a post-interview summary; the summary included a description of the overall interview experience and any notable actions and communications that took place during the interview. A sample post-interview summary may be found in Appendix B.

The interviews were conducted using interview guides that were piloted on two family units that did not participate in either phase of the study. A review of the pilot interview transcript and audio files, as well as feedback from the pilot participants, was used to revise the interview guide questions as needed. These revisions were primarily needed to help improve clarity of the interview questions and the degree to which they addressed the research questions and study aims. Following the methodology of Phase 1,

picture-based prompts were developed to accompany the children's interview guide. Pictures were compiled and grouped together to provide children with examples of different types of physical activities and diet-related practices. There were corresponding questions developed for each group of pictures; these questions were designed to solicit the children's discussion of what, if any, differences in how they experienced the activity or practice when in the care of their extended family members as compared when in the care of their primary caregivers. Figure 2 provides examples of prompts used for physical activity and diet-related questions. Prior to the start of the interview, each child's height and weight measurements were obtained to facilitate BMI-for-age calculations.

**Figure 3. Sample Child Interview Guide Picture Prompts**

The guide for the primary caregiver-extended family member interviews was more detailed and designed to prompt the adults' discussion of differences and/or similarities in how they taught the children about physical activity and dietary norms, motivations for their teaching strategies, and what aspects of physical activity and diet they felt were most important for the children to learn. In addition, questions were posed to solicit the primary caregivers' and extended family members' discussion of the culture

of their extended family networks, as well as their perceptions of the influence of the extended family networks on the family unit's day-to-day physical activity and diet-related practices. Although interview guides were used for all interviews, the semi-structured interview format allowed for flexibility during the interviewing process, allowing me to reorder and reword the questions and probes as appropriate; this format also allowed the participants some freedom in discussing topics that were not directly related to the questions I posed, but may have provided additional meaning and context to the topics of interest.[169] The complete interview guides for the primary caregiver-extended family member and child interviews may be found in Appendix A.

### 3.2.4 Data Analysis

Within 48 hours of each interview, post-interview summaries and audio files were reviewed in order to begin the data immersion process. The audio files were reviewed again upon receipt of each interview transcript to ensure the accuracy of the transcripts, and all participant names were changed to pseudonyms prior to further analysis. The transcripts, audio files, and post-interview summaries were reviewed at several other points during the data analysis to help facilitate further discovery of meaning in the participants' statements; notations were taken, as appropriate, during each review.

A simplified grounded theory approach was used to guide coding of the transcripts.[168] This approach allowed for the identification of concepts included in the interview guides, as well as additional concepts that emerged during the course of the interviews.[168] The iterative coding process began with open coding of the adult interview transcripts. In this stage of coding, I focused on identifying and providing preliminary

labels for concepts that were present in the data. Upon continued review of the transcripts, emergent concepts were arranged into an initial categorical scheme. The scheme was used to recode the adult interview transcripts, and additional codes were added to the scheme as concepts continued to emerge from the data; segments of the data were compared to determine whether codes were appropriately assigned and reflected the same concept within and across the family units.

A "constant comparison" method of analytic review was used until saturation was achieved (i.e., no new codes were identified) and to help maintain the context in which the experiences of the participants occurred and increase the generalizability of the data.[168,170] The final coding scheme was used for all of the Phase 2 transcripts. It was developed from the adult interview transcripts because they were more detailed in nature and included more simple concepts that were captured in the child interview transcripts. To help improve the validity of the data analysis process, several versions of the coding scheme were shared with the graduate-level research assistant who conducted all of the adult interviews for Phase 1 and provided feedback on improving the clarity of codes and the description assigned to each of the codes.

Data from Phase 1 were used to supplement the Phase 2 data as necessary and appropriate. Using the previously coded primary caregiver interviews from Phase 1, data bearing the codes "Extended family" and/or "Other family involvement", either used alone or in conjunction with the codes "Household organization", "Eating behaviors", "Physical activity behaviors", and/or "Parenting behaviors", were extracted to help provide greater context for and meaning to the Phase 2 data. With the exception of the families included in the detailed case studies, the Phase 1 child interview transcripts were

not coded using either coding scheme; for the four families that were included in the case studies, the codes listed above from the Phase 1 coding scheme were used to identify data most relevant to the current work. The in-depth analysis was facilitated using Atlas.ti qualitative data analysis software,[167] and the final coding scheme for Phase 2 can be found in Appendix B.

### 3.2.5 Justification of Methods

This research utilizes a cultural approach to examine the dietary and physical activity behaviors of children and their families. According to Wilson,[171] the cultural approach operates under 3 primary assumptions: 1) African American family structures vary as a result of personal, situational, and demographic factors; 2) African American culture originates within African heritage, is linked to the African Diaspora, and is expressed within the larger American societal context; and 3) as racial/ethnic minorities, African American cultural values and beliefs help to define the cultural group and distinguish it from other ethnic and/or cultural groups in the United States. When adopting this approach, the unit of analysis is the extended family structure, rather than individual family members or the immediate family.[152,171]

The cultural approach allows for the use of qualitative methods to further understand the meaning of behaviors and contexts in which behaviors take place. Interviewing is a form of ethnography that has demonstrated usefulness when the goal of the research is to generate hypotheses and theories and to enhance understanding of social phenomena from the perspective of the research participant.[168,172] This methodology encourages the participant to speak in-depth about the topic at hand and

provide insight to the meaning given to the phenomena by the participant.[168,172] Several studies have illustrated the usefulness of interviewing when conducting research concerning phenomena that take place within the context of the family,[6,173-176] and, this methodology, along with similar ethnographic methods, such as focus groups and participant observations, has frequently been used in research specific to the health and well-being of the African American family.[5,152,154,174,175,177] Furthermore, as noted by Donalek,[176] collective family interviews are appropriate and can be particularly useful when seeking to understand issues that may challenge and/or be addressed by the family as a whole. Phase 2 incorporates these methods through the formation of intergenerational family units that are engaged in semi-structured, in-depth interviews designed to elicit information about the meaning of the dietary and physical activity behaviors of the families, as well as the cultural values and norms that inform those behaviors.

# 4.0 MANUSCRIPT ONE: "WE'VE GOT A HUGE FAMILY.": EXPLORING INFLUENCES ON CHILDREN'S WEIGHT-RELATED BEHAVIORS WITHIN THE FAMILIAL CONTEXT: A CASE STUDY ANALYSIS

## 4.1 ABSTRACT

**Background:** Childhood obesity is a public health issue of increasing import and with long-term implications for the health status throughout the life course.[1,63] The family and/or household environment has a significant influence on children's weight-related behaviors.[30,178,179] Traditionally, extended family members in African American families play a significant role in socializing children to adopt cultural norms.[4,5] Furthermore, African American extended family networks are often characterized by a high degree of family-based collectivism, which often leads to multigenerational households and the provision of various types of support among family members.[5,46] There is also evidence to suggest that within immediate family units, parents differ in how they socialize children to adopt dietary behaviors,[55] and grandparents may directly or indirectly influence children's dietary routines.[6,7] Given the importance of extended family networks among African Americans and the potential influence of extended family members on these behaviors, gaining an improved understanding of the family and/or household contexts in which the children are socialized may provide insight for

developing improved interventions to address childhood obesity for African American children and their families.

**Methods:** The purpose of this two-part study is to explore how extended family members interact with the children and how extended family members differ from primary caregivers in regards to the mechanisms they use to socialize children to adopt familial and cultural norms related to diet and physical activity. In-depth, semi-structured interviews were conducted to elicit information regarding general neighborhood and household factors influencing children's dietary and physical activity practices (Phase 1 interviews), and familial and cultural norms related to those practices, as well as differences in how primary caregivers and extended family members socialize children to adopt those norms (Phase 2 interviews).

**Findings:** The first phase of the study included 31 primary caregiver-child dyads, and the second phase included 24 individuals across 8 family units (i.e., one child, one primary caregiver, and one extended family member per family unit). This paper presents case studies of 4 families that participated in both phases of the study. One child was 6 years old, and the remaining three children were 11 years old. All of the primary caregivers were the biological mothers of the children, and with the exception of one family unit in which the extended family member was the child's maternal cousin, all of the extended family members were maternal grandmothers of the children. Primary emergent themes related to physical activity behaviors indicate that mothers and extended family members are aware of children's need for physical activity, but the degree to which physical

activity was facilitated, as well as the motives for doing so, varied across family units. Primary themes related to dietary behaviors indicate that mothers and extended family members value and teach children to value food-based family traditions; in addition, grandmothers had distinct roles related to meal preparation.

**Conclusion:** The findings of this case study analysis indicate that extended family members may influence children's dietary and physical activity behaviors, with grandmothers having a distinct influence on dietary behaviors. Future work will include detailed analyses of how family-based collectivism may be related to extended family members' influences on children's dietary and physical activity behaviors.

## 4.2 INTRODUCTION

The development of overweight and obesity among children may be attributed to a complex set of social determinants, including, but not limited to, school environment, neighborhood resources, and family and household environment. Despite knowledge of these influences on the behaviors that either promote or inhibit a healthy weight status, interventions addressing one or more of these areas of influence have experienced limited success in reducing the problem of childhood obesity.[84,91,95,96] It is plausible that there remains a need for a greater understanding of the "how" and "why" of these and other factors' influence on children's weight status. This may be especially true when seeking to develop obesity interventions for children of color, among whom there are notably and persistently higher rates of overweight and obesity.[71] More specifically, given the

dynamic nature of African American families and households, the exploration of the relationship between child weight status and the family and household environment may be particularly important for developing culturally appropriate obesity interventions for African American children.

Existing literature suggests that parental teaching and parental behaviors have a joint effect on children's behaviors, with parental teaching being a greater determining factor of childhood behaviors, and parental behaviors observed during childhood having a greater influence on planned adulthood behaviors.[180] To some degree, parental teaching and behaviors are likely to be influenced by cultural norms.[97,98] According to Crawford et al.,[11] cultural dietary norms play a significant role in the dietary behaviors of children. Not only can a child learn his familial or cultural foodways (i.e., "…the procurement, preparation, and consumption of food"[37, para. 1]) directly from his parents, but also indirectly from extended family members, who may serve as secondary caregivers and/or influence the diet-related decisions made by the parents.[6]

Compared to White adolescents, African American adolescents are less likely to meet physical activity recommendations.[125] Similar to dietary behaviors, the lack of physical activity among African American may be partially influenced by behaviors exhibited by their parents and grandparents. As noted by Eyler et al.,[33] African American women report that because their parents and caregivers were not role models who regularly exercised, they were not exposed to or taught how to engage in regular exercise. Given the role of parental teaching and behaviors in a child's current and future behaviors, it is plausible that the lack of teaching and modeling a physically active lifestyle may be repeated in subsequent generations.

The tendency for African American children to receive socialization of cultural norms related to dietary, physical activity, and other behaviors from extended family members is due, in part, to the high degree of family-based collectivism that may be displayed within many African American families.[5,46] This can be characterized and exhibited in many ways, including a general sense of closeness among the family members, as well as the greater perceived and actual accountability for and support provided to family members.[45,46,181] The result of family-based collectivism is often multigenerational, extended family networks in which the structure and functioning are inherently designed to improve the quality of life for the family at large.[45,46]

This paper presents the initial findings of a two-part, cross-sectional study designed to qualitatively examine cultural and familial influences on the physical activity and dietary behaviors of African American children residing in Baltimore City, Maryland. More specifically, the study seeks to explore the roles of extended family members in socializing children to adopt dietary and physical activity behaviors and related cultural norms. The primary research question guiding this portion of the study and data analysis is "How, if at all, are children's dietary and physical activity behaviors associated with the children's relationships with extended family members?" Detailed case studies of family units are presented to address the main objectives of this portion of the data analysis, which were: 1) to illustrate the children's dietary and physical activity behaviors within the contexts of the home environment and immediate and extended family influences, and 2) to describe the behavior monitoring and socialization strategies the children experienced, framed within the contexts of differences and similarities

between the strategies employed by the primary caregivers and extended family members.

## 4.3 METHODS

This study took place in two phases and spanned a total of 23 months, from the start of data collection for the first phase (September 2008) to the end of data collection for the second Phase (August 2010). Phase 1, the Childhood Neighborhood Study, included the collection of quantitative and qualitative data to examine multiple household and neighborhood factors related to childhood obesity. At the onset of the Childhood Neighborhood Study, Phase 2, the Extended Family Follow-Up Study, was not planned. During data collection and analyses for Phase 1, themes related to extended family networks emerged, and Phase 2 was developed to explore those themes in greater depth. Detailed methodologies for both phases of the study are described in Chapter 3 of this thesis, and an abbreviated description is provided below. For this work, these methods have shaped the development of detailed case studies of four families that participated in both phases of the study. The Johns Hopkins Medicine Institutional Review Board approved the research protocols for each phase.

### 4.3.1 Phase 1: The Childhood Neighborhood Study

The Childhood Neighborhood Study (Phase 1) was a cross-sectional, mixed-methods study that explored children's dietary and physical activity behaviors within the context

of family- and neighborhood-level factors of racial/ethnic disparities. The underlying purpose of the study was to gain a better understanding of how these factors may influence the risk and development of childhood obesity. Recruitment and data collection procedures for Phase 1 were conducted between September 2008 and January 2009.

#### 4.3.1.1 Recruitment Strategy and Interview Procedures

Adults were eligible for participation in Phase 1 if they 1) resided in one of the 10 target neighborhoods selected based on estimated obesity prevalence, income, and racial/ethnic composition; 2) were primary caregivers of children (ages 5 to 10 years); and 3) spoke English. Thirty-one primary caregiver-child dyads were successfully enrolled and completed participation in Phase 1. The majority of the primary caregivers were African American females (71%), and there were more African American boys (42%) than any other gender-race/ethnicity group. The average age of the children was approximately 8 years.

The research team collected several forms of data from each primary caregiver-child dyad. The primary method of data collection involved conducting semi-structured, in-depth interviews with each of the children and their primary caregivers. Primary caregiver and child interviews were conducted separately and simultaneously. The primary caregiver interview guides were designed to elicit data concerning the neighborhood (i.e., safety, availability of physical activity-related option, etc.) and household factors (i.e., composition, parental monitoring of child behavior, etc.). The child interview guide was designed to encourage discussions about the children's day-to-day routines and was accompanied by a series of pictures to help children identify foods

and activities that were a part of those routines. Each of the interviews was audio recorded and transcribed using a professional transcription service.

Quantitative surveys were used to collect data concerning primary caregivers' perceived environment, physical activity, and child diet monitoring. The children wore accelerometers during two 4-hour periods, one on a weekday and one during a weekend, to facilitate data collection about their physical activity intensity levels. Data from the accelerometers were supplemented with primary caregivers' reports of the children's activities while wearing the accelerometers; these reports were collected to help provide context to the accelerometer data. Children's height and weight were also collected to determine their body mass indices.

#### 4.3.1.2 Data Analysis

Analysis for Phase 1 data began with coding the primary caregiver interviews using Atlas.ti qualitative data analysis software.[167] A grounded theory approach was utilized by two coders to develop an initial list of codes, which were compared and developed into a final coding schema through an iterative process.[168] Using a sample of the primary caregiver interviews, the final coding scheme was also tested for inter-coder reliability prior to coding the entire set of primary caregiver interview transcripts.

### 4.3.2 Phase 2: The Extended Family Follow-Up Study

The Extended Family Follow-Up Study (Phase 2) was designed to build upon and extend the Childhood Neighborhood Study (Phase 1) by conducting a more detailed examination of the family-level factors related to childhood obesity, particularly among urban African

American children and their extended family networks. Figure 4 illustrates the research design for Phase 2.

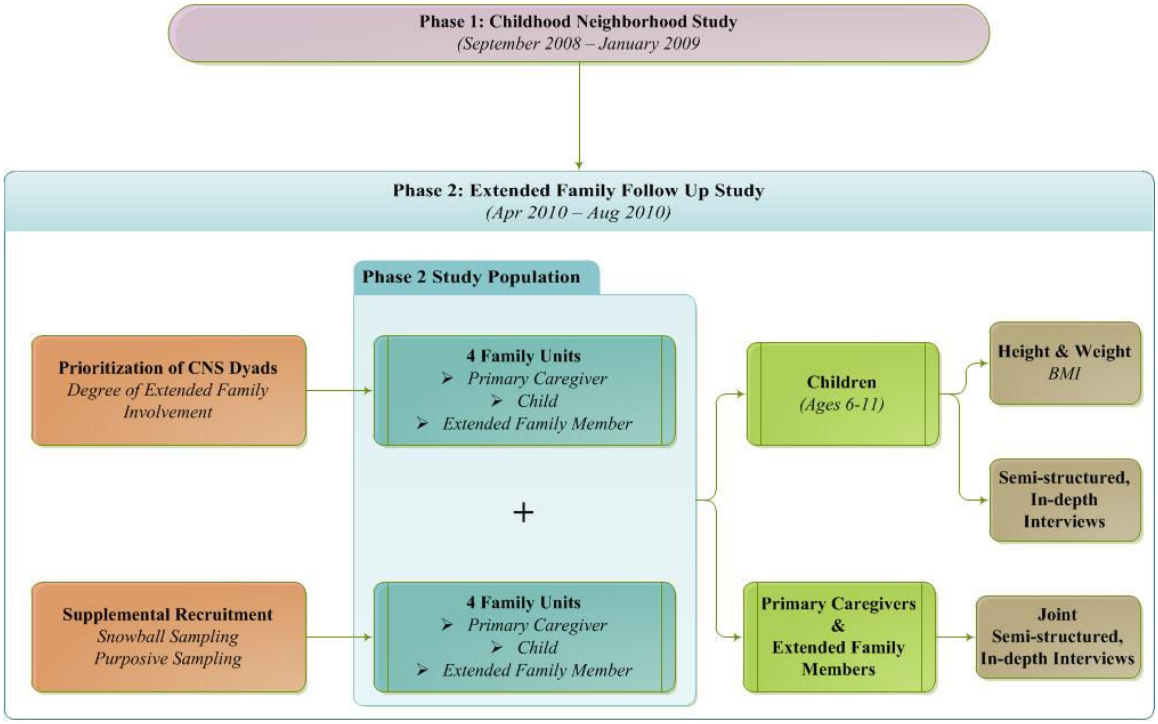



**Figure 4. Phase 2 Research Design**

#### 4.3.2.1 Recruitment Strategy

Five recruitment categories were developed based on reviews of the primary caregiver and child interviews from Phase 1. These categories reflected the extent to which extended family members were involved in the child's physical activity, dietary, and/or general practices or routines and the subsequent anticipated degree of influence on the child's weight-related behaviors. Table 8 lists the five categories, in order of greatest to lowest recruitment priority, as well as the number of primary caregiver-child dyads assigned to and interviewed from each category for Phase 2. Primary caregivers who agreed to participate in Phase 2 were asked to identify one adult member of the child's

biological or fictive extended family who would also be willing to participate in Phase 2. Each participating primary caregiver-child dyad from Phase 1 was combined with their respective extended family members to create a family unit for Phase 2.

**Table 8. Phase 2 Recruitment Priority Strategies**

| Category | Phase 1 PC-Child Dyads (*n*) | Phase 2: Recruited & Interviewed (*n*) | Phase 2: Other Recruitment Outcomes (*n*) |
|---|---|---|---|
| Multi-generational households | 8 | 1 | Ineligible (1)<br>Loss to follow-up (6) |
| Extensive EFM involvement AND influences and/or differences in diet/physical activity discussed explicitly by child and/or PC | 10 | 2 | Ineligible (2)<br>Loss to follow-up (4)<br>Refusal (2) |
| General, extensive EFM involvement discussed by child and/or PC | 7 | 1 | Loss to follow-up (5)<br>Refusal (1) |
| Extended family not in Baltimore, but visit regularly | 2 | 0 | Loss to follow-up (2) |
| Extended family not in Baltimore nor discussed by child or PC | 3 | 0 | Loss to follow-up (2)<br>Refusal (1) |
| **Total** | **30** | **4** | **26** |

Due to loss to follow-up ($n$ = 19), lack of eligibility ($n$ = 3), and refusal to participate ($n$ = 4), only 4 of the primary caregiver-child dyads from Phase 1 were successfully contacted and scheduled to complete an interview with their extended family members for Phase 2.[3] A combination of snowball and purposive sampling methods was employed to supplement this sample with appropriate family units. A primary caregiver

[3] The high rate of families loss to follow-up may have been attributable to several factors, including the 20 months that lapsed between the start of the data collection periods for Phase 1 and Phase 2, as well as the potentially transient nature of the Phase 1 families.

identified through snowball and purposive sampling was eligible for participation if he/she 1) was a resident of Baltimore City; 2) resided with and was the legal guardian of a child who was 6 to 13 years of age; and 3) was able to identify an adult member of the child's biological or fictive extended family who would also be willing to participate in Phase 2. Four additional family units were successfully recruited and interviewed for Phase 2 using this sampling strategy, creating a final sample consisting of 4 family units whose primary caregiver and child participated in both phases of the study, 2 family units that were identified via snowball sampling, and 2 family units that were identified via purposive sampling.

#### 4.3.2.2 Interview Procedures

Each family unit participated in semi-structured, in-depth interviews that took place in the home of the primary caregiver. The interviews required one visit to the home, during which time a research assistant conducted a one-on-one interview with the child, while I conducted a joint interview with the primary caregiver and extended family member. A post-interview summary was completed for each interview, and the interviews were audio recorded and transcribed verbatim by a professional transcription service.

Following the methodology of Phase 1, picture-based prompts (Figure 4) containing examples of different types of physical activities and diet-related practices were developed to accompany the children's interview guide, which was designed to solicit the children's discussion of what, if any, differences in how they experienced the activity or practice when in the care of their extended family members as compared when

in the care of their primary caregivers. Prior to the start of the interview, each child's height and weight measurements were obtained to facilitate BMI-for-age calculations.

**Figure 5. Sample Child Interview Guide Picture Prompts**

The guide for the primary caregiver-extended family member interviews was more detailed and designed to prompt the adults' discussion of differences and/or similarities in how they taught the children about physical activity and dietary norms, motivations for their teaching strategies, and what aspects of physical activity and diet they felt were most important for the children to learn. In addition, questions were posed to solicit the primary caregivers' and extended family members' discussion of the culture of their extended family networks, as well as their perceptions of the influence of the extended family networks on the family unit's day-to-day physical activity and diet-related practices. Although the interview guides were used for all of the interviews, the semi-structured interview format allowed for flexibility during the interviewing process, allowing me to reorder and reword the questions and probes as appropriate; this format also allowed the participants some freedom in discussing topics that were not directly related to the questions I posed, but may have provided additional meaning and context to the topics of interest.[169]

#### 4.3.2.3 Data Analysis

A simplified grounded theory approach was used to guide coding of the transcripts.[168] This approach allowed for the identification of concepts included in the interview guides, as well as additional concepts that emerged during the course of the interviews.[168] The iterative coding process began with open coding of the adult interview transcripts, followed by the arrangement of emergent concepts into an initial categorical scheme. The scheme was used to recode the adult interview transcripts, and additional codes were added to the scheme as concepts continued to emerge from the data; segments of the data were compared to determine whether codes were appropriately assigned and reflected the same concept within and across the family units.

A "constant comparison" method was used until saturation was achieved (i.e., no new codes were identified) and to help maintain the context in which the experiences of the participants occurred and increase the generalizability of the data.[168,170] The final coding scheme was used for all of the Phase 2 transcripts. It was developed from the adult interview transcripts because they were more detailed in nature and included more simple concepts that were captured in the child interview transcripts. To help improve the validity of the data analysis process, several versions of the coding scheme were shared with the graduate-level research assistant who conducted all of the adult interviews for Phase 1 and provided feedback on improving the clarity of codes and the description assigned to each of the codes.

Data from Phase 1 were used to supplement the Phase 2 data as necessary and appropriate. Using the previously coded primary caregiver interviews from Phase 1, data bearing the codes "Extended family" and/or "Other family involvement", either used

alone or in conjunction with the codes "Household organization", "Eating behaviors", "Physical activity behaviors", and/or "Parenting behaviors", were extracted to help provide greater context for and meaning to the Phase 2 data. With the exception of the families included in the detailed case studies, the Phase 1 child interview transcripts were not coded using either coding scheme; for the four families that were included in the case studies, the codes listed above from the Phase 1 coding scheme were used to identify data most relevant to the current work. The in-depth analysis was facilitated using Atlas.ti qualitative data analysis software.[167]

## 4.4 RESULTS

### 4.4.1 Study Participants

The final study sample was comprised of 24 individuals from eight family units (i.e., one child, primary caregiver, and extended family member from each family). With the exception of two individuals from one family unit, all of the participants identified themselves as African Americans; in the one family unit where this was the case, the extended family member was white and the primary caregiver identified herself as "multiracial", (i.e., white and African American). The children ranged in age from 6 to 11 years with an average age of 10, and 5 of the children were male. BMI values ranged from 17 to 33 and the children's BMI-for-age percentiles indicate that two children were of healthy weight, two children were overweight, and four children were obese. The children who were enrolled in both studies experienced a -1 to 4-point change in their

BMI values during the 20 months that lapsed between the two data collection periods. All of the primary caregivers were the biological mothers of the children, with the exception of one family unit in which the primary caregiver was the child's maternal grandfather, and all of the extended family members were maternal relatives of the children. Table 9 outlines each family unit, in the order in which the interviews took place, as well as the corresponding sampling methods and characteristics of the participating children and their primary caregivers and extended family members; pseudonyms are provided for participants discussed in the 4 case studies below.

Although there were no neighborhood-specific residency requirements for Phase 2, relevant, demographic data for the Neighborhood Statistical Area inhabited by the child and primary caregiver for each family unit were collected from the 2000 Census and the Baltimore Neighborhood Indicators Alliance-Jacob France Institute.[182,183] These data are presented to provide additional context for the primary data collected through the interviews. Table 10 details population, household, and income data for each family's neighborhood in the order in which the families were interviewed. The 4 families that are discussed in the case studies are highlighted in Tables 9 and 10.

**Table 9. Phase 2 Family Unit Characteristics**

| Child Characteristics | | | | | Primary Caregiver | | Extended Family Member | | Family Recruitment Method |
|---|---|---|---|---|---|---|---|---|---|
| Pseudo | Gender | Age | Child BMI (%tile)[4] | | Pseudo | Relationship to Child | Pseudo | Relationship to Child | |
| | | | Phase 1 | Phase 2 | | | | | |
| Madison | Female | 11 | 26 (>95th) | 25 (>95th) | Melissa | Mother | Betty | Maternal Grandmother | Phase 1 Participant |
| Ashlyn | Female | 6 | 16 (50th – 75th) | 17 (75th – 85th) | Dionne | Mother | Tracey | Maternal Cousin | Phase 1 Participant |
| Brandon | Male | 11 | 18 (75th – 85th) | 21 (85th – 90th) | Marie | Mother | Jeanne | Maternal Grandmother | Phase 1 Participant |
| Jordan | Male | 11 | 17 (50th – 75th) | 21 (85th – 90th) | Stephanie | Mother | Lynette | Maternal Grandmother | Phase 1 Participant |
| ----- | Male | 11 | ----- | 26 (>95th) | ----- | Mother | ----- | Maternal Grandmother | Snowball from Phase 1 |
| ----- | Male | 8 | ----- | 18 (75th – 85th) | ----- | Maternal Grandfather | ----- | Maternal Aunt | Snowball from Phase 2 |
| ----- | Female | 11 | ----- | 26 (>95th) | ----- | Mother | ----- | Maternal Aunt | Purposive Sampling |
| ----- | Male | 10 | ----- | 33 (>95th) | ----- | Mother | ----- | Maternal Uncle | Purposive Sampling |

[4] CDC BMI-for-age growth charts weight status categories are underweight (< 5th percentile), healthy weight (5th - < 85th percentile), overweight (85th - < 95th percentile), and obese (> 95th percentile).

**Table 10. Phase 2 Neighborhood Comparison**

| Neighborhood | Family Members | Population | | | Households | | | Family Income | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total (*n*) | African Americans (%) | Children, Ages 5-14 (%) | Total (*n*) | Family Households (%) | With Children (%) | Median | Below Poverty Level (%) |
| 1 | Madison, Melissa, Betty | 5,070 | 82% | 13% | 1,930 | 67% | 36% | $54,358 | 4% |
| 2 | Ashlyn, Dionne, Tracey | 1,820 | 99% | 13% | 670 | 63% | 37% | $33,880 | 17% |
| 3 | Brandon, Marie, Jeanne | 1,310 | 94% | 15% | 535 | 49% | 30% | $20,912 | 50% |
| 4 | Jordan, Stephanie, Lynette | 2,810 | 97% | 15% | 1,095 | 58% | 32% | $32,061 | 26% |
| 5 | ----- | 2,550 | 88% | 16% | 1,075 | 60% | 39% | $32,500 | 31% |
| 6 | ----- | 6,030 | 81% | 12% | 2,745 | 51% | 29% | $42,702 | 7% |
| 7 | ----- | 4,140 | 98% | 17% | 1,320 | 71% | 42% | $31,420 | 20% |
| 8 | ----- | 5,475 | 99% | 18% | 1,950 | 62% | 41% | $20,119 | 38% |
| **Baltimore City** | ----- | **651,154** | **65%** | **14%** | **257,996** | **57%** | **33%** | **$35,438** | **19%** |

### 4.4.2 Family Case Studies

The following case studies describe, in detail, the dietary and physical activity behaviors of the four children who participated in Phase 1 and Phase 2. Using data from both phases of the study, each case study provides a general description of the child's physical activity and dietary routines and preferences. In addition, there is a detailed discussion of the monitoring and socialization strategies the child experiences, highlighting differences and similarities in the strategies used by the mothers and extended family members. The case studies are presented in the order in which the interviews took place, and Table 11 summaries the participants from each family unit.

**Table 11. Case Study Family Units**

| Family Unit | Participants & Interviews Completed | | |
|---|---|---|---|
| | **Child (Phases 1 & 2)** | **Mother (Phases 1 & 2)** | **Extended Family Member (Phase 2 Only)** |
| 1 | Madison | Melissa | Betty |
| 2 | Ashlyn | Dionne | Tracey |
| 3 | Brandon | Marie | Jeanne |
| 4 | Jordan | Stephanie | Lynette |

#### 4.4.2.1 Family 1 Case Study

The first family unit was comprised of 11-year-old Madison; her mother, Melissa; and her maternal grandmother, Betty. At the time of the Phase 1 interview, Madison was 9 years old, and Melissa was 24 years old. Madison's original BMI was 26, and approximately 19 months later, her BMI decreased to 25. Both measurements are

indicative of Madison having a BMI-for-age that was at or above the 95th percentile, suggesting that she may be obese.

Although Madison, Melissa, and Betty all indicated that Betty lived nearby, or "about 10 minutes" away, the immediate and extended family households were not in the same neighborhood. Madison's immediate family resided in a neighborhood in which approximately 6% of the households reported annual incomes below the poverty line, at least 65% of the residents were racial/ethnic minorities, and there was a high prevalence of obesity. At the time of Phase 1, Madison's family owned their home and had lived there for two years. Neither the immediate nor the extended family household relocated during the time that lapsed between data collection periods for Phase 1 and Phase 2.

### (a) Family Structure

The immediate family unit was comprised of Madison, Melissa, and Madison's stepfather. However, approximately 2 years prior to their Phase 1 interviews, Madison and Melissa lived in a multi-generational household with Melissa's parents and brothers. Melissa also had two nephews who did not live with the extended family but visited frequently. This was the only Phase 2 family unit in which multiple races were represented in the child's existing family network, as Betty was white, and her husband was African-American. Melissa identified herself as "multiracial" in a demographic questionnaire completed during Phase 1.

### (b) Extended Family Activities and Interactions

During their Phase 1 interviews, both Madison and Melissa discussed Betty's involvement in Madison's day-to-day activities. Because Melissa and her husband

worked from 11:00 PM – 7:00 AM most nights of the week, Madison would spend several consecutive nights at Betty's house for the primary purpose of having adult supervision while her parents were at work. By the time of the family's Phase 2 interview, there were changes in the amount of time Madison spent at her grandparents' house and in the primary purpose for her being there. Due to modifications in Melissa's work and school schedule, Madison's time at Betty's house decreased substantially and usually only took place during weekends. Melissa noted that she allowed Madison to spend most weekends with Betty because:

> …if she didn't go over there [during] the weekend, she wouldn't go at all. So it's a benefit for her to go over there and play with her friends. So I give her some time over there, and [let her] spend time with her other family over there.

Melissa noted that if she experienced another change in her work and/or school schedule, Madison would begin to spend additional time at her grandparent's house.

### (c) Physical Activity Behaviors and Routines

During her Phase 1 and Phase 2 interviews, Madison talked extensively about her physical activity preferences, which included a variety of structured and unstructured activities. At the time of her Phase 1 interview, she enjoyed playing outside and general childhood games, such as hopscotch, hide and seek, hand games, jump rope, hula-hoop. Madison added skateboarding, roller skating, and playing on her immediate family's trampoline to her preferred activities during her Phase 2 interview. With the exception of the trampoline play, Madison was typically engaged in these activities when at the playground located across the street from Betty's house.

Melissa and Madison also discussed Madison's participation in organized, extracurricular activities. At the time of the Phase 1 interview, Madison had recently

completed swimming lessons at the YMCA, and she was enrolled in a martial arts class that she attended for 2 hours on 2 nights each week. In addition, Melissa discussed Madison's recent enrollment in a daily (school days only) tennis program being hosted by Madison's school. Madison noted that her participation in the tennis program was a decision made jointly with her mother and influenced by her pediatrician: "My doctor said I needed a nutritious [*sic*] sport and we figured tennis was the right one." She also expressed an interest in joining her school's soccer program and playing basketball and baseball more often. Furthermore, her interest in sports was not short-lived and appeared to be genuine when she stated:

> Yes, I want to actually be a sports-- like all different types of sports players when I grow up but I also want to do something else but I like to I want to be a famous sports player. …Guess I'll do soccer, baseball, and tennis [first].

There were, however, some changes in the physical activity resources available to Madison at the time of her Phase 2 interview. For example, she was no longer able to go swimming on a regular basis because the family's YMCA membership was not renewed. In addition, when asked about her continued tennis participation, Madison stated, "I used to but since the after school program for all the schools…stopped in April. … But I miss tennis so there's nothing to do after school, just come home, do my homework, and be bored." Madison's change in physical activity during after school hours was also related to the change in Melissa's work schedule and, subsequently, Madison's preference for spending time at Betty's house. During the Phase 2 interview, Madison still used the phrase "my neighborhood" when referring to her grandmother's neighborhood. Although her preference for spending time at Betty's house was evident during both interviews, her partiality was more explicate during her Phase 2 interview when she states, "I actually

would rather live around there. If I could change I would." Her boredom and desire to spend more time at her grandmother's house was expressed as being due to the lack of playmates in her "new" neighborhood. When asked about her typical frequency of outside play after school, she responded, "Not every day. It's like this is only at my grandmother's house, but I might be outside maybe an hour here. Because it's so boring it's like waste time. That's all." Madison's greater level of leisurely physical activity at Betty's house was also acknowledged during Melissa's Phase 1 interview:

> I would guess she's more active [at her grandmother's] because of the playground right there and her friends, you know, running out there and playing outside; whereas here, the only way she's really going to go outside and do anything is if I take her, because she doesn't have the friends or park right there.

### (i) Physical Activity Monitoring Strategies

Although Madison was more physically active at Betty's house, Melissa, as compared to Betty, was more actively engaged in physical activities with Madison. Because Betty did not drive, she spent a lot of time walking during her commute to work and while running errands. In addition, her work as a hotel housekeeper contributed to her functional physical activity. Betty counted her walking and physical demands at work as her exercise and of her free time, she stated, "I don't do too much. I might go across the street [to the park], and a lot of times [I'm] in the basement watching my Lifetime." During both of her interviews, Melissa also described engaging in functional physical activity through her commute to school, physical demands at work, and moving about her neighborhood. She noted that Madison was included in those activities when possible: "A lot of times, when it's nice outside, I do walk to pick her up, so she walks home. We walk home together… And we do walk [to the YMCA] sometimes, if it's nice out." Melissa later explained Madison's frequent involvement in these activities when she stated, "I

think she can get more [exercise]. That's why I try to walk a lot with her." Melissa's preference and rational for walking was further explained during her Phase 2 interview when she stated,

> …most of the time I do walk. I like walking, if I can help it. I'm working in a school and the college is right across the street. So my car can be parked, and I walk over there. Or I walk from there and I walk to the mall, because it's right across the street. I'm like, 'I'm not driving over there.' And a lot of people are that lazy, where they don't want to walk. I'm just like, 'It's right across the street though.' So I do walk when I can, or when I feel like I should.

During the family's Phase 2 interviews, it also appeared that Madison's functional physical activity may have increased, as she had begun walking and escorting a younger neighborhood child to school on most schooldays, and she helped her mother start and maintain the family's new vegetable garden.

### (ii) Physical Activity Socialization Strategies

Madison and Melissa also described engaging in leisurely physical activities together, including playing on the family's trampoline and visiting parks and a nearby running track, during their Phase 2 interviews. Despite these activities, it did not appear that Melissa considered them to be regular forms of exercise, and she expressed a desire to increase her family's level of leisurely physical activity:

> I like to exercise, but I don't do it often. We have a track right over here, around Lake Montebello…we have bikes also, so hopefully we'll be able to use them more often, and at least set at least one day aside to go bike-riding or to go walk around the track. So hopefully, that's that I plan to do since it's getting nicer.

Melissa's desire to have a more physically active family may have been related to improving the health of her husband, who was diabetic and not very physically active due to his work schedule. At the time of the Phase 2 interview, Melissa's efforts to encourage her husband to engage in physical activity had been unsuccessful.

### (d) Dietary Behaviors and Routines

Based on statements made by Betty, Melissa, and Madison, it appeared that the family's food- and meal-based routines remained consistent over the course of the Phase 1 and Phase 2 data collection periods. During both interviews, Melissa stated that Madison was generally pleased with and would eat whatever she prepared for mealtimes, and according to Betty, this is also the case when she prepared meals for Madison. Betty and Melissa described their typical dinner meals as being comprised of "a meat, a starch, and a vegetable." Similarly, Madison usually had a choice of cereal and milk or eggs, sausage and/or toast for breakfast at both households. In contrast, Madison experienced different meal settings at each household. Because Betty left for work very early in the morning, she was unable to eat breakfast with Madison, but Melissa would eat breakfast with Madison at Betty's house when she arrived to take Madison to school each morning; Madison and Melissa also ate breakfast together at home on days when Melissa did not work. At the time of the Phase 2 interview, however, it was routine for Madison to eat breakfast alone due to the change in Melissa's work schedule. Madison's immediate family's routine of eating dinner together remained constant across both data collection periods. At Betty's house, however, individual family members typically ate dinner separately, even when Betty prepared a dinner meal for the household.

An exception to separate dinners at Betty's house was usually made for Sunday dinners, which were an important activity for Madison's immediate and extended family. When asked to explain why there was so much significance given to this particular meal, Melissa explained, "…that's how it was when I was growing up. Sunday dinner's supposed to be the good dinner, the nice dinner. Everybody comes together and eats

definitely on Sunday." Due to gradually increasing work demands, however, Betty is not always able to prepare Sunday dinners for her family as she did when Melissa was a child, and she has sought out strategies to accommodate the family's tradition while still meeting her work demands: "Sometimes I can't even cook on Sunday because I get home so late, unless I start putting it in the slow cooker the night before, or that morning…and sometimes [I'll] make a Sunday meal on a Monday."

### (i) Diet Monitoring Strategies

Even at the age of 9, Madison was granted a notable degree of autonomy in choosing and preparing her own meals. Both Melissa and Betty allowed Madison to prepare her own breakfast meals:

> I know how to cook for myself, but if I'm running late I have to eat cereal…if I have a lot of time, I might make [some] eggs [and] sausage, but most of the time, I just make eggs and toast.

Melissa also allowed Madison to select and prepare her own lunch, which usually consisted of a sandwich, potato chips, and juice. There were, however differences in the degrees of freedom that Madison experienced in what was allowed by Melissa and Betty concerning other meals. Betty allowed Madison to cook small dinner meals for herself, but it appeared that Melissa enforced more restrictions on dinner meal preparation. When speaking of what she is allowed to do with Betty, Madison, in her Phase 1 interview, stated, "Don't tell, but my grandmother [let's] me cook." Later, Madison indicated that Melissa required her to have more supervision: "I can cook certain dishes…my mother [lets] me do it but I have to have her with me." During the Phase 2 interviews, statements made by Madison, Melissa, and Betty indicated that Madison's overall autonomy had increased and there was greater congruence in what was allowed by Melissa and Betty.

At that time, Madison explained that she was allowed to prepare her own meals and bake cakes without direct supervision as long as her mother was aware that she was using the stove and/or oven. Madison also participated in grocery shopping with Melissa and Betty, and she regularly assisted with preparing family meals at home and at her grandmother's house.

In addition to meal setting and preparation differences, Melissa and Betty also differed in the amount of food they acquired for their homes via ordering from food delivery services and eating at fast food and eat-in restaurants. As Melissa noted, she is more likely to acquire dinner meals from such venues:

> Sometimes, maybe once, maybe twice—definitely once but maybe twice a week [we're] ordering out or going out to eat… We order McDonald's -- $1.29 happy meals on Thursdays. Or Chinese food – not that often though. Pizza – even if we make it here, it might just be pizza and fries or something. [I] might make a frozen pizza instead of ordering out. So we don't order out too often, but everything here, it might not be – it could be a frozen dinner also.

This was a continued trend from Melissa and Madison's Phase 1 interviews, during which they both spoke of their visits to the same types of food outlets, particularly weekly trips to McDonald's on Thursdays.

While Melissa was initially concerned about the amount of food Madison was consuming during schooldays, it appeared that Madison was not always consuming as much food as Melissa saw her pack and take for lunch when Madison stated,

> [I'll pack] a sandwich, cookies, maybe some chips, [and] a little bit of candy. I'll bring [my friend] one [to] be fair because I know my friend don't eat school lunch. She don't eat anything until she get home. So I might bring her something or if I don't want the rest of my sandwich, I'll give it to her.

In addition, although Madison did not speak directly about her weight concerns or changes in her diet during the Phase 2 interview, it appeared that there were changes in

her dietary habits and food preferences, particularly concerning her school meals and fast food. When asked what she typically packed to take for snacks on school days, Madison replied, "Most of the times it might be a fruit like an apple or orange. Or it's [something] like…baked chips." Of her current fast food preference, she stated, "Oh I won't mind [fast food], but I won't want it like any day [*sic*] because sometimes I think it's just nasty. Because sometimes if I get a burger I might squeeze the grease out of it if they don't do it." Melissa also noted that Madison had come to prefer fruits and vegetables over packaged snack foods:

> This house is like a grocery store in itself. So, she can come and get anything she wants. But surprisingly, she doesn't go to the snacks a lot. We have a lot of snacks. That's why they're still here, because she really doesn't eat them that often. She's into fruit also, so I try to keep bananas, when grapes are on sale, and strawberries. She likes fruits. She like vegetables like carrots and stuff like that.

#### (ii) Diet Socialization Strategies

Although Melissa and Madison spoke about frequenting fast food and take-out restaurants during the Phase 1 interviews, Melissa expressed concerns about the amount and types of food Madison ate during most school days. Because she felt Madison's food intake was too high, she encouraged Madison to make lighter food choices:

> My feelings with her, she'll eat right before she goes to school, lunch in school, and come home and is hungry. But like I say, when she gets out of school at 3:00, she gets home [and] say she was to eat something then, at like 3:30, I guess it's like a second lunch to her, because then she still wants dinner, and I think that's too much. I told her instead of eating like a big meal or something, she [should] eat something like a fruit or something like that. But I don't understand. Maybe it's not enough from school. I'm not sure, but I don't understand why she still is hungry when she gets home.

Melissa and her husband continued to provide verbal encouragement for Madison to adopt certain dietary behaviors at the time of the Phase 2 interview. However, it appeared

that the encouragement was more influenced by Madison's own weight concerns. As Melissa noted,

> My husband and I a lot of times tell her – especially my husband – because…she talks about her weight. 'Oh I don't want to get big. I mean, I want to lose some weight in my thighs. I want to this, I want to do that.' He says, 'Well, you should be eating this instead of that.' So he might tell her, 'You should be eating fruit instead of eating chips.' Or, 'You should be drinking water instead of soda.' So he definitely tells her a lot that she should be doing this and doing that. And he's a pretty healthy eater too, so he shows by example also. Me, I don't think I'm a good example.

When Betty was asked if she provided the same level of verbal encouragement for Madison to adopt healthier dietary behaviors, she replied, "No, not really. It's just times that I might say, 'Go on a diet,' or something. 'Eat a salad,' or something like that. But no, I don't really [say much]." Melissa pointed out that Betty was more involved in facilitating certain dietary practices when Madison was younger, which caused some conflict between Melissa and Betty:

> Thank goodness we don't live together anymore. Because when we were living together – phew! Madison was grandma's baby. I wasn't her mother. I was just there. I would say – when she was a real little baby, she would give her soda, and I didn't want her to have soda when she was young, because when they're growing up, they really don't know. They're going to drink what you give them, so I didn't want her to have soda. But my mom's like, 'It's okay. You can let her have some.' But that's when we were disagreeing, when we were living together.

#### 4.4.2.2 Family 2 Case Study

The second family unit of Phase 2 was comprised of 6-year-old Ashlyn; her mother, Dionne; and Tracey, who was Ashlyn's second cousin and Dionne's first cousin. At the time of the Phase 1 interview, Ashlyn was 5 years old, and Dionne was 29 years old. Ashlyn's original BMI was 16, and approximately 18 months later, her BMI increased to 17, indicating that she was at a healthy weight status (i.e., between the 5$^{th}$ and 85$^{th}$ percentiles of BMI-for-age) at both data collection points. At the time of Phase

1, the family owned their home and had lived there for 3.5 years. Dionne and Ashlyn resided in a neighborhood in which approximately 3% of the households reported annual incomes below the poverty line, at least 65% of the residents were racial/ethnic minorities, and there was a low prevalence of obesity; they did not relocate between the Phase 1 and Phase 2 interviews. Tracey resided approximately 30 minutes away in another unspecified area of the Baltimore Metropolitan area.

### (a) Family Structure

Dionne and Ashlyn were part of a blended, multi-generational household, the composition of which changed during the time that lapsed between their Phase 1 and Phase 2 interviews. At the time of the Phase 1 interview, the household was comprised of Dionne; Ashlyn; and Ashlyn's father, aunt, uncle, and grandfather. Ashlyn's aunt and uncle resided in the basement, which was set up like a studio apartment, and they were regular and active participants in household activities (i.e., fellowship, meals, food preparation, etc.). Ashlyn's two half-brothers (i.e., from her father's previous relationship) also visited the family several times per week. When the family completed their Phase 2 interviews, Ashlyn's father and uncle no longer resided with them, there was no mention of her half-brothers, and Ashlyn's 17-year-old cousin had become a member of the household.

### (b) Extended Family Activities and Interactions

Neither Dionne nor Ashlyn specifically identified Tracey in discussions about extended family members during their Phase 1 interviews. However, in addition to identifying her dog, Roscoe, and current and previous household members when asked,

"Who is in your family?" during her Phase 2 interview, Ashlyn also identified other relatives who did not reside in the household, including Tracey. Furthermore, Ashlyn referred to both Dionne and Tracey as mother figures: "…I say I have two mothers. I call my Tracey…Mama, and I call my real mommy, Mommy." Tracey visited Ashlyn and Dionne several days each week, and when asked about the primary purpose of their time together, Tracey responded, "I mean, we're relatives. This is my off day so I tend to spend it with her." She and Dionne explained that this tendency was due to the fact that they had lived together previously and had been emotionally close since childhood. Because Dionne did not have a car, most of the visits with Tracey took place at Dionne and Ashlyn's home.

During both sets of interviews, it was apparent that Ashlyn had regular interactions with several extended family members, including and beyond those who resided with them. Statements made by Dionne and Ashlyn indicated that there were various purposes for and frequencies of the interactions. For example, during her Phase 1 interview, Dionne explained, "Her aunt who lives with us is who watched her last year where she was, which was good, because it was live-in daycare." At that time, Ashlyn and Dionne also noted the uncle who lived with them regularly walked Ashlyn to play at a nearby park. Interactions with extended family members outside of the household were often centered on leisure and quality time with family members:

> My sister is a truck driver… The only days that she has off is Sundays. Because my family is really cool, so we'll go to my sisters. My mother lives with my sister, so [Ashlyn] gets a chance to see her grandmother… This Sunday, we're going bowling, since it's my sister's birthday party. Last weekend, it was Ashlyn's skating party. The weekend before that, my aunt came from out of town, so we went up to my sister's for [that]. And Ashlyn's cousins had came over that's her age, so they ran all day, until they just couldn't run anymore.

According to Ashlyn, Dionne, and Tracey, Ashlyn continued to experience regular interactions with extended family members at the time of their Phase 2 interviews. Dionne and Tracey described their extended family as "small" and "tight knit", and most of their family members resided in or near Baltimore City.

### (c) Physical Activity Behaviors and Routines

Each of the family's interviews included discussions indicating that Ashlyn enjoyed engaging in a variety of physical activities. During her Phase 1 interview, Ashlyn spoke of riding her bike, dancing with her father, playing soccer and hide-and-seek, and going to the park with her uncle. Dionne also highlighted the diversity of Ashlyn's activities in her Phase 1 interview:

> Her favorite activity, that's dad. Ashlyn's favorite activity is playing with her father. That is her best friend. I'm serious. Her father will put costumes on. Her father will play with dolls. Her father will wrestle with her. He'll take her Power Wheel out. She goes to the playground. If it's not playing with dad, Ashlyn also likes to play on the computer… Or like I said, in the backyard playing with the kids, like she's an animal lover, so she'll be playing with the kittens.

Ashlyn's preference for outdoor activities continued to be evident at the time of the Phase 2 interviews. As Dionne explained, "Yes, we're outside. That's what I'll do. Ashlyn goes outside everyday… Even if she's outside in her pajamas, she's outside everyday as long as it's not too cold." Tracey indicated that Ashlyn was also regularly engaged in outdoor activities when visiting at her home.

#### (i) Physical Activity Monitoring Strategies

It was apparent that the presence of a supervising adult or older child during Ashlyn's activities, particularly during outdoor activities, was important to Dionne.

During her Phase 1 interview, Ashlyn stated, “It’s just at times I don’t have friends to play with,” and explained that this was because several potential playmates lived “all the way down” the street, which was beyond the boundaries of where she was allowed to go alone. Ashlyn also mentioned that she was not allowed to play with a girl who lived nearby because of the girl’s use of profanity. Although there were clear boundaries to what Ashlyn was allowed to do during her outside playtime, statements made by Dionne during her Phase 1 interview suggested that those boundaries did not hinder or negatively affect Ashlyn’s leisurely physical activity:

> Well, Ashlyn has a certain amount of feet that she can go. It’s like from the tree to that lamppost. If she wants to skate, she can skate. If she wants to ride her bike, she can ride her bike. If she wants to ride her scooter, she can ride her scooter. If she wants to play with her dolls, she’ll take everything outside. As long as it’s between, you know, just so I can have my vision on her, because like I said, I don’t allow her outside by herself. So you know, my eyes are always [on her].

Tracey also indicated that older cousins supervised Ashlyn’s outdoor play during Ashlyn’s visits at her home:

> We have a small playground right across the street from us. It just has like a sliding board and maybe some jungle gyms. So my son will take her over there for a little while. And my niece moved with me; she’ll take her over there…

At the time of the family’s Phase 2 interviews, Ashlyn appeared to have internalized her mother’s rules about supervision and often found alternative activities when no one was immediately available to provide direct supervision. As stated by Dionne:

> I get my lazy days where I don’t want to do nothing. Ashlyn will run up and down steps and she’ll tell somebody to sit outside while she play or she come down here and she pull out some of her toys and take them outside and play with them on the porch.

### (ii) Physical Activity Socialization Strategies

Dionne and Tracey explained that during the 1-2 months immediately preceding the family's Phase 2 interviews, they had joined other extended family members in an informal, ongoing commitment to developing healthier lifestyles, which focused on making changes in their diets and improvements in their physical activity levels. As Dionne explained, this lifestyle change was, in part, prompted by the group's recognition of weight gain and concerns about health:

> So it was like my grandmother, my aunt, my sister, my mom, [and] my dad. Like a lot of us had all picked up weight within a three-year timeframe. So it's like wow. And you know we all – like I said, were a tight knit family – so we'll get together once a month or whatever for dinner. And then we're looking at each other and we're just basically comparing our fat. Like that's our thing and we laugh and joke about it, that's what we do… [But] it's mainly life changing…because a lot of [us] have health [problems] anyway.

Dionne also noted that members of the extended family provided verbal support for each other, and there was a collective desire to provide more tangible support for increasing each other's engagement in physical activity.

Although Dionne and Tracey were both actively engaged in making these adjustments, it appeared that their motives for doing so were different. Dionne was motivated to change her behaviors by concerns about her own health (hypertension management) and the desire to lose weight. In contrast, Tracey's behavior changes were strongly influenced by her desire to make a positive impact on the behaviors of her son, who she described as being "big for his age" and who had expressed to Tracey that he was uncomfortable with his weight. Despite the weight concerns, however, Tracey was still faced with challenges in her efforts to encourage her son to be more physically active:

> …I bought a Wii system so we can exercise, [but] he doesn't play Wii often. …we had a program at another [place] where they would do like a half-hour of nutrition and then like an hour of exercise. And he did it like two times a week, but I didn't really see him change much [outside of the class]. …I have to say, 'Go outside and play.'… So I will go outside and do something, walk. We have a store not far from us, so I said, 'I'm going to go get some water. I ain't getting in the car, I'm walking.' [He's like], 'What? …we didn't never walk before.'"

In addition, to her son's lack of willingness to be physically active, Tracey also faced scheduling conflicts with physical activities she thought her son might find more enjoyable:

> …and that's what he'd like to do is lose weight. I mean, if I had a different schedule, I could put him in more programs, but until then, he's stuck… He's about 5'7" at 12. …and he weighs probably about 200. So it's like I need—like he was playing football, but like I said, because of my schedule I can't take him. There's a kickboxing class I would love us to take, but because my schedule…

While Dionne supported Tracey in her efforts to increase her son's physical activity, there was no perceived need to model physical activity behaviors or facilitate formal physical activity opportunities for Ashlyn because of Dionne's existing perception of Ashlyn's frequent and natural engagement in physical activity:

> …my daughter runs. She's very energetic. Very energetic. When you all walk up that porch she be following you all with her scooter and she tears that concrete up. She's very energetic. She does everything… So that's one thing I would say. She don't really have lazy moments. When we come home from school she don't [say], 'I want to take a nap.' 'Ma, can I get something to eat?' I'll feed her with her homework. She's outside or she's running through this house doing something.

#### (d) Dietary Behaviors and Routines

According to statements made during the family's Phase 1 and Phase 2 interviews, Ashlyn had very specific food preferences and was considered to be a "picky eater". During her Phase 1 interview, Dionne spoke at length about Ashlyn's food

preferences and described how day-to-day planning for Ashlyn's school lunch was affected by those preferences:

> The thing is, she's such a picky eater, she takes lunch… So she's very, very, very, picky… So what I do is I will pack her lunch, like she loves lunchmeat, and I'll always give her an applesauce cup or some type of fresh fruit. Then she'll have her juice and maybe a bag of chips or, you know an oatmeal cream pie, or maybe a small honey bun. So now that the school has given me a lunch menu, I'll just look at today, what they're serving, like today, they had hotdogs. I think it was hotdogs and green beans. So because I know she don't like the green beans, what I did was I just packed her a bag of chips, a juice, and her applesauce cup, because I think their dessert was Jell-O. She don't like Jell-O. She don't like pudding… So that's normally what we do, but 90% of the time, I'll pack her lunch.

Dionne also noted that Ashlyn's food preferences influenced the family's meal routines, particularly those routines related to the dinnertime meal:

> …and what we do is we always take [Ashlyn] into consideration. She'll eat hotdogs and beans for a quick meal… But normally, we eat fish, chicken. We might have some beef, but it's mainly fish and chicken. And you know, of course, the starches, because she hates vegetables so much, she'll just get full off the meat and the starch.

Dionne and Tracey stated that Ashlyn had similar food preferences at the time of the family's Phase 2 interviews and noted that it was still difficult to convince Ashlyn to eat several foods, including eggs, "anything green", mayonnaise, and cheese. During Ashlyn's Phase 2 interview, she described a recent experience at a fast food restaurant that illustrated the family's continued efforts to accommodate her food preferences: "…yesterday we went to McDonald's and my burger was a cheeseburger, and my aunt…because I don't like cheese, so we went to McDonald's again and we got another hamburger, [and] it didn't [come] mixed up the [second] time." In addition, during both interviews it was made clear that Ashlyn's aunt would often prepare separate meals or make additions to meals to ensure that Ashlyn consumed an adequate amount of food. There was some evidence of differences between extended family members with regards

to preparing meals for Ashlyn, as Tracey explained that she did not make additional meals or supplemental dishes for Ashlyn when Ashlyn spent time at her house: "I'm not the kind that would make another meal for one child… That's why whatever I make I make sure that it's something that she's going to eat."

### (i) Diet Monitoring Strategies

During both of her interviews, Dionne expressed concerns about the quality of Ashlyn's diet and spoke of how she and other members of the family monitored Ashlyn's dietary behaviors and about influences on those monitoring strategies. At the time of her Phase 1 interview, Dionne and the other household adults differed in their monitoring of Ashlyn's dietary behaviors. According to Dionne, as compared to Ashlyn's father, aunt, and uncle, she was less indulgent of Ashlyn's food requests:

> She'll tell you what she wants… Whatever she asks, [her aunt and uncle] are going to give it to her. They might give a fuss. Her father's the same way. I'm the only one, the only one that will put my foot down for her sometimes. You want something? Uh huh.

However, despite the greater degree of permissiveness Ashlyn experienced from her father, he also tried to force Ashlyn to eat certain foods, whereas, because of her own childhood experiences, Dionne avoided this type of dietary monitoring. The influence of these experiences appeared to outweigh that of Dionne's perceptions of Ashlyn's diet quality:

> I feel bad. …when I was a child, I was forced to eat my vegetables. I was forced to eat, especially my green vegetables, cauliflower, Brussel sprouts. I was supposed to eat everything. With her, now when I got older, I remember saying I'm not going to force my child to eat that... I remember I used to cry. I thought my grandparents were so mean. I used to eat it cold. If I didn't eat it all at night, I had to eat it for breakfast… Her father might force her to eat certain vegetables, like he'll get tired and say she ain't had nothing all week, you know, 'Come on,

> you're going to eat this." After her crying, he lets down his guards. He don't stick to his word neither. So you know, I feel bad, and I feel like we should eat [better].

The discussion of how the family's mealtime traditions influenced the monitoring and socialization of Ashlyn's dietary behaviors continued during Dionne and Tracey's Phase 2 interview. Similar to Dionne, Tracey recalled:

> I remember sitting in the kitchen and you would come downstairs and my grandfather fixed breakfast and it smells all throughout the house… And at first, my grandmother was one of those people that was like, 'Sit there until it's gone.' And my grandfather would say, 'Don't make her sit there. Baby you go and stay in the bed.' And when you come down the next morning and smelling that bacon, and he's like, 'Here [are your] vegetables from last night. Enjoy.'

Dionne and Tracey explained that they were forced to eat the all of the food they were given at mealtimes, in part, because of their grandparents' opposition to having food wasted after it was prepared. In contrast to their grandparents' approach to food waste prevention, the actions of Dionne and Ashlyn's aunt were based upon a different perspective; as Dionne explained, "…like I said, my aunt cooks four days a week. We'd rather give Ashlyn something that Ashlyn will eat as opposed to wasting the food."

While Tracey understood Dionne's challenges with forcing Ashlyn to eat, she also felt that Dionne could potentially improve her efforts to convince Ashlyn to eat more foods:

> [My friend] had a party for the fight the other day, and [Dionne] was fixing [Ashlyn's] plate, and I'm like, 'Where's the greens?' She's not going to eat those? Force her to. At least give it to her. Like, 'Ashlyn you have to try it. You want this?' …they were string beans, and I said, 'Just give her a few and tell her she has to eat them.' And Dionne is like, 'She's not going to eat them.' And I'm like, I thought they said you have to try more than once to give a child and I just thought Dionne [should] try more than once, but I am not here regularly every night to see.

In both interviews, Dionne justified her lack of forcing Ashlyn to eat certain foods with advice from Ashlyn's pediatrician. During her Phase 1 interview, Dionne recalled her

initial reactions to Ashlyn's change in food preferences, as well as her sense of relief when she was told not to force Ashlyn to eat:

> When she hit three, everything changed. Everything changed. Like her favorite food as a toddler was the cheese and carrots ravioli by Gerber…I can give that to her now, [and] she will just go off, 'I don't want it! Why would you give this to me? This is supposed to be somebody else's.' …And her pediatrician said that's fine, because, you know, this is the stage for picky eaters. They want to eat more junk food. You know, if there's a favorite food that she likes, you can kind of stick to it, because you do want her to eat something. I'm more like oh okay; you just gave me an outlet. You know, he said don't sit and—you never want to force the child, so I'm listening to him. But this is two years ago, and I'm still like oh okay; like I don't know when he's going to change his mind and say now is the time.

Dionne was still receiving this advice at the time of the Phase 2 interview and appeared to no longer question when the pediatrician would change his advice about forcing Ashlyn to eat foods she did not like:

> The pediatrician was stating—and I don't know if it was because it was different ethnic backgrounds—he was basically saying, 'Well if a child continues to grow and doesn't have any type of educational development or anything that slows, I will prefer a child to eat something that they enjoy as opposed to not eating nothing at all.' So he was saying as long as she's getting her nutrients from somewhere else, and she's average and not below her weight level, then that was fine.

#### (ii) Diet Socialization Strategies

During the family's Phase 2 interviews, Tracey and Dionne discussed differences in how they taught their children to adopt healthy dietary behaviors. Due to her recent awareness of her son's weight concerns and the family's lifestyle change efforts, Tracey noted that she was making a conscious effort to "lead by example" by involving her son in meal preparation activities and jointly participating in a local nutrition course. While Tracey purposely tried to learn and teach her son healthier behaviors, Dionne felt that due to Ashlyn's younger age and the fact that she was only in the beginning stages of making

her own lifestyle changes, she could only take a more passive approach to teaching Ashlyn similar concepts:

> You know, he's twelve, she's six…it's a big, big difference. I can talk, I can show her stuff, but by her being six, it's not going—hey, cartoons are on; once she sees that, that's it, 'What did you say?' It totally went out the window. So, I want to say maybe I can lead more by example, once I know that I'm really into my diet like as far as my eating habits, because like I said, I don't eat vegetables. I eat salad, but I'm not a big veggie person myself. So, I think once I start applying it to my everyday living, and then kind of introducing it to her—then I can start leading by example, 'Hey, I'm eating this.'

In addition, Dionne's perception of Ashlyn's current health status, as well as Ashlyn's food preferences, prevented her from adopting more active socialization strategies for teaching Ashlyn dietary behaviors:

> Ashlyn is six. No health problems. Perfectly fine. Just because I changed—and I know it may sound bad now—just because I changed my eating habits, I didn't change them necessarily for her also… And I'm not going to deny her because it was something that I changed myself. If my aunt makes fried food, Ashlyn loves fried chicken; that's her favorite. Because I only eat fried food once a week, I'm not going to deprive her of that by her only being six, she's still healthy. She is the average height and size for a six-year-old.

Although Ashlyn was of normal weight, Dionne also related her more passive strategies to her desire to ensure that Ashlyn maintained a healthy body image:

> What I try to instill in Ashlyn now is our family is thick. Like I said, all of us gained a lot of weight, but genetically we have hips, we have thighs, we [have] big [breasts]. And what I try to instill in Ashlyn is be comfortable with who you are…we're going to be thick. And we're going to enjoy it. We're going to love it. We're going to embrace it. But by her being six, leading by example for her is eating right… It's just that by her being six and me just getting more knowledge of how to eat more properly, I just don't believe—I believe she's just a little young for her to kind of get the concept of hey this is more nutritious than this.

#### 4.4.2.3 Family 3 Case Study

The third family unit included 11-year-old Brandon; his mother, Marie; and his maternal grandmother, Jeanne. At the time of the Phase 1 interview, Brandon was 9 years

old, and Marie was 28 years old. During the time that lapsed between the family's Phase 1 and Phase 2 interviews, Brandon's BMI increased from 18 to 21. Based the BMI-for-age standards, this indicates that Brandon weight status transitioned from healthy to overweight.

This family unit was unique from the previous families in that the interviews for Phase 1 and Phase 2 took place at the home of the extended family member, Jeanne. Although Marie had her own apartment, which was located nearby, she and her children spent most days and nights at Jeanne's apartment. Because of this, and as will be explained later, Marie was recruited for Phase 1 participation from Jeanne's neighborhood rather than her own. Jeanne's apartment was located in a neighborhood in which 60% of the households reported annual incomes below the poverty line, at least 65% of the residents were racial/ethnic minorities, and there was a high prevalence of obesity. There was no neighborhood information collected for Marie's official residence. At the time of Phase 1, the family had been renting their apartment for three years. Neither the immediate family nor the extended family household relocated between the Phase 1 and Phase 2 data collection periods.

#### (a) Family Structure

When completing a demographic questionnaire for the Phase 1, Marie indicated that her household was comprised of five individuals; this included Marie, Brandon, and Brandon's three brothers. At the time of the Phase 1 interview, Brandon's brothers were 13, 8, and 5 years old; according to Marie, they were 15, 9, and 7 when the family was interviewed for the Phase 2. Although Brandon's father was not a member of the

household, at the time of his Phase 2 interview, Brandon indicated that he regularly spent time with his paternal grandparents and visited his father "a few times a week".

As mentioned above, Marie and her children spent most weekdays and nights at Jeanne's apartment, during which time they function as a blended household, with Marie and Jeanne sharing child rearing and household expenses and responsibilities. Marie and her children return to their own apartment during some weekends. Despite this arrangement, Marie did not include Jeanne as part of her official household composition. During the Phase 2 interview, Jeanne also mentioned that her god-brother also shared her residence regularly.

**(b) Extended Family Activities and Interactions**

Childcare provision was the primary purpose for the time Marie and her children spent at Jeanne's house. Although the distance between Jeanne and Marie's homes was only "about five minutes driving", the women explained that because of their work schedules, it was simply easier for everyone to stay at Jeanne's house during the weekdays; this living arrangement was sometimes extended to the weekends if Marie was required to work on those days. As Jeanne described, "She works, and I work too, but it's better for me here to keep them. So I just keep them all week. The way she works, they're never home hardly." Marie further explained why the arrangement was more practical for the family:

> But the main thing is, we are here because it's closer for my older son to catch the bus. I can just drive down the street and go through the loop, and I'm at work. It's just easier right here. So, we're mostly here.

It was also noted that Marie was looking for housing options that were closer to Jeanne's residence.

According to Marie and Jeanne, they were part of a large, five-generation extended family network, "ninety percent" of which still resided in the Baltimore Metropolitan Area. The extended family stemmed from Jeanne's mother, who had seventeen children. At the time of the Phase 2 interview, Marie and Jeanne noted that the current estimates for grandchildren and great-grandchildren were 70 and 200, respectively. Members of the extended family often come together for informal cookouts and special occasions, such as family reunions, holidays, and birthday, In addition, because Jeanne lived within walking distance of several family members, including her mother, daughter, and sister, Brandon and his siblings had multiple visits with extended family members during the course of a typical week. Marie's explained that the primary purpose of most of the visits was casual quality time, and Jeanne noted that because her mother (Brandon's great-grandmother) was terminally ill, she and Marie felt that it was important for Brandon of his siblings to spend a significant amount of time at their great-grandmother's home, which had become somewhat of a meeting place for other family members as well:

> …or just to see the family that's over there, because most of the family's there. We got a huge family. So cousins you may not have seen in two weeks, they're going to be there. That's where you catch up with everybody.

Although Brandon visited his father and paternal grandparents regularly, it did not appear that he visited them as frequently as he visited his maternal relatives.

### (c) Physical Activity Behaviors and Routines

During his Phase 1 interview, Brandon mentioned that he participated on local wrestling and football teams. Jeanne and Marie indicated that Brandon, as well as his brothers, continued to be active in sports and other extracurricular activities at the time of the Phase 2 interview. Marie pointed out the trophies displayed in the living room and

noted, "And they are always into stuff. You see I have all of their trophies displayed…state championships and everything. They stay busy." According to Marie's Phase 1 interview, Brandon also participated in an after school program at a nearby church, where he was given the opportunity to engage in dance and general recreational play. In addition to these organized activities, Brandon enjoyed playing basketball, baseball, and video games, as well as general outside play with his brothers, cousins, and other neighborhood playmates. Brandon reiterated these preferences during his Phase 2 interview, at which time he also noted that he participated in similar activities, as well as swimming and fishing trips, when visiting his father.

### (i) Physical Activity Monitoring Strategies

Marie's Phase 1 interview indicated that neighborhood safety play a significant role how she monitored Brandon's outdoor physical activity. Due to Marie's concerns about crime and drug use in the neighborhood, Brandon and his siblings spent very little time playing outside near the home. At the time of the family's Phase 2 interview, this continued to be a factor in what was allowed regarding the children's outdoor play, both when at Jeanne's home and at the homes of relatives who lived nearby; as stated by Jeanne:

> But we don't really take them to let them come [outside] very much. If we come on the front, they can play around the front, because there's so much activity had went on in that area that we don't really just bring them out unless somebody's—adults are with them.

Marie and Jeanne used several strategies to help compensate for these limitations on the children's play in the immediate vicinity of the home. Both women described

bringing home materials to facilitate creative indoor play and activities. For example, Marie stated:

> And it's not hard to please them. They really like to do pretty much anything. Anything you hand them to do, they'll do it. Like I went to the Five Below store and just grabbed stuff…kites, games, and everything. And they like it. They don't never say, 'I don't want them. I don't want to do that.' They like it.

To give the children opportunities for casual outdoor play in a park setting, Marie noted that she and Jeanne would often drive them to playgrounds at the local school or to "better" playgrounds located further away. In addition, during Brandon's Phase 2 interview, it was revealed that he and his brothers were aware of their mother and grandmother's concerns and had taken the initiative in cleaning Jeanne's backyard so they could have a safe place to play. Because of this, Brandon still had to ask Marie if he could go outside, but was now only watched by Marie "sometimes" when playing in that designated area.

Based on statements made during the family's Phase 2 interviews, there was also regular monitoring of Brandon's indoor activities, particularly in terms of watching television and playing video games. Brandon estimated that he watched approximately two hours of television each day, including time spent watching television with the family. Marie and Jeanne noted that watching trivia game shows (e.g., *Jeopardy*, *Cash Cab*, *Wheel of Fortune*) together was a regular family activity in which everyone participated and enjoyed. It appeared, however, that Marie and Jeanne also tried to encourage variety in the children's indoor activities and place some boundaries around the amount of television Brandon and his brothers could watch. Brandon replied, "They tell us to get up and do something else instead of watching TV," when asked if he experienced restrictions in the amount of television he was allowed to watch. He also

indicated that his grandmother, as compared to his mother, was more likely to instruct him to stop watching television. Similar to television watching, there were limits on the amount of time Brandon and his brothers could spend playing video games. According to Brandon, they were typically allotted 30 minutes per day for this activity. He also noted, however, that Marie would sometimes allow exceptions. In contrast, Jeanne frequently instructed the boys to stop playing the video games.

### (ii) Physical Activity Socialization Strategies

When asked to discuss their reasoning behind enrolling Brandon and his brothers in organized sports and other extracurricular activities, Marie replied, "They're boys. They really need to be into stuff." Of her own childhood she recalled, "I was always into some type of activity," and mentioned that she was involved in activities such as marching band and dance. Marie felt it was important for her children to have similar experiences, and Jeanne agreed with her. In addition, Jeanne explained some of her own motivations for keeping the boys engaged in activities:

> The reason why I would want them in something [is] because when they're here, I don't want them running me crazy all the time… Because I don't know where they get all their energy… And another reason I try to keep them [busy]—because I'm trying to keep—I don't want them—I pray—when they get older I can't do nothing—I pray now that they don't be in the street. I want them to know what's going on out there, but I don't want them to be the one just hanging out there with them.

These sentiments were supported by the women's enrolling of boys in activities throughout the year and by their presence at local and long distance performances and other activity-related events.

### (d) Dietary Behaviors and Routines

According to Marie's Phase 1 interview, the family's diet and meal settings were heavily based on and influenced by factors external to the home and on the family members' schedules. At that time, Brandon and his brothers ate breakfast and lunch at school, and they received a snack from the after school program in which they participated. Brandon's Phase 2 interview indicated that there were some changes in the breakfast meal setting, as the family tried to eat breakfast together unless their schedules did not allow them to do so. He also noted that breakfast might consist of "cereal, eggs, sausages, pancakes, and other things"; these were the same breakfast foods Brandon described eating and preferring during his Phase 1 interview.

In his Phase 1 interview, Brandon also mentioned that whenever the family was at his grandmother's home, Jeanne prepared dinner and, as he stated, included, "healthy things [like] rice, corn, and chicken." Jeanne remained the family's primary meal preparer at the time of the Phase 2 interview. This was, in part, due to her perceptions of her role as a grandmother: "[That's what] grandmas do. So I cook basically—they need vegetables. Some days they get play day, so they may have like hot dogs and French fries. And other days they have basically a regular meal." These "regular" dinner meals typically consisted of a meat, vegetable, and starch dish. Jeanne noted, however, that the meals she prepared for Sunday dinner were slightly different because she prepared chicken, as well as another meat that she normally would not prepare during the course of the week:

> …but every week or every Sunday, if I had like a roast, I'm going to have fried chicken… I usually have two meats every Sunday, but I'm going to have chicken if I don't have nothing else…because that's what I know they're going to eat.

While there was a designated mealtime at which everyone consumed the dinner meal, it was common for the individual family members to eat in different locations around the home.

With the exception of gatherings for cookouts or to celebrate special occasions, Marie noted that she and her children rarely ate meals with or at the homes of other relatives who lived near Jeanne. When asked what types of foods were served at the extended family's cookouts, Brandon described several foods, including "real hot dogs and real hamburgers", distinguishing them from the hot dogs and hamburgers that were normally prepared at home. Jeanne and Marie also described enjoying these and other foods (e.g., corn on the cob, squash, ribs, potato salad) at cookouts and similar events, nothing that these dishes were "a little different" from their day-to-day fare.

### (i) Diet Monitoring Strategies

During his Phase 2 interview, Brandon discussed the conditions in which he was allowed to prepare his own foods. Marie allowed Brandon more freedom in this area and let him prepare microwavable foods, such as chicken nuggets, and other simple dishes that could be prepared on the stovetop without grease. Jeanne never allowed Brandon to cook, with the exception of one occasion when she let him prepare scrambled eggs on his own. Brandon's older brother, however, was allowed to cook "basic things", such as chicken and hamburgers, unsupervised.

Marie and Jeanne's interview included a discussion that revealed Jeanne's hypertensive and diabetic status, which required her to monitor her own dietary habits. When asked if the rest of the household was required to maintain a diet similar to Jeanne's, Jeanne replied, "No, because they'll tell you in a minute, 'I don't want that.'"

Marie noted that she tried to change the children's diet to correspond with Jeanne's when Jeanne eliminated red meat from her diet. Of this experience, she simply stated, "I tried to, but they love their hamburgers, so--" Jeanne also explained that she did not require Brandon and his brothers to change their diets because she felt portion control was more important than completely eliminating certain foods, such as pork:

> But I talk about how much you eat… now I'm dealing with a pressure problem, but pork is also the other white meat. So, I don't buy it as much… And I'm not going to knock them for what they want. It's just how much you eat. That's all you got to worry [about], is how much you eat."

Marie especially limited the amount of snack foods and sweets that were kept in the home and she made efforts to extend this control beyond the house, as was illustrated when she stated, "I had to tell the teacher to stop giving them candy." She felt that this was particularly important for her youngest son, who had been treated for several dental cavities in the past. Jeanne noted, however, that the boys gave little opposition to these rules because they preferred to snack on fruit, particularly bananas, oranges, apples and grapes. In contrast, however, Marie and Jeanne also described sometimes having to provide greater encouragement for the boys to eat certain foods. This was particularly the case with Marie's youngest son, and Jeanne illustrated a recent example of this when she stated:

> They probably have ate so much of certain things that they don't want it now. Just like yesterday…I gave them fried chicken, macaroni and cheese, and broccoli. And the baby goes, 'I don't want the chicken, I just want the broccoli and the macaroni.

Marie, in turn, described and explained her response to the child's behavior: "Right, and I had to force him [to eat the chicken], because he needs his protein."

### (ii) Diet Socialization Strategies

Marie described a combination of verbal and action-based strategies to teach and encourage Brandon and his brothers to adopt certain dietary behaviors. Making simply instructive statements (e.g., "You need to eat them green foods.") were Marie's primary verbal strategy, and of her verbal-based strategies she stated, "Well, you're going to just cook some green food, and you just eat it. You're going to put it on the plate." Jeanne took a noticeably more passive role in this area, stating, "Yeah, I talk a little, but their mother is the one that encourage [*sic*] the food. I cook it. It's all there."

Jeanne and Marie both described childhood memories of learning how to cook by sitting in the kitchen and watching as their mothers prepared meals. Jeanne also spoke of her role in teaching her son-in-law, who initially was unskilled in the kitchen, how to become a successful at using the family's traditional meal preparation techniques. Despite this, they both spoke of discouraging Marie's youngest child from watching them prepare meals. As Marie explained, this discouragement was due to their perceptions of the child's motives for observing them cook:

> That's my seven year old. I think he just—he won't do it to see how to cook. He do it because he know he about to eat. We had to tell him, 'Get out the kitchen.' And he's just sitting there.

When asked if they felt it was important to pass the family's traditional meal preparation techniques on to Brandon, his brothers and other younger members of the extended family, Jeanne responded, "It's not where it's important. It's just that if they want to learn."

#### 4.4.2.4 Family 4 Case Study

The fourth family unit included 11-year-old Jordan; his mother, Stephanie; and his maternal grandmother, Lynette. At the time of the Phase 1 interview, Jordan was 9 years old, and Stephanie was 28 years old. During the 18 months between the Phase 1 and Phase 2 data collection periods, Jordan's BMI increased from 17 to 21, indicating that he went from being of healthy weight to overweight. At the time of Phase 1, Jordan and Stephanie resided in a neighborhood in which approximately 3% of the households reported annual incomes below the poverty line, at least 65% of the residents were racial/ethnic minorities, and there was a low prevalence of obesity; they had lived in their rented home for 1.5 years. During his Phase 1 interview, Jordan stated that his grandmother's home was in a different neighborhood, but it was close enough for him to ride his bike to that neighborhood with friends. When they were interviewed for Phase 2, however, Stephanie, Jordan, and the other members of their immediate family resided in a neighborhood that was even closer to Lynette.

##### (a) Family Structure

There were some discrepancies in Stephanie and Jordan's reports of the composition of the immediate family. Based on a demographic questionnaire completed by Stephanie during the Phase 1, the household was comprised of nine individuals, including seven children, ages 2, 4, 6, 7, 9, 10, and 12. However, during the actual interview, Stephanie stated the household was composed of, "…Jordan and six of us – seven of us. He [has] two brothers and four sisters who live here." During her Phase 2 interview with Marie, Stephanie described the household composition as, "Me and Jordan and his six other siblings…12, 10, 7, 6, 4, [and] 6 months." Although Stephanie did not

mention any other adults residing with the family, Jordan discussed his stepfather whereabouts in both of his interviews. During his Phase 1 interview, Jordan noted that his father resided in a separate household with Jordan's paternal grandmother, and Stephanie stated that Jordan visited his father every weekend. In his Phase 2 interview, Jordan stated that his stepfather resided in the immediate family unit's household.

### (b) Extended Family Activities and Interactions

During their Phase 1 interviews, Stephanie and Jordan briefly discussed Jordan's relationship and activities with Lynette. Statements made during the Phase 1 and Phase 2 interviews indicated that the amount of time Lynette and Jordan were able to spend together was influenced by a number of factors, including the distance between their residences, seasonal schedules (i.e., summer v. school year), and Stephanie's childcare needs. At the time of the Phase 1, Lynette lived further away from Stephanie and Jordan, as compared to the distance between their households at the time of Phase 2, and Stephanie noted that Jordan had not visited Lynette's home since the school year started approximately two months earlier. She also discussed, however, a portion of a previous school year in which Jordan and Lynette spent several days of the week together:

> He was there half of the school year last year, because at the end of the school year, he was home school. So he was home schooled, and he was with her, because I was working, and I couldn't deal with him.

Because Lynette lived closer to Stephanie and Jordan when they completed their Phase 2 interviews, Lynette was able to visit Jordan and her other grandchildren during most weekends. These visits usually included overnight stays and took place at Stephanie's home due to the small size of Lynette's apartment. There were multiple reasons for Lynette's weekend visits, one of which Lynette stated was, "Just to visit, hang

out with the children," because she wanted to, "…spend as much time with them as possible." In addition, Stephanie was a stay-at-home mom and voiced her need to "get away" at times. Lynette recognized this need and viewed her weekend visits as a way to help Stephanie: "In any way I can. Any day she need it, if I can, I'll be there. She's my only girl, so anything she [needs], if I'm able to do it for her, she'll get it done." When asked about her relationships with grandchildren, Lynette noted that, as compared to her relationships with the other children, she was emotionally closer to Jordan, which resulted in him being more engaged with her during the family's weekend activities: "All of them be involved, but they say Jordan got spoiled… Because I did spoil him a little… Jordan's just always been there with me and to the day, he still act the same way."

Although Lynette had several siblings who lived in the Baltimore Metropolitan Area, Stephanie stated they only met with other family members living in the area for holidays and other special occasions. Stephanie's preference to "not deal with people" contributed to this level of interaction with other extended family members. In addition, because Lynette was closest to her children and grandchildren, she did not appear to be compelled to visit with other family members as often:

> Like three of them live in the city, one live in the county, three live in California somewhere I guess, but I don't know. I see them when I see them. The only family I am close to is [my son and daughter]. It's right here.

### (c) Physical Activity Behaviors and Routines

Jordan's typical physical activity behaviors were described during Stephanie's Phase 1 interview:

> Well, Jordan is a very active child. So even if there wasn't no kids in the neighborhood, he would still find something to do with himself because he is very active. He don't like to stay still unless he's in his room. But when he's outside, he's always on the go. So even if there wasn't nobody come and play with, he still

> probably would ride his bike. He got Healies so he probably would ride them. So a lot of stuff for him to do even if it wasn't a child type neighborhood.

At that time, Jordan's statements indicated that his primary outdoor activity was bike riding, and he mentioned that although there were outdoor activities in which he wanted to participate, he was unable to do so because he did not possess the skills to do; for example, he wanted to play basketball, but he didn't know how to "shoot the hoop". In addition, although he often rode his bike to a nearby park, Jordan was unable to describe his engagement in any specific activities while at the park. Based on statements during his Phase 2 interview, it appeared that Jordan's physical activity was primarily obtained through his participation on organized, local sports teams (football and basketball). On a typical afternoon, the majority of Jordan's time at home was spent watching television and/or playing video games.

### (i) Physical Activity Monitoring Strategies

Stephanie's statements during her Phase 1 interview indicated that in regards to time allowed for physical activity, she was very structured in methods for monitoring her children's physical activity. Jordan and his siblings were required to come inside and prepare for dinner and bedtime at 6:00 PM. Stephanie recognized that this schedule limited the children's outdoor playtime, but she maintained this schedule throughout the year:

> But they have to be in by 6:00…they go take their showers, come downstairs and eat. Then they'll wash their face and hands again and get ready for bed… No matter when it is. Everybody say I'm crazy for doing that all summer, but I think it's because I don't want to break them out of their schedule because summer is really not that long. For like two months, they get a break… So there's no point of breaking [their habit] for almost 60 days. So I keep the same schedule.

This schedule was also in place at the time of the family's Phase 2 interview, and Jordan noted that during the school year, he was required to complete his housework and chores (i.e., cleaning his room and taking out the trash) prior to going outside. In addition, he and his sibling were required to stop watching television and go to bed at 9:00 PM.

Although Stephanie was very specific in her expectations of when Jordan and his siblings were required to come in the house for evening, she did not exhibit the same level of monitoring in terms of what the children actually did when they were outside. When asked if Jordan was required to stay within the block, Stephanie replied,

> Yes. Well, unless they walk to the playground or to the store. That's probably the most activities that they have in the afternoons after school. I think that's all they do when I ask them… [The playground is] probably three or four blocks away…[and the store] is across the street from the playground… they end up at the high school too.

Stephanie exhibited a similar level of concern about the children's specific outdoor activities during her Phase 2 interview when she stated, "I don't care what they do outside. They just can't run, jump, and play in the house. Too much noise." Despite Stephanie's lack of knowledge concerning Jordan's exact whereabouts, Jordan's statements during his Phase 1 interview indicated that he knew that there were specific street boundaries to his allowed play area. Beyond allowing the children to choose their activities during her weekend visits, there were no statements during either of the Phase 1 or Phase 2 interviews to indicate the extent of Lynette's monitoring of Jordan's physical activity.

### (ii) Physical Activity Socialization Strategies

Based on statements made during their Phase 2 interviews, Jordan's engagement in physical activities with Stephanie was minimal. This was true for leisure and

functional activities and due, in part, to Stephanie's lack of energy, which she attributed to the demands placed on her as a stay-at-home mother. In contrast, Lynette noted that her weekend visits typically included joining Jordan and his siblings for a variety of physical activities: "Me and the kids, and I might do handstands, flips, anything they want to play, whatever they want to do." In addition, Lynette's love for walking and her inclusion of Jordan in her walking activities were discussed during the family's Phase 1 and Phase 2 interviews. During her Phase 1 interview, Stephanie stated, "My mother likes to walk, so they [are] always going somewhere when he's with her." When completing her Phase 2 interview with Stephanie, Lynette explained that this was also something she did when Stephanie was a child:

> When she was a kid, Stephanie and I went a lot of places. You know, I walk. I just walk, and I don't know why, but I do, and I took her, as a kid, a lot of places, and threw her in her stroller and we was off. When she started walking, she walked. That's how I do with them. We might walk anywhere like I said. Me and them might be gone to the playground. That's just all I do.

Despite Lynette's regular engagement of Stephanie in functional and leisurely walking during Stephanie's childhood, Stephanie did not continue this practice as an adult. However, Stephanie mentioned that during the few weeks prior to her Phase 2 interview, she began participating in one hour of functional physical activity on each school day by walking her children to and from school:

> I just started walking a couple of weeks ago. I ain't never walked… I didn't like to walk… It's too much time, you know. [But now], instead of jumping in a car to take them school, picking them up, I'll walk down to school and pick them up.

During the Phase 1 interviews, Jordan and Stephanie discussed Jordan's involvement in organized sporting activities. In addition, in the family's Phase 2 interview, Lynette also noted that Jordan plays football each year and was planning to

participate in the upcoming season of basketball. Although Stephanie made sure that Jordan was continually engaged in these types of activities, she mentioned that since the family's relocation, she had not yet found any physically active extracurricular activities in which her daughters could participate. This was, in part, due to her perceptions of her children's day-to-day activity level and of the importance of keeping them all physically active: "Well actually, they're kids so everything they do is physical. They do everything. They run. They jump. They play." Because of this, Stephanie did not feel that it was necessary to immediately seek out additional physical activity opportunities or verbally encourage the children to be physically active.

**(d) Dietary Behaviors and Routines**

During his Phase 1 interview, Jordan discussed some of his meal settings and food preferences. He noted that his breakfast meal was eaten at school and typically consisted of cereal and milk. When he visited his father and paternal grandmother during the weekends, Jordan enjoyed eating pancakes, which were usually cooked by his grandmother. Jordan also mentioned that he enjoyed eating vegetables, such as carrots, broccoli, and fresh salads, and Stephanie noted that he enjoyed "all types of sides", such as collard greens and green beans. At that time, it was common for Jordan to walk or ride his bike to a nearby corner store, where he would purchase "ice cream, chips, apples, [and] bananas", after returning home from school. According to Stephanie, Jordan's after school snacks acquired from within the house included, "…a lunch meat sandwich or peanut butter and jelly or some fruit." Jordan's preferences for dinnertime meals included ravioli and shrimp, and although his mother frequently prepared chicken for dinner,

Jordan stated that he didn't like it; he also noted that he was only able to eat shrimp when he was visiting his grandmother.

Stephanie's Phase 1 interview also provided further insight to the family's dinner routine through the course of a typical week:

> …well, they eat out once a week every Friday. But during the week, I'll fix four meals one week. Friday, I let them eat out, and then another day, I'll let them pick what they want to eat, but it's still inside the house… Mondays and Sundays, I'll cook the big meals. Tuesdays and Wednesdays is like a meal but it's not real heavy. It'll be something easy for them to eat than going to have to go sleep on something real heavy. But Tuesdays, I'll probably either bake chicken or fish, wings. And whatever I didn't fix Tuesdays, I'll fix Wednesdays. That's how it goes.

The "big meals", as Stephanie noted, were "three course" meals that required more preparation, as was demonstrated in the previous Sunday's meal, which consisted of spare ribs, collard greens, and macaroni salad. Based on other statements during Stephanie and Jordan's Phase 1 interviews, the lighter meals included simpler dishes such as frozen dinners, tacos, ravioli, and hot dogs with beans.

### (i) Diet Monitoring Strategies

During her Phase 1 interview, Stephanie described her methods for monitoring the diets of Jordan and his siblings. These methods primarily consisted of maintaining a set schedule for serving dinner, preparing her meals in a certain manner, and setting specific allowances for what the children were allowed to eat between meals. The family's dinner was served at 7:00 PM each night, and, just like the children's 6:00 PM curfew, this schedule was generally held constant throughout the year, with few exceptions during the summer months or other school breaks. Stephanie also monitored what Jordan and his siblings consumed at meals by preparing most of the meals herself and limiting the

amount of meals that were eaten outside of the home. As she explained, this was partially due to her concerns about the children's health:

> ...I'm the only one that cooks because I don't season my food. I don't like anyone to cook my food because I don't put seasoning while I'm cooking it because I don't want them to get a lot of salt, sugar, whatever it is. So…if they ask for it, I'll give it to them. If they don't, I won't offer it to them. So I don't like to put salt in food because…you'll never know what might happen.

The children's snack food choices were also closely monitored. Stephanie explained that she did this to reduce conflicts over food between Jordan and his siblings.

In addition to monitoring the children's diet during meals eaten at home, Stephanie's Phase 1 interview revealed that she had recently increased her monitoring of the children's school-based meals. As she explained, "Yeah, I stopped sending them to breakfast at school because I'm not sure if they're eating all their food or what they're eating." While Stephanie also provided lunch for her youngest daughter to take to school, she allowed the older children, including Jordan, to choose their own school lunches, but these choices were also regularly monitored: "They get what they want to eat in school. If they say they don't eat in school, I will question them, 'Why didn't you eat it.' And then, you know, they'll tell me, 'Because it didn't look right.'" Because Stephanie felt she was well aware of the children's dietary patterns, her monitoring techniques did not include eating meals with her children:

> Sometimes I watch them while they eat mainly because of what I cook, but most of the time I don't. If I'm not eating with them I don't watch them because they won't eat… because I know who eats and how much food they eat.

One arena in which Stephanie did not closely monitor Jordan's dietary patterns was his weekend visits with his father and paternal grandmother. She was unsure of what types of

foods he consumed during those visits but speculated that "they probably eat take-out over there all the time".

Statements made by Lynette and Stephanie during their Phase 2 interview indicate that there were differences in how the two women monitored the diets of Jordan and his siblings. While Stephanie closely monitored the children's diets to ensure they were consuming what she perceived to be the correct types and amounts of food, Lynette was much more permissive and allowed the children more liberties in choosing what they would eat when they were in her care. When asked what Jordan and his siblings typically ate during her weekend visits with them, Lynette replied, "Whatever they want to do. We might make rice krispies treats, might back cookies. Whatever they want to do… Restaurant food. Whatever they want. If I got the money, they get it. Ice cream. Whatever." Lynette also enjoyed cooking for her grandchildren, and because of this, often cooked what were perceived as "special foods" for the children outside of special occasions: "If I'm in the mood, I'm going to do it. Cooking is part of my life. I love to cook. I might come up here and make a rice pudding for them just because I'm bored."

During the Phase 2 interview, Stephanie's statements and tone of voice made it clear that she did not approve of Lynette's mechanisms for monitoring the children's diet. According to Stephanie, Lynette would often spend "ten dollars in chips and juice and pizza, [fried] chicken boxes" for the children. Although Stephanie labeled these as "junk food" that Jordan and his siblings receive "only when grandma's here", she also described the composition of her own cooked meals as, "…mainly like tacos, spaghetti, fried chicken, baked chicken." In addition, despite Stephanie's discussions of her close monitoring of the children's diets, Lynette noted that Stephanie often allowed Jordan and

his siblings to have whatever they want, and Stephanie reluctantly acknowledged that this was true. Even though there were differences between the women in how they fed the children, Stephanie explained that they avoided disagreements and confrontations because she was typically not home during Lynette's weekend visits with Jordan and his siblings.

### (ii) Diet Socialization Strategies

As was the case with the family's physical activity socialization practices, there were differences in how Lynette and Stephanie taught Jordan and his siblings to adopt dietary behaviors. At several points during the family's Phase 2 interview, Lynette spoke about how much she enjoyed cooking and of how important it was for her grandchild to learn her meal preparation techniques. This was illustrated when she was asked about what dietary practices she felt were most important for Jordan and his siblings to learn: "I hope I pass down them learning how to cook. That's all." Actively engaging her grandchildren in meal preparation was Lynette's primary strategy for ensuring that her grandchildren learned her meal preparation techniques: "…one might help me with certain things. Some of them like [to help with] flour. Some of them might just sit and read it to me, read the recipe. [I] try to teach them as much as I can." This appeared to be a change from what took place at the time of the Phase 1 interviews; at that time, Jordan stated that he was typically in the living room while his grandmother was preparing meals.

In contrast to Lynette's concerns with meal preparation techniques, Stephanie was more concerned with teaching Jordan and his siblings about specific dietary behaviors. It appeared that Stephanie taught the children the desired behaviors by providing verbal

instructions to the children and facilitation the children's engagement in specific dietary behaviors. During the Phase 2 interview she stated, "I teach them like to eat only healthy stuff. Juice or sodas do not quench your thirst, only water. Eating vegetables builds your bones…" At the time of her Phase 1 interview, Stephanie's facilitation of desired dietary behaviors was illustrated when she discussed how she addressed recent challenges with Jordan and his siblings' low consumption of certain vegetables:

> Well, they like green beans. They like all types of sides. One vegetable actually they wouldn't like is peas. So I tried something new, mixing peas and corn together and see if they eat it like that. They've been eating it like that. I guess they don't like to see all them peas piled up on their plate. So I started making peas and corn together.

## 4.5 DISCUSSION

This illustrative case study analysis of the four Phase 1 and Phase 2 family units provides an in-depth description of four children's dietary and physical activity behaviors and the family-level factors that may influence those behaviors. In addition, this paper provides insight to how mothers and extended family members go about monitoring those behaviors and socializing children to adopt additional behaviors that are perceived to be important, as well as insight to some of the motivating factors driving the monitoring and socialization practices that are used. There were within and across case differences and similarities in how and why mothers and extended family members monitored and taught dietary and physical activity behaviors in their families.

### 4.5.1 Physical Activity Behaviors: Emerging Themes and Concepts

#### 4.5.1.1 "Kids are Just Busy" v. "Kids Need Something to Do"

In each of the case studies, the children discussed how much they enjoyed engaging in recreational physical activities and/or were described as being physically active without the need for prompting by their mothers or extended family members. Related to this commonality, there were two primary themes that emerged from the data: "Kids are Just Busy" and "Kids Need Something to Do".

"Kids are Just Busy" refers to the mothers' or extended family members' perceptions of the children's physical activity levels and beliefs related to modeling and/or facilitating physical activity for their children. In two of the case studies (Ashlyn and Jordan), mothers perceived their children to naturally engage in high levels of physical activity; this may have contributed to the mothers' diminished perceived need to provide additional, organized activities or model an overall physically active lifestyle for their children. In another case study (Madison), the grandmother demonstrated a laissez-fare attitude toward modeling and/or facilitating a physically active lifestyle for her granddaughter, but this appeared to be related to the grandmother's high level of functional physical activity rather than her perceptions about the child's level of physical activity. These perceptions and resulting parenting behaviors indicate that the mothers may not realize or understand their level of influence in socializing their children to adopt and maintain a physically active lifestyle.[184] This may have implications for a physically inactive lifestyle later in the children's life course, as research suggest that as they approach adulthood, children may begin to model parental behaviors that are observed during childhood.[180]

"Kids Need Something to Do" refers to the mothers' or extended family members' awareness of children's physical activity needs accompanied by the purposeful facilitation of functional or recreational physical activities for the children. There were varied motives for the parental awareness and resulting parenting behaviors. In one case study (Madison), the mother's behaviors were primarily due to her general beliefs that people should take more opportunities to be physically active and her daughter's expression of weight concerns. It is also possible that the mother was motivated by her own childhood involvement in sports, as well as her own concerns about her daughter's weight. Another case study (Jordan) demonstrated very different motives, as the grandmother's desire to spend time with her grandchildren motivated her facilitation of functional and informal recreational physical activity for her grandchildren. This behavior is characteristic of African American grandmothers, who often look forward to time spent with their grandchildren and view caring for their grandchildren as a privilege.[153]

One case study (Brandon) was unique in that the mother and grandmother discussed beliefs and practices that were indicative of both themes. Although both of the adults perceived the children to be naturally physically active, they also felt that it was important to keep the children involved in organized, recreational physical activities as a means of "keeping them off the street". The family's clear demonstration of both themes may have been a byproduct of the neighborhood in which the family resided, as the crime level and lowered sense of safety were also discussed as contributors to the women's motives for seeking out recreational activities for the children.

#### 4.5.1.2 Family Response to Neighborhood Environment

There is a notable contrast between two of the case studies (Brandon and Madison) in regards to how they responded to the characteristics of their neighborhoods. The neighborhood comparison in Table 10 shows significant differences between Brandon and Madison's neighborhoods, with Brandon's family residing in a neighborhood where the median family income was less than $21,000 per year and 50% of the families have incomes below the poverty level, and Madison's immediate family residing in a neighborhood where the median family income was almost $55,000 and 4% of the families have incomes below the poverty level. In addition, through my informal observations when arriving at and leaving the homes before and after the interviews, I was able to ascertain noticeable structural differences between the two neighborhoods (e.g., apartments and row houses v. single family homes; lack v. presence of backyards; presence v. lack of abandoned buildings) and was aware of differences in my own sense of safety.

Despite the existence of potential barriers to physical activity in their neighborhood (e.g., safety concerns and a lack of recreational facilities),[19] Brandon's mother and grandmother regularly sought out recreational opportunities that were external to the neighborhood; these opportunities were meant to distract the boys from the negativity in the community, but also directly influenced their physical activity behaviors. In contrast, Madison resided in a neighborhood that appeared to be more conducive to casual play and had physical activity resources nearby (i.e., the YMCA and the walking path around the lake), yet she was also taken to another neighborhood for recreational play. This may have been related to several factors, including the fact that

Madison could only access the available physical activity resources with her mother or another adult; as well as her mother's belief that it was important for Madison to spend time with extended family members who lived in another neighborhood.

These contrasts indicate that when parents and extended family members are aware of the importance of their children's physical activity, they may go beyond the perceived or actual boundaries of their neighborhoods or communities to seek out opportunities and venues to facilitate the physical activity. In addition, some neighborhoods may have physical activity venues that may be easily and independently accessible by adolescents or adults, but not by children. Although these types of venues are usually perceived as health-promoting attributes of neighborhoods, families who reside in neighborhoods with these types of venues may experience the same degree of difficulty in keeping children physically active as families who reside in neighborhoods that do not have any physical activity venues at all. This suggests that families in both types of neighborhoods may need to make deliberate efforts to assist children in achieving the recommended levels of physical activity.

#### 4.5.1.3 Family Structure and Physical Activity

In three of the case studies (Madison, Jordan, and Ashlyn), there were illustrations of the potential influences of family and/or household structure changes on children's physical activity behaviors. Madison's after school play decreased significantly when her immediate family moved out of her grandmother's home, where she had more opportunities to play with cousins and other playmates. In contrast, Jordan may have experienced an increase in functional and recreational physical activity engagement due to his immediate family's move to a neighborhood that was closer to his grandmother's

home. These examples supports findings from other research indicating that closer proximity between members of an extended family network facilitates more frequent interactions within the network, and suggests that children's physical activity engagement is also affected by the physical distances between family members. Jordan's case also demonstrates the potential influence of family-based collectivism, as it was evident that compared to his mother, his grandmother served as a stronger physical activity behavioral referent; this may have been related, in part, to the sense of closeness in that was described as being characteristic of his relationship with his grandmother.[149,181] The example provided by Ashlyn illustrates changes within the household and supports previous research that purports that parental separation or divorce may cause a decrease in children's engagement in physical activity;[31] in general, Ashlyn was still physically active, but it appeared that she experienced a decrease in physical activities with adults as a result of her father leaving the household.

### 4.5.2 Dietary Behaviors: Emerging Themes and Concepts

Several themes related to dietary behaviors and routines emerged across the families; most notable are the emergent and intertwined themes of "Sunday Dinners", "What Grandmothers Do" and "Teaching Them to Cook". The mothers and extended family members did not refer specifically to African American culture or heritage when discussing these emerging themes and concepts related to dietary behaviors. Instead, they spoke specifically of continuing family-based traditions that they observed during their childhoods. This provides evidence for the presence of family-based collectivism among these families, as respect for family traditions has been described as a basic element of

family-based collectivism.[185] In addition, the commonalities in these traditions across the families suggest that many of the values and norms of African American culture remain inherent within African American families. This was demonstrated through the "Sunday Dinners" theme. Sundays appeared to be a symbolically significant day across all of the families, as all of the mothers and extended family members discussed special dinner meals and/or family activities associated with this day of the week. The practice of preparing large family dinners on Sundays dates back to slavery; during that time, slaves received their weekly food rations on Saturdays, which facilitated large dinners in celebration of the day of rest on Sundays.[110,112]

The "What Grandmothers Do" and "Teaching Them to Cook" themes are closely related and reflect practices embedded in African American heritage. "What Grandmothers Do" refers to actions carried out in response to grandmothers' perceived and/or actual roles and responsibilities as matriarchs. With regards to the families' dietary behaviors and routines, the grandmothers discussed their role as meal preparers for their families. Discussions by the participants indicate that "Teaching Them to Cook" was an important part of the grandmothers' food-related responsibilities. Based on statements made by the children and grandmothers, two of the grandmothers began teaching children about traditional meal preparation techniques when the children were of relatively young ages, and in one case, the grandmother also assumed the responsibility of teaching these techniques to others relatives. The grandmothers appeared to value and enjoy their food-related roles and responsibilities, and it may have served as a mechanism through which they could express their affection for their families.[109] In addition, these practices further demonstrate the continuation of practices linked to African American heritage, as

research shows that African American grandmothers have traditionally played an important role in influencing the dietary practices of their families and households, often serving as the primary food gatherers and meal preparers.[153] They have also been significantly involved in teaching younger generations in their families about the traditional meal preparation techniques and other familial and cultural foodways.[153] This is another practice that began in the plantation kitchens during slavery, when laws against slave literacy contributed to the verbal passage of food preparation techniques to become a central component of the slaves' foodways.[110]

### 4.5.3 Strengths and Limitations

The primary strength of this work is the use of multiple data sources and referents for each case study, which was developed from a total of four interviews and three interviewees for each family. This facilitated in-depth explorations of the dietary and physical activity behaviors and routines of the children and their family members, as well as the contexts in which these behaviors and routines occurred. Furthermore, the two-part study design allowed for a review of multiple families' Phase 1 interviews, which highlighted areas in which further questioning was needed and helped to develop the interview guides for the Phase 2 interviews.

However, the data collected and analyzed are self-reported, and there may be some differences in what the participants discussed and what was actually experienced within each family. In addition, because only three family members were interviewed for each family unit, this work can only provide an analysis of the families based on the accounts of those individuals. The behaviors, attitudes, and beliefs of other members of

the extended family network may also play direct or indirect roles in influences the dietary and physical activity behaviors of children, but additional research is required to explore and understand those influences.

In general, the primary caregivers and extended family members were forthcoming when responding to the interview questions. The adults contributed to one another's responses and appeared to be comfortable with interviewing together. However, while there were no apparent drawbacks to conducting paired interviews with the primary caregivers and extended family members, it is possible that conducting individual interviews would elicit additional and/or different responses, from one or both of the adults.

Although this work presents an in-depth analysis of the families' dietary and physical activity behaviors and the contexts in which those behaviors occur, it is important to note that the findings cannot be generalized to all of the children and mothers and other primary caregivers from the Phase 1, nor can they be generalized to the remaining Phase 2 family units. In addition, the findings cannot be generalized to all African American children with similar family characteristics. Furthermore, although the study population includes children and families from multiple Baltimore City neighborhoods, the findings of the study are also not generalizable to all children and families across the city or within each of those neighborhoods. However, given the population and geographic setting of the study, it may be possible to use the findings presented here to make inferences about the familial and cultural contexts surrounding the dietary and physical activity of African American children and their families in other

urban settings, within the neighborhoods inhabited by the study participants, and in other Baltimore City neighborhoods with similar demographic characteristics.

### 4.5.4 Future Data Analyses

Future analyses will also include an in-depth exploration of the socialization practices used by the primary caregivers and extended family members. As noted by Welk,[148] there are four major types of parental socialization influences: encouragement, involvement, facilitation, and role modeling. Based on details presented in the case studies and other preliminary analyses, the exertion of these influences on the children's behavior is not limited to the primary caregivers; extended family members also either positively or negatively display each type of influence. Therefore, additional work will be done to compare the types of influences used by primary caregivers and extended family members, as well as the motivating factors and targeted and/or resulting behaviors of those influences. In addition, future work will also include analyses of inconsistencies in the socialization influences exerted within family units, as this case study revealed that within some of the families, there may be some lack of agreement within their families regarding the verbal instruction and actual behaviors of their mothers.

Noticeably absent in the discussion of this paper's emergent themes are discussions related to Tracey, Ashlyn's maternal cousin. This may be due to the fact that Tracey was the only extended family member who was not the maternal grandmother of the participating child. Because there are equal representations of maternal grandmothers and other maternal relatives in the total Phase 2 study sample, future analyses will further explore and seek out emergent themes in how the grandmothers may differ from other

relatives in their teaching and monitoring of children's physical activity and dietary behaviors. Based on preliminary analyses, it is speculated that this may be, in part, due to a greater sense of family-based collectivism, operationalized by a greater degree of involvement and perceived and actual level of responsibility in the children's lives.

It is plausible that children who have extended family networks in which there is a high degree of family-based collectivism may experience greater and more active or direct socialization by the extended family members with whom they interact the most. Therefore, the findings of this case study analysis will be used to guide future in-depth analyses of socialization influences and how the primary caregivers and extended family members' influences may be related to the degree to which family-based collectivism is operationalized within the extended family networks of the Phase 2 family units.

# 5.0 MANUSCRIPT TWO: "I HAVE TO SAY, 'GO OUTSIDE AND PLAY.'": UNDERSTANDING THE HOW, WHEN, AND WHY OF PHYSICAL ACTIVITY SOCIALIZATION PRACTICES IN URBAN AFRICAN AMERICAN EXTENDED FAMILY NETWORKS

## 5.1 ABSTRACT

**Background:** Childhood obesity is a public health issue of increasing import and long-term implications for the health status throughout the life course,[1,63] and the family environment plays an important role in determining children's weight-related behaviors.[30,178,179] Parents have direct and indirect influences on their children's physical activity engagement,[146] and these influences may come in a variety of forms, including role modeling and providing social support for the child's engagement in physical activity behaviors.[147,186] In African American families, extended family members traditionally play a significant role in socializing children to adopt cultural norms.[4,5] Furthermore, African American extended family networks are often characterized by a high degree of family-based collectivism, which often leads to a multigenerational approach to child rearing.[5,46] Given the importance of extended family networks among African Americans and the potential influence of extended family members on children's physical activity behaviors, gaining an improved understanding of the family and/or

household contexts in which the children are socialized may provide insight for developing improved interventions to address childhood obesity for African American children and their families.

**Methods:** The purpose of the current work is to qualitatively explore how extended family members interact with children and how extended family members potentially differ from primary caregivers in terms of the mechanisms they use to socialize children to adopt desirable dietary and physical activity behaviors and related norms. The study included 24 individuals across 8 family units (i.e., one child, one primary caregiver, and one extended family member per family unit), who participated in in-depth, semi-structured interviews designed to elicit information regarding the children's dietary and physical activity behaviors, related familial and cultural norms, and differences in how primary caregiver and extended family members socialize children to adopt those norms.

**Findings:** This paper focuses on the analysis of the physical activity behaviors and routines of children and their families. The children ranged in age from six to eleven years with an average age of 10, and five of the children were male. With exception of one family unit in which the primary caregiver was the child's maternal grandfather, all of the primary caregivers were the biological mothers of the children, and all of the extended family members were maternal relatives of the children. Primary emergent themes address how the primary caregivers and extended family members describe their efforts to keep children physically active and develop healthier, more physically active lifestyles for their families, as well as the challenges, motives, and beliefs concerning

mechanisms for socializing children to adopt physical activity behaviors. The findings suggest that there may be differences in the mechanisms used by primary caregivers and extended family members, with extended family members utilizing more active, direct socialization strategies and primary caregivers demonstrating passive, indirect strategies.

**Conclusion:** The findings of the study indicate that the African American extended family network may influence children's physical activity behaviors by actively engaging in physical activity with the children. Primary caregivers may be less physically active with children due to time and financial constraints. Future family-based obesity interventions for African American children should consider reaching beyond the immediate family unit to include extended family members who may serve as physical activity behavioral referents for children and their primary caregivers.

## 5.2 INTRODUCTION

The percentage of obese children in the United States increased from 5% during the 1970s to 17% in 2007-2008,[71] and in 2007-2008, 32% of all children in the country were overweight or obese.[72] National health trends data show that racial/ethnic disparities exist in the prevalence rates of these conditions and in the increases of the prevalence rates since the 1980s, with the highest prevalence of overweight being among African American girls, and the greatest rate of increase in obesity prevalence being among African American boys.[3,8] These trends in childhood overweight and obesity rates and disparities are mirrored among the children of Maryland,[80] and there is some evidence to

suggest that similar disparities are found among Baltimore City's children.[10] With 50% of all children and adolescents in the United States predicted to be obese during adulthood, this will likely be a long-term burden with negative psychosocial, socioeconomic, and chronic health implications.[1,2,11-15] Given the racial/ethnic disparities observed in childhood overweight and obesity prevalence, it is plausible that these long-term implications will disproportionately affect African American children as they continue through the life course.

Due to their significant role in preventing and contributing to premature death, *Healthy People 2010*[65] identified overweight and obesity as a leading indicator of health, and *Healthy People 2020*[16] promotes the prevention of chronic disease through the achievement and maintenance of a healthy weight status. In the past, efforts to promote healthy weight management in children and adolescents emphasize the maintenance of a caloric energy balance.[65,66] However, research shows that there is a complex set of factors leading to childhood overweight and obesity, thereby requiring the consideration of multiple aspects of the child's life when seeking to understand, prevent, and/or treat these and related health conditions.[11,17-20] In addition to the child's physiology (i.e., sex, age, genetic predisposition, etc.)[11,21,22] and surrounding environment (i.e., neighborhood safety, access to physical activity-related resources and/or healthful food sources, etc.),[19,23,24] the absence or development of childhood overweight and obesity may also be influenced by the child's cultural background[11,25-27] and familial characteristics.[28-31]

### 5.2.1 Parental Influences on Child Physical Activity Behaviors

Parents have direct and indirect influences on their children's physical activity engagement.[146] These influences may come in a variety of forms, including role modeling and providing social support for the child's engagement in physical activity behaviors.[147,186] According to Welk,[148] there are four primary types of socialization influences that parents impress upon their children regarding the adoption of physical activity behaviors: role modeling, involvement, facilitation, and encouragement. Role modeling involves the parent's deliberate efforts to serve as an example of one who is engaged in a physically active lifestyle; this includes day-to-day functional and recreational physical activity and goes beyond participation in structured exercise or similar activities.[148] Role modeling, in turn, may include a parent's involvement in or provision of direct assistance with the child's physical activity.[148] Though a parent may not model or be directly involved in the child's physical activity, there may be parental facilitation of physical activity, in which the parent eases the process necessary for the child to engage in physical activity behaviors.[148] Each of these influences may be related to the encouragement of physical activity, which involves the parent's use of verbal and nonverbal mechanisms to encourage the child's physical activity behaviors.[148]

The intersection of culture and the family environment play an important role in how these influences are impressed upon children. Children's behaviors are directly influenced by family socialization practices, and because parents typically socialize children to adopt the behaviors necessary to be accepted by and successful within a particular cultural group, these influences and socialization practices must be examined within the cultural contexts in which they occur.[97] In addition, it is important to consider

the sociocultural resources that impact those influences and practices and how and why they are carried out.[98] Taking this approach may help to enhance understanding of parenting behaviors and family socialization practices regarding children's dietary and physical activity behaviors.

### 5.2.2 The Role of Extended Family Networks in Teaching Cultural Norms

One cultural context of importance is the children's relationships with immediate and extended family members. As noted by Yasui and Dishion,[98] children's interactions with parents, siblings, and other relatives are guided by culturally defined relationship dynamics. Among African American families, these relationship dynamics are often informed by the concept of family-based collectivism, which often results in a sense of familial closeness characterized by family members' trust among and respect for each other, sharing life experiences with one another, and the ability to depend on each other during times of hardship.[181] Due to the high degree of interaction among kinship support networks that practice family-based collectivism, family members may also serve as behavioral and attitudinal referents for each other.[149,150]

Traditionally, African American children are often socialized to adopt cultural norms through extended family members.[4] This is due, in part, to the high degree of family-based collectivism that is often observed in African American families, which can lead to families that are multigenerational and dynamic, not only in regards to structure and functioning, but also in household composition and child-rearing.[5,45] Because of this, African American children are more likely to live with or share a residence with extended family members.[5,45] In addition, there are often co-parenting arrangements that involve

extended family members and have fluid boundaries in gender roles as they relate to child rearing responsibilities.[5,46]

Research shows that mothers and fathers within the same family unit may use different socialization strategies for conveying acceptable weight-related behaviors to their children,[55] so it stands to reason that socialization practices utilized for teaching children cultural values and norms regarding physical activity behaviors may differ between primary caregivers and the extended family members involved in caring for children. In addition, due to the historical experiences of African Americans as a whole, and the societal demands placed on matriarchs, patriarchs, and other members of African American families, Gadsden[52] notes the importance of adopting an intergenerational framework for exploring the diverse and unique aspects of African American family life, particularly when addressing how individual actions and cultural heritage work together to promote or inhibit the healthy development of African American children.

An extensive review of the literature shows a clear need for a qualitative examination of the relationships urban African American children have with their extended family members and how children's engagement with extended family members may influence the children's dietary and physical activity behaviors. There is a lack of understanding about family dynamics and interactions, particularly concerning the potentially complex mechanisms by which these factors influence those behaviors. Developing a deeper understanding of how extended family networks and their socialization practices influence children's dietary and physical activity behaviors may be of particular importance for developing interventions that are effective and culturally

appropriate for preventing and treating overweight and obesity among African American children.

### 5.2.3 Purpose of the Study

This paper presents findings from a qualitative study designed to examine cultural and familial influences on the physical activity and dietary behaviors of African American children residing in Baltimore City, Maryland. More specifically, the study seeks to explore the roles played by extended family members in socializing children to adopt dietary and physical activity behaviors and related cultural norms. The primary research question guiding the data analysis is "What are the core cultural values related to physical activity that are transferred to children via primary caregivers and extended family members?" This paper presents physical activity socialization-related themes to address the main objectives of this portion of the analysis, which were: 1) to explore the core cultural values related to physical activity that are transferred to children via the socialization practices of extended family members, and 2) to explore how, if at all, the socialization practices of extended family members differ from those employed by primary caregivers.

## 5.3 METHODS

This study took place in two phases and spanned a total of 23 months, from the start of data collection for the first phase (September 2008) to the end of data collection for the

second phase (August 2010). Phase 1, the Childhood Neighborhood Study, included the collection of quantitative and qualitative data to examine multiple household and neighborhood factors related to childhood obesity. At the onset of the Childhood Neighborhood Study, Phase 2, the Extended Family Follow-Up Study, was not planned. During data collection and analyses for Phase 1, themes related to extended family networks emerged, and Phase 2 was developed to explore those themes in greater depth. Figure 6 depicts the research design for Phase 2. The Johns Hopkins Medicine Institutional Review Board approved the research protocols for each phase.

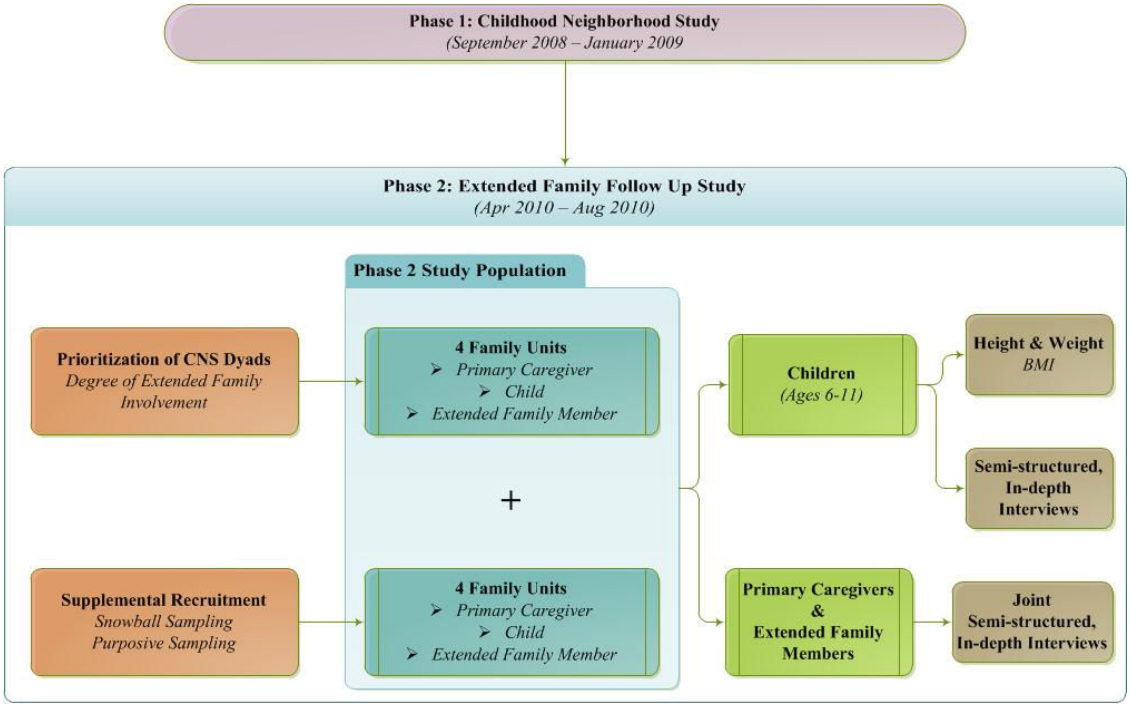



**Figure 6. Phase 2 Research Design**

### 5.3.1 Recruitment Strategy

The Extended Family Follow-Up Study (Phase 2) was designed to build upon and extend the Childhood Neighborhood Study (Phase 1) by conducting a more detailed examination of the family-level factors related to childhood obesity, particularly among urban African American children and their extended family networks. Five recruitment categories were developed based on reviews of the primary caregiver and child interviews from Phase 1. These categories reflected the extent to which extended family members were involved in the child's physical activity, dietary, and/or general practices or routines and the subsequent anticipated degree of influence on the child's weight-related behaviors. For example, it was hypothesized that children residing in multi-generational and/or blended family households would experience a greater degree of interaction with and influence from extended family members, as compared to children who did not have any extended family members in the Baltimore Metropolitan Area.

Table 12 lists the five categories, in order of greatest to lowest recruitment priority, as well as the number of primary caregiver-child dyads assigned to and interviewed from each category for Phase 2. There was no prioritization of individual families within each category. One primary caregiver-child dyad from Phase 1 was excluded because of the child's developmental and special needs status, leaving a sampling frame of 30 primary caregiver-child dyads. All other primary caregiver-child dyads from Phase 1 were eligible to participate if the primary caregiver 1) still resided with and was the legal guardian of the child who participated in Phase 1; 2) was willing to allow the child to complete a 30-45-minute interview and to allow the child's height and weight measurement for Phase 2; and 3) was willing to identify and complete an

interview with an adult member of the child's biological or fictive extended family, with the understanding that some information from the Phase 1 interview might be shared with the extended family member. Fictive kin encompassed individuals who were not biologically related to the primary caregiver and/or child but were considered by the primary caregiver to be "like family" and/or have a significant secondary caregiver role for the child; this was allowed because of the traditionally dynamic structure of African American families, in which the inclusion of fictive kin is common.[5,45,46] Each participating primary caregiver-child dyad from Phase 1 was combined with their respective extended family members to create a family unit for Phase 2.

**Table 12. Phase 2 Recruitment Priority Strategies**

| Category | Phase 1 PC-Child Dyads (*n*) | Phase 2: Recruited & Interviewed (*n*) | Phase 2: Other Recruitment Outcomes (*n*) |
|---|---|---|---|
| Multi-generational households | 8 | 1 | Ineligible (1)<br>Loss to follow-up (6) |
| Extensive EFM involvement AND influences and/or differences in diet/physical activity discussed explicitly by child and/or PC | 10 | 2 | Ineligible (2)<br>Loss to follow-up (4)<br>Refusal (2) |
| General, extensive EFM involvement discussed by child and/or PC | 7 | 1 | Loss to follow-up (5)<br>Refusal (1) |
| Extended family not in Baltimore, but visit regularly | 2 | 0 | Loss to follow-up (2) |
| Extended family not in Baltimore nor discussed by child or PC | 3 | 0 | Loss to follow-up (2)<br>Refusal (1) |
| **Total** | **30** | **4** | **26** |

Due to loss to follow-up ($n$ = 19), lack of eligibility ($n$ = 3), and refusal to participate ($n$ = 4), only 4 of the primary caregiver-child dyads from Phase 1 were successfully contacted and scheduled to complete an interview with their extended family members for Phase 2. The high rate of families loss to follow-up may have been attributable to several factors, one of which was likely the 20 months that lapsed between the start of the data collection periods for Phase 1 and Phase 2. In addition, at the time of data collection for Phase 1, almost half of the primary caregivers in the sampling frame indicated that they were renting their residences ($n$ = 14), and more than one-third of the primary caregivers provide cellular telephone numbers as their main form of contact ($n$ = 11), indicating that this group of the families may have been quite transient, thereby decreasing likelihood that they could be successfully contacted after 20 months.

A combination of snowball and purposive sampling methods was employed to supplement this sample with appropriate family units. Snowball sampling was implemented by requesting referral information for potential participants from each family unit after its interviews for Phase 2 were completed. Purposive sampling was used to identify and recruit potential family units during a "National Night Out 2010" event sponsored by several community-based organizations located in and/or providing services to the Oliver neighborhood of East Baltimore.

A primary caregiver identified through snowball and purposive sampling was eligible for participation if he/she 1) was a resident of Baltimore City; 2) resided with and was the legal guardian of a child who was 6 to 13 years of age; 3) was willing to allow the child to complete a 30-45 minute interview and have his/her height and weight measured; and 4) was willing to identify and complete a 1-hour interview with an adult

member of the child's biological or fictive extended family. The 6 to 13 year-old age range was established to correspond with the expected age range of Phase 1 child participants at the time data was collected for Phase 2. Because Phase 2 did not focus on neighborhood-level factors of childhood obesity, there were no neighborhood-specific residency requirements. Four additional family units were successfully recruited and interviewed for Phase 2 using this sampling strategy, creating a final sample consisting of 4 family units whose primary caregiver and child participated in both phases of the study, 2 family units that were identified via snowball sampling, and 2 family units that were identified via purposive sampling.

### 5.3.2 Interview Procedures

Each family unit participated in semi-structured, in-depth interviews that took place in the home of the primary caregiver. The interviews required one visit to the home, during which time a research assistant conducted a one-on-one interview with the child, while I conducted a joint interview with the primary caregiver and extended family member. The average length for the child and primary caregiver-extended family member interviews were 40 and 50 minutes, respectively. The interviews were audio recorded and transcribed verbatim by a professional transcription service. Within 48 hours of each interview, each interviewer completed a post-interview summary; the summary included a description of the overall interview experience and any notable actions and communications that took place during the interview.

The interviews were conducted using interview guides that were piloted on two family units that did not participate in either phase of the study. A review of the pilot

interview transcript and audio files, as well as feedback from the pilot participants, was used to revise the interview guide questions as needed. These revisions were primarily needed to help improve clarity of the interview questions and the degree to which they addressed the research questions and study aims. Following the methodology of Phase 1, picture-based prompts were developed to accompany the children's interview guide. Pictures were compiled and grouped together to provide children with examples of different types of physical activities and diet-related practices. There were corresponding questions developed for each group of pictures; these questions were designed to solicit the children's discussion of what, if any, differences in how they experienced the activity or practice when in the care of their extended family members as compared when in the care of their primary caregivers. Figure 6 provides examples of prompts used for physical activity and diet-related questions. Prior to the start of the interview, each child's height and weight measurements were obtained to facilitate BMI-for-age calculations.

**Figure 7. Sample Child Interview Guide Picture Prompts**

The guide for the primary caregiver-extended family member interviews was more detailed and designed to prompt the adults' discussion of differences and/or similarities in how they taught the children about physical activity and dietary norms,

motivations for their teaching strategies, and what aspects of physical activity and diet they felt were most important for the children to learn. In addition, questions were posed to solicit the primary caregivers' and extended family members' discussion of the culture of their extended family networks, as well as their perceptions of the influence of the extended family networks on the family unit's day-to-day physical activity and diet-related practices. Although interview guides were used for all interviews, the semi-structured interview format allowed for flexibility during the interviewing process, allowing me to reorder and reword the questions and probes as appropriate; this format also allowed the participants some freedom in discussing topics that were not directly related to the questions I posed, but may have provided additional meaning and context to the topics of interest.[169]

### 5.3.3 Data Analysis

Within 48 hours of each interview, post-interview summaries and audio files were reviewed in order to begin the data immersion process. The audio files were reviewed again upon receipt of each interview transcript to ensure the accuracy of the transcripts, and all participant names were changed to pseudonyms prior to further analysis. The transcripts, audio files, and post-interview summaries were reviewed at several other points during the data analysis to help facilitate further discovery of meaning in the participants' statements; notations were taken, as appropriate, during each review.

A simplified grounded theory approach was used to guide coding of the transcripts.[168] This approach allowed for the identification of concepts included in the interview guides, as well as additional concepts that emerged during the course of the

interviews.[168] The iterative coding process began with open coding of the adult interview transcripts. In this stage of coding, I focused on identifying and providing preliminary labels for concepts that were present in the data. Upon continued review of the transcripts, emergent concepts were arranged into an initial categorical scheme. The scheme was used to recode the adult interview transcripts, and additional codes were added to the scheme as concepts continued to emerge from the data; segments of the data were compared to determine whether codes were appropriately assigned and reflected the same concept within and across the family units.

A "constant comparison" method of analytic review was used until saturation was achieved (i.e., no new codes were identified) and to help maintain the context in which the experiences of the participants occurred and increase the generalizability of the data.[168,170] The final coding scheme was used for all of the Phase 2 transcripts. It was developed from the adult interview transcripts because they were more detailed in nature and included more simple concepts that were captured in the child interview transcripts. To help improve the validity of the data analysis process, several versions of the coding scheme were shared with the graduate-level research assistant who conducted all of the adult interviews for Phase 1 and provided feedback on improving the clarity of codes and the description assigned to each of the codes.

## 5.4 RESULTS

### 5.4.1 Study Participants

The final study sample was comprised of 24 individuals from eight family units (i.e., one child, primary caregiver, and extended family member from each family). With the exception of two individuals from one family unit, all of the participants identified themselves as African Americans; in that family unit, the extended family member was White and the primary caregiver identified herself as "multiracial", (i.e., White and African American). The children ranged in age from six to eleven years with an average age of 10, and five of the children were male. BMI values ranged from 17 to 33 and the children's BMI-for-age percentiles indicate that two children were of healthy weight, two children were overweight, and four children were obese. All of the primary caregivers were the biological mothers of the children, with the exception of one family unit in which the primary caregiver was the child's maternal grandfather, and all of the extended family members were maternal relatives of the children. Table 13 outlines each family unit, in the order in which the interviews took place, and includes the characteristics of the participating children and their primary caregivers and extended family members.

Relevant demographic data for the Neighborhood Statistical Area inhabited by the child and primary caregiver for each family unit were collected from the 2000 Census and the Baltimore Neighborhood Indicators Alliance-Jacob France Institute.[182,183] These data are presented to provide additional context for the primary data collected through the interviews. Table 14 details population, household, and income data for each family's neighborhood in the order in which the families were interviewed.

**Table 13. Phase 2 Family Unit Characteristics**

| Child Characteristics | | | | | Primary Caregiver | | Extended Family Member | | Family Recruitment Method |
|---|---|---|---|---|---|---|---|---|---|
| Pseudo | Gender | Age | Child BMI (%tile)[5] | | Pseudo | Relationship to Child | Pseudo | Relationship to Child | |
| | | | Phase 1 | Phase 2 | | | | | |
| Madison | Female | 11 | 26 (>95th) | 25 (>95th) | Melissa | Mother | Betty | Maternal Grandmother | Phase 1 Participant |
| Ashlyn | Female | 6 | 16 (50th – 75th) | 17 (75th – 85th) | Dionne | Mother | Tracey | Maternal Cousin | Phase 1 Participant |
| Brandon | Male | 11 | 18 (75th – 85th) | 21 (85th – 90th) | Marie | Mother | Jeanne | Maternal Grandmother | Phase 1 Participant |
| Jordan | Male | 11 | 17 (50th – 75th) | 21 (85th – 90th) | Stephanie | Mother | Lynette | Maternal Grandmother | Phase 1 Participant |
| Eric | Male | 11 | ----- | 26 (>95th) | Crystal | Mother | Clara | Maternal Grandmother | Snowball from Phase 1 |
| Eddie | Male | 8 | ----- | 18 (75th – 85th) | Lawrence | Maternal Grandfather | Lillian | Maternal Aunt | Snowball from Phase 2 |
| Shanice | Female | 11 | ----- | 26 (>95th) | Renee | Mother | Ann | Maternal Aunt | Purposive |
| Isaiah | Male | 10 | ----- | 33 (>95th) | Debbie | Mother | James | Maternal Uncle | Purposive |

[5] CDC BMI-for-age growth charts weight status categories are underweight (< 5th percentile), healthy weight (5th - < 85th percentile), overweight (85th - < 95th percentile), and obese (> 95th percentile).

**Table 14. Phase 2 Neighborhood Comparison**

| Neighborhood | Family Members | Population | | | Households | | | Family Income | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total (*n*) | African Americans (%) | Children, Ages 5-14 (%) | Total (*n*) | Family Households (%) | With Children (%) | Median | Below Poverty Level (%) |
| 1 | Madison, Melissa, Betty | 5,070 | 82% | 13% | 1,930 | 67% | 36% | $54,358 | 4% |
| 2 | Ashlyn, Dionne, Tracey | 1,820 | 99% | 13% | 670 | 63% | 37% | $33,880 | 17% |
| 3 | Brandon, Marie, Jeanne | 1,310 | 94% | 15% | 535 | 49% | 30% | $20,912 | 50% |
| 4 | Jordan, Stephanie, Lynette | 2,810 | 97% | 15% | 1,095 | 58% | 32% | $32,061 | 26% |
| 5 | Eric, Crystal, Clara | 2,550 | 88% | 16% | 1,075 | 60% | 39% | $32,500 | 31% |
| 6 | Eddie, Lawrence, Lillian | 6,030 | 81% | 12% | 2,745 | 51% | 29% | $42,702 | 7% |
| 7 | Shanice, Renee, Ann | 4,140 | 98% | 17% | 1,320 | 71% | 42% | $31,420 | 20% |
| 8 | Isaiah, Debbie, Ron | 5,475 | 99% | 18% | 1,950 | 62% | 41% | $20,119 | 38% |
| **Baltimore City** | **-----** | **651,154** | **65%** | **14%** | **257,996** | **57%** | **33%** | **$35,438** | **19%** |

### 5.4.2 Emergent Themes in Physical Activity Socialization

The data suggest several themes related to the children's physical activity behaviors. With regards to mechanisms used by primary caregivers and extended family members in socializing children to adopt physical activity behaviors, three primary themes were identified and are discussed below: "You have to keep them active", "We're making changes", and "I want to but…".

#### 5.4.2.1 You Have to Keep Them Active

This theme represents the primary caregivers' and extended family members' efforts to facilitate, encourage, serve as models for, or be involved in the children's physical activity. Also encompassed in this theme are the primary caregivers' or extended family members' beliefs and motives related to the types of influences they impress upon the children's physical activity behaviors. In most of the interviews, extended family members were the primary discussants of these aspects of the children's physical activity behaviors.

Several of the extended family members discussed their general efforts to facilitate and participate in physical activity opportunities for and with the children. For example, Tracey, the aunt of six-year-old Ashlyn, described how she ensured that Ashlyn was able to remain physically active during visits to Tracey's home:

> We have a small playground right across the street from us. It just has like a sliding board and maybe jungle gyms. So my son will take her over there for a little while. And my niece moved with me, she'll take her over there. Or they'll

> bring another child, like another relative's child over there so she'll have somebody to play with…

Similarly, Clara, the grandmother of eleven-year-old Eric, often took Eric and his younger sister to a nearby park and was physically active with them during the days she provided childcare while Eric's mother (Crystal) was at work. As she stated:

> Then they have a park a little further, all the way over there, and I'll take them over there, let them go for it. I just tell them to run 'I'll beat you to the playground.' And we'll be just running…

In addition, Clara discussed giving the children an opportunity to experience a different type of physical activity through playing in the snow during a winter weather experience earlier that year, as well as her plans to enroll Eric in "martial arts, swimming, anything they have to keep him active" at the local YMCA during the summer months.

Concerns about neighborhood safety and the availability and/or quality of local physical activity venues was discussed by some extended family members as part of their motives for facilitating and engaging in physical activities with the children. For example, Jeanne, the grandmother of eleven-year-old Brandon, described the occurrence of negative neighborhood events as part of her motive to keep her grandchildren engaged in activities and stated:

> Always kept them busy exercising…. And another reason I try to keep them [busy]—because I'm trying to keep—I don't want them—I pray—when they get older, I can't do nothing. I pray now that they don't be in the street.

In addition, James, the uncle of ten-year-old Isaiah, noted that safe options for physical activity no longer existed in the family's neighborhood and described his efforts to engage Isaiah in alternative, indoor activities:

> We do some push ups, some sit ups. Jumping jacks and jump rope and stuff like that. Yeah, I try to get them involved in stuff like that.

Many of the adults described their motivation for keeping the children in their families active as being related to their own childhood experiences regarding physical activity. Several of the adults recounted their own childhood activities and made generational comparisons and contrasts between what they observed among the children. For example, Melissa, the mother of eleven-year-old Madison, also related her facilitation and encouragement of Madison's physical activity to her own physically active childhood:

> She used to get out of school at five o'clock Monday through Thursday because she was staying after school doing tennis. So, she really likes sports and everything… I was a sports person all the way through school. So hopefully—I'm sure she'll be the one that'll stay in it… She was doing karate at one time, and then we stopped that. She knows how to swim, and…because she's going to middle school next year…I'm trying to get her [into soccer], but she's going to be on a waiting list. So whatever school she goes to, I want her to do something different. Even though she really likes tennis and she's very good at it, but I want her to do something different.

Generational similarities and differences in the surrounding environment were also discussed in the context of the challenges associated with keeping children active. For example, Isaiah's mother (Debbie) stated:

> See things are changing so much now. And when we was growing up, we had a roller derby rink right there where these houses are at now. And it had a basketball court that extended off of it. So if we didn't really have anything to do within the vicinity of our neighborhood, we'd go there and we'd play. We made our big wheels and play the race in ring. We did it all. And now things are so limited for the children, now they really don't have anywhere to go or where you feel comfortable of them going to get a lot that access out.

For Renee and Ann, the mother and aunt of eleven-year-old Shanice, promoting physical activity among the children in their family was about addressing cultural and family norms that promoted a lack of participation on extracurricular activities. As Ann explained:

> We weren't allowed in programs like karate and dance…it wasn't allowed...I mean we couldn't even do physical activity at school. Like you couldn't be on a basketball team or cheerleading or any—we couldn't do any of that… [our parents] didn't believe in it.

Renee explained what she believed to be their parents' rationale for withholding these opportunities from them:

> And I think it was probably more—older people back then was more—well, I think when they close-minded like that—some type of protection thing. If you don't make this, you ain't got to worry about crying.

Because Renee and Ann felt that their parents' actions were wrong, they continually facilitated their children's involvement in extracurricular activities such as dance and martial arts.

In contrast to these deliberate efforts to encourage, facilitate, model, or be involved in the children's physical activities, there were some primary caregivers who demonstrated a more passive approach to the children's physical activity. Most notably was the primary caregivers' belief that because their children were naturally physically active, no additional role modeling, facilitation, encouragement, or involvement was required of the primary caregivers. For example, when asked about strategies she used to teach her son about physical activity, Stephanie, the mother of eleven-year-old Jordan stated, "Well, actually, they're kids so everything they do is physical. They do everything. They run, they jump, they play." When a similar inquisition was presented to Marie, the mother of eleven-year-old Brandon, she simply replied, "They're kids. Kids, they have energy." In addition to this, Dionne, the mother of six-year-old Ashlyn cited her daughter's age as part of the reason why she did not use more active mechanisms to teach her daughter about physical activity:

> Because some kids [need you to] lead more by example. Some you can talk to. I can talk, I can show her stuff, but by her being six, it's not going to—once she sees [cartoons are on], that's it, 'What did you say?'

The "You Have to Keep Them Active" theme provides examples of efforts made by the primary caregivers and extended family members to help their children maintain levels of physical activity that were perceived as acceptable within their families. The adults' statements illustrate a range of motives and beliefs related to the influences they impress upon the children, as well as challenges that they face in facilitating and modeling physical activity for the children.

#### 5.4.2.2 We're Making Changes

This theme represents explicit positive or negative changes to the family unit's physical activity routines and behaviors. These changes were primarily discussed by primary caregivers and were due to health conditions and concerns, weight management efforts, and a general interest in developing a more physically active lifestyle.

Based on statements made by Stephanie and Lynette, the mother and grandmother of eleven-year-old Jordan, Stephanie's degree of engagement in physical activity between her childhood and adulthood years differed significantly. Although Stephanie was physically active in childhood due to her inclusion in Lynette's frequent recreational and functional walking, Stephanie had been primarily inactive during her adulthood. However, Jordan and his siblings were able to remain physically active through their casual play frequent walks with Lynette. In addition, the family's level of functional walking was recently increased by one hour each weekday when Stephanie made the decision to begin walking instead of driving her children to and from school each day: "I just started walking… Instead of jumping in a car to take them to school, picking them

up, I'll walk to school and pick them up." Stephanie did not provide a reason for this change other than it was just something that she decided to do.

In contrast, Madison's mother, Melissa, had been involved in sporting activities as a child and made statements expressing her belief that people should be more physically active. Her motives for encouraging her family to increase their usage of local physical activity venues was, in part, related to her general desire to exercise more, as well as her efforts to help Madison address self-concerns about her weight:

> I like to exercise, but I don't do it often. We have a track right over here around Lake Montebello. …I'm trying to get [my husband] to the track. I try to because we all have bikes, so there's no excuse for that. 'Let's go ride bikes,' or just run around the track. And they have exercise equipment too over there at the track. So Madison and I have hopped on it before. So hopefully we'll have more days to be able to go over there and spend the time over there, whether it's bike-riding, exercising, walking, whatever.

Due to health concerns and weight management efforts, several members of Ashlyn's extended family had recently made a collective decision to adopt a healthier lifestyle, which included increasing their levels of physical activity. Dionne and Tracey's statements indicated that they were motivated to maintain the change and often participated in group exercise classes together. However, Tracey noted that she experienced challenges in her efforts to encourage her son to be more physically active:

> I have to say, 'Go outside and play'… So I will go outside and do something, walk. We have a store not far from us, so I said, 'I'm going to go get some water. I ain't getting in the car. I'm walking.' What? [He's] like, 'We didn't never walk before.'

General interest in trying new types of physical activity, as well as weight management concerns, also played a role in physical activity changes in the family of eleven-year-old Shanice. In this family, there was a bidirectional influence on physical activity encouragement. Renee, Shanice's mother, had recently achieved a notable weight

loss as a result of healthy lifestyle changes, and Ann, Renee's sister instructed Shanice and her cousin in liturgical dance. In addition, the children also encouraged Renee and Ann to try new exercises:

> So about fitness and stuff, …sometimes if they watching the cable station and they see something, they'll try it. So it's not like they don't know nothing about no exercise, and they know we say something about it. And they might be like, 'Well, ya'll need to exercise too,' …and we'll be like, 'Okay, good point.'

Furthermore, Renee also pointed out "how big" Shanice was, and she and Ann noted that they had previously engaged in daily recreational walks with Shanice and the other children specifically to address the concerns they had about their children's weight statuses. However, because "the children got lazy", the walks were no longer taking place.

In contrast to the other primary caregivers and extended family members, Lawrence, the grandfather and primary caregiver of eight-year-old Eddie, discussed how he was forced to make negative changes in his level of physical activity due to chronic illness. Lawrence was a leg amputee as a result of being a diabetic for more than thirty years, and he noted that although he wanted to participate in activities at family gatherings, he was no longer able to do so: "Man, I used to play ball, but now I mostly set [*sic*] and look and eat."

The statements presented demonstrate the theme of "We're Making Changes," and provide examples of changes to the families' physical activity routines and behaviors. The primary caregivers and extended family members described recent changes, as well as changes that took place over time. While many of the adults discussed changes that were made to increase the physical activity levels of the children or families

in general, there were also examples of changes that caused a decrease in physical activity levels or that failed to maintain a previous increase in physical activity.

#### 5.4.2.3 I want to but…

This theme represents perceived or actual barriers to primary caregivers' and/or extended family members' ability, desire, or perceived need to facilitate, model, or be actively involved in the children's physical activity. These barriers were discussed from the perspective of primary caregivers, extended family members, and children. Children discussed barriers related to playmates, physical activity equipment, and disciplinary and other parental actions that restricted physical activity. Primary caregivers and extended family members focusing on issues such as time constraints, concerns about neighborhood safety, and a lack of financial resources and local physical activity venues; these discussions were often accompanied by counterfactual statements in which the adults described idealistic circumstances and outcomes that were the opposite of their realities.

Some of the primary caregivers described how their desires to facilitate or be actively involved in their children's physical activity were hampered by time constraints imposed by their job schedules and other duties as heads-of-households. For example, Tracey, the maternal cousin of six-year-old Ashlyn, expressed concerns about her son's weight and the challenges she faced in finding time to facilitate and be actively engaged in physical activity with him:

> He's about 5'7", and he weighs probably about 200. So it's like I need—like he was playing football, but like I said, because of my schedule I can't take him. There's a kickboxing class I would love us to take but because [of] my schedule…

Similarly, Stephanie, the mother of eleven-year-old Jordan, indicated that she did not engage in walking as a recreational or functional activity with her son or other children because it simply required "too much time" out her daily schedule as a stay-at-home mother to seven children.

Primary caregivers and extended family members also discussed the effects of neighborhood safety on their willingness to allow the children to participate in casual, outdoor physical activity. As noted by Jeanne, the grandmother of eleven-year-old Brandon, this was a concern at the family's residence, as well as at the homes of other relatives who lived nearby:

> …we don't really take them to let them come out there very much. If we come on the front, they can play around the front. Because there's so much activity had went on in that area that we don't really just bring them out unless somebody's—adults are with them.

In this family, the perceived need for increased monitoring during outside play led to Brandon and his brothers and cousins spending more time inside, where they primarily played video games. James, the maternal uncle of ten-year-old Isaiah, expressed similar concerns and responses when he stated, "So it's almost like now you almost prefer them to be in the house in a sense…to protect them."

For Crystal, the mother of 11-year-old Eric, the state of her family's finances played a key role in how she engaged in physical activity with her children. Her statements illustrate how this contributed to differences in the facilitation and involvement strategies used by her and Eric's maternal grandmother, Clara:

> Like with me, they'll probably just go out the front, and they'll play in this little area right here. Where she might take them on the bus ride to go somewhere and they go and have fun or whatever. Where I'm going to stay in my area and be right here, because money was low, so it was easier… I mean, if I had money, I would probably take them around or whatever. But sometimes I think they have

> just as much fun either playing right out here, or we'll go over to the park. That's about as far as we go. Or I just—like there's something else going on, and if I have money, I'll take them somewhere else."

Debbie, the mother of 10-year-old Isaiah described how the lack of financial resources necessary to facilitate physical activity engagement in her family was further complicated by time constraints, concerns about neighborhood safety, and her own challenges with engaging in recreational physical activity:

> And I'm not a physical type person. I do all my work on the job. And my everyday routine of cleaning the house, washing, what have you. I'm a house person too so I think Willie get that from me. I'm a homebody… I do my walking. If I have to go and take care of bills and business I do walk because I don't drive. Walk or [public] transportation. I try to get the children involved in it, but sometimes we go to take care of business. We don't have time to be involved with a child, you know what I'm saying? You do what you've got to do, right. It's just inappropriate for them to be out. I try to get them out at least once a week where we do some walking, sightseeing something like that. We do try to get them in if the money prevails, you know what I mean?

The barriers highlighted by the primary caregivers and extended family members were accompanied by the children's discussion of how circumstances beyond their control affected their ability to participate in certain physical activities. Some of these circumstances illustrated the degree to and manner in which primary caregivers consistently facilitated physical activity for their children via extracurricular programs or through local physical activity venues. For example, eleven-year-old Madison noted that while she enjoyed swimming, she was no longer able to regularly engage in this activity due to the family's lapsed YMCA membership. In addition, Madison's after school activities were further limited by seasonal changes in sports programs and the lack of playmates in her neighborhood. Her frustration with these circumstances were revealed when she stated:

> I used to [play tennis] but the after school program for all the schools stopped in April… I miss tennis. So there's nothing to do after school; just come home, do my homework, and be bored… I like being outside. I don't like being in the house much… [But] there's no kids around here. …I might be outside maybe an hour here, because it's so boring…

Eric expressed concerns about his playmates from a different perspective. While Eric wanted to play sports with the other children, he refrained from engaging in certain sporting activities due to a negative experience:

> I play basketball, but not no football. Because when I'm playing sometimes, they'll be like this, 'Ah, boom!,' and then I'll run out of the way. This last time I was playing football with my friends, they bumped into me… They took the ball then the other little boy flipped me over. I fell on my butt bone.

Other children described parental actions that prohibited, rather than facilitated, physical activity through casual child's play. For example, bicycle maintenance, or lack thereof, was commonly discussed among this group of children. Ashlyn noted that while she previously enjoyed riding her bicycle, she was now unable to do so alone due to her mother's (Dionne) actions related to the bicycle: "I ride my scooter. I don't know how to ride my bike because my mommy…took my training wheels off." Similarly, Eric indicated that he owned a bicycle, but because his mother (Crystal) was unable to repair the bicycle after "the chain broke and the tire broke", he was unable to ride it. Parental disciplinary actions also affected the children's engagement in physical activity, as was illustrated in the case of Jordan, who was frequently disallowed from playing outside as punishment for misbehavior. Stephanie also prohibited Jordan from playing his video games while on punishment, but she still allowed him to watch television.

Within the theme of "I Want to But…," the statements demonstrate the challenges experienced by the families in their efforts to increase the children's engagement in physical activity behaviors. These challenges are described from the perspectives of the

children, primary caregivers, and extended family members,. Various factors, both internal and external to the household and family, contribute to these challenges and the participants' perceptions about how difficult they are to overcome. These factors include availability of physical activity-related equipment, time and financial constraints, and neighborhood safety concerns.

## 5.5 DISCUSSION

This study presents an analysis of some of the mechanisms used by primary caregivers and extended family members to socialize children to adopt cultural and familial norms regarding physical activity. The analysis addresses factors that influence these mechanisms, as well as the sociocultural contexts in which the socialization practices take place. In addition, the analysis compares and contrasts the mechanisms used by primary caregivers and extended family members.

Within the study's family units, primary caregivers and extended family members utilized a number of mechanisms to teach and encourage the adoption of acceptable physical activity behaviors among the children in their families. Among most of the families, there appeared to be, at minimum, an awareness of the desirability for children to engage in some physical activity. The children experienced a variety of influences from the primary caregivers and extended family members, and there were varying degrees to which these influences were impressed upon the children. In some family units, children experienced similar types and degrees of influences from the primary caregivers and extended family members. This was observed in families in which

primary caregivers and extended family members used very active strategies to influence the children's physical activity behaviors (i.e., facilitating extracurricular activities and casual child's play, regular engagement in recreational physical activity, etc.), as well as in families in which both adults described more passive, indirect approaches (i.e., limiting influence to the use of verbal encouragement for or instruction about physical activity).

Children from other family units experienced differing types and degrees of influences from the primary caregivers and extended family members. Generally, extended family members in these family units demonstrated more active, direct influences on the children's physical activity behaviors, while primary caregivers provided more passive, indirect influences, particularly regarding recreational physical activity; these differences were evident even in families in which the extended family member had engaged the primary caregiver in a physically active lifestyle during their childhood. In general, family units that were characterized as "close" by primary caregivers and/or extended family members more frequently described active socialization by extended family members. This may be related to the family-based collectivism that not only contributes to the closeness that adults described, but also involves more frequent interactions between members of the family.[45] Through these interactions, extended family members may inherently serve as attitudinal and/or behavioral referents for the children, as well as provide tangible and non-tangible forms of social support for the children's physical activity engagement.

Several of the primary caregivers discussed their lack of engagement in physical activity with their children as a function of financial constraints and/or lack of time due to their responsibilities as heads of households. These factors have been reported as barriers

to physical activity for African American women in other research and may be further complicated by mental and physical fatigue, a lack of motivation to be physically active, and a lack of awareness or understanding of the benefits and importance of physical activity.[187] It is plausible that these factors also contribute to the differences observed in the socialization mechanisms used by primary caregivers and extended family members, as well as the differences in the primary caregivers' physical activity from childhood to adulthood. Previous studies on parenting practices in African American families indicate that stress, which is often a result of time and financial constraints, may negatively affect parents' abilities to engage in effective parenting, particularly among parents of lower socioeconomic position,[188,189] and it is plausible that parenting practices specific to physical activity are also compromised. Despite having observed their own parents engaged in a physically active lifestyle, these barriers may outweigh previous plans to do the same for their children,[180] and although extended family members may experience similar challenges, the resulting stress may not be as evident or have as much of an effect when they are enjoying leisure time with their families' children. This may be especially true for African American grandmothers, for whom caring for and spending time with grandchildren is often perceived as a privilege and enjoyable activity.[153]

Caprio et al.[190] note that due to new experiences and exposure to new ways of thinking, cultural rules concerning health-related behaviors may change over time. Among the Phase 2 participants, primary caregivers and extended family members discussed and were in agreement concerning some of the experiences and exposures that may have contributed to positive and negative generational differences in physical activity levels, most notably in the areas of neighborhood safety and perceptions about

participation in extracurricular activities. Similar to other studies,[19,187] some of the adults indicated that declines in neighborhood safety was perceived as a barrier to the children's physical activity and contributed to their children being less active than the adults were in childhood. Contrary to this, one child's primary caregiver and extended family member described their dedication to facilitating the child's engagement in physical activity as a means of providing them with productive alternatives to engaging in the negative activities commonly observed in their neighborhood. In another family, changes in perceptions of physically engaging extracurricular activities produced positive generational differences in physical activities. The primary caregiver and extended family member in this family noted that in childhood, they were not allowed to participate in these types of activities due to their parents' perceived need to protect them from potentially negative social experiences. However, the primary caregiver and extended family member developed positive perceptions of organized, physical activity engagement and purposely involved their children in these types of activities.

The findings of this study indicate that extended family members and primary caregivers, in particular, may require additional education to increase their awareness of and self-efficacy concerning their roles in children's current and future physical activity behaviors. Gable and Lutz[184] purport that parents and other caregivers may lack awareness of their role in socializing children to adopt healthy weight-related behaviors. Given children's tendency to plan their adulthood behaviors on the observed behaviors of their parents during childhood,[180] the parents' failure to serve as role models of physically active lifestyles may have implications for the children's risk of becoming obese later in

life due to the development of a more sedentary lifestyle, despite engagement in regular physical activity during childhood.

### 5.5.1 Strengths and Limitations

The primary strength of this work is the use of multiple data sources and referents, which facilitated an in-depth exploration of the physical activity behaviors and routines of the children and their family members, as well as the contexts in which these behaviors and routines occurred. Furthermore, the two-part study design allowed for a review of multiple families' Phase 1 interviews, which highlighted areas in which further questioning was needed and helped to develop the interview guides for the Phase 2 interviews.

However, the data collected and analyzed are self-reported, and there may be some differences in what the participants discussed and what was actually experienced within each family. In addition, because only three family members were interviewed for each family unit, this work can only provide an analysis of the families based on the accounts of those individuals. The behaviors, attitudes, and beliefs of other members of the extended family network may also play direct or indirect roles in influences the dietary and physical activity behaviors of children, but additional research is required to explore and understand those influences.

In general, the primary caregivers and extended family members were forthcoming when responding to the interview questions. The adults contributed to one another's responses and appeared to be comfortable with interviewing together. However, while there were no apparent drawbacks to conducting paired interviews with the primary

caregivers and extended family members, it is possible that conducting individual interviews would elicit additional and/or different responses, from one or both of the adults.

Although this work presents an in-depth analysis of the physical activity behaviors of urban African American children and their families, it is important to note that the findings cannot be generalized to all African American children residing in similar geographic settings or with similar family structures. Furthermore, although the study population includes children and families from multiple Baltimore City neighborhoods, all with varying demographic characteristics, the findings of the study are also not generalizable to all children and families across the city or within each of those neighborhoods. However, given the population and geographic setting of the study, it may be possible to use the findings presented here to make inferences about the cultural contexts surrounding the physical activity behaviors of African American children in other urban settings, within the neighborhoods inhabited by the study participants, and in other Baltimore City neighborhoods with similar demographic characteristics.

# 6.0 MANUSCRIPT THREE: FOOD, FELLOWSHIP, AND FAMILY: EXPLORING THE CULTURAL AND FAMILIAL CONTEXTS OF DIETARY SOCIALIZATION PRACTICES IN URBAN AFRICAN AMERICAN EXTENDED FAMILY NETWORKS

## 6.1 ABSTRACT

**Background:** Childhood obesity is a public health issue of increasing import and with long-term implications for the health status throughout the life course.[1,63] The family and/or household environment has a significant influence on children's weight related behaviors.[30,178,179] Traditionally, extended family members in African American families are actively involved in child-rearing activities and play a significant role in socializing children to adopt cultural norms.[4,5] There is also evidence to suggest that within immediate family units, parents differ in how they socialize children to adopt dietary behaviors,[55] and grandparents may directly or indirectly influence children's dietary routines.[6,7] Given the importance of extended family networks among African Americans and the potential influence of extended family members on children's dietary behaviors, gaining an improved understanding of the family and/or household contexts in which the children are socialized may provide insight for developing improved interventions to address childhood obesity for African American children and their families.

**Methods:** The purpose of the current work is to qualitatively explore how extended family members interact with the children and how extended family members differ from primary caregivers in terms of the mechanisms they use to socialize children to adopt desirable dietary and physical activity behaviors and related norms. The study included 24 individuals across 8 family units (i.e., one child, one primary caregiver, and one extended family member per family unit), who participated in in-depth, semi-structured interviews designed to elicit information regarding the children's dietary and physical activity behaviors, related familial and cultural norms, and differences in how primary caregiver and extended family members socialize children to adopt those norms.

**Findings:** This paper focuses on the analysis of the physical activity behaviors and routines of children and their families. The children ranged in age from six to eleven years with an average age of 10, and five of the children were male. With exception of one family unit in which the primary caregiver was the child's maternal grandfather, all of the primary caregivers were the biological mothers of the children, and all of the extended family members were maternal relatives of the children. Primary emergent themes address the primary caregivers' and extended family members' strategies used to encourage healthy dietary behaviors among their children, as well as the challenges associated with doing so; the families' frequent combination of food and fellowship for various occasions; and the role of grandmothers in socializing children to adopt cultural dietary norms. The findings suggest that primary caregivers and extended family members value and teach children to value food-based family traditions. There is also

evidence to suggest that children experience fewer dietary restrictions from extended family members. In addition, the adults may be inconsistent in the strategies they use teach children about acceptable dietary behaviors.

**Conclusion:** The findings suggest that there are differences in the socialization mechanisms used by primary caregivers and extended family members. Future family-based obesity interventions for African American children may benefit from the inclusion of extended family members, as well as components that focus on improving primary caregivers' and extended family members' self-efficacy for parenting strategies that promote healthful eating.

## 6.2 INTRODUCTION

The United States has seen a marked increase in the prevalence of childhood obesity since the 1960s,[8,9] as well as disturbing trend of racial/ethnic disparities, with prevalence rates being disproportionately higher among African American children, as compared to white American children.[3,8] Similar trends are found among children residing in Baltimore City, Maryland.[10] It is projected that 50% of children in the United States will experience obesity in adulthood, which has negative, long-term implications for the psychosocial, socioeconomic, and physical well-being of the nation's children.[1,2,11-15] Furthermore, the racial/ethnic disparities in obesity prevalence indicate that these long-term implications may be greater for African American children as the progress toward adulthood.

*Healthy People 2020*[16] recognizes the importance of considering multiple determinants of and levels of influences on the development of childhood obesity. In addition to emphasizing healthful nutrition and physical activity behaviors for children's healthy weight management,[65,66] there should also be a consideration of a child's physiological and biological characteristics,[11,21,22] as well as factors presented by the surrounding environment.[19,23,24] Research also suggests that a child's familial characteristics[28-31] and cultural background[11,25-27] also play a significant role in influences the child's weight-related behaviors and subsequent weight status.

### 6.2.1 Cultural Norms and Dietary Behaviors

African American children typically consume less than the recommended amounts of fruits and vegetables, while there is a high consumption of high-fat commodity foods or foods that are prepared with butter, lard, and other fats.[33,34,39,40,191,192] While these dietary practices are part of practicing and preserving traditional foodways (i.e., "…the procurement, preparation, and consumption of food"[37 para. 1]), they also result in diets that are of low nutritive value and high caloric density. For African Americans, foodways help to define ethnic identify as much as cultural norms govern dietary habits, and the inclusion of "soul food" and similar foodways in the African American diet are culturally embedded and passed on from generation to generation.[33,34,38-40] Therefore, it may be challenging to promote healthy dietary behavior change among African Americans and any efforts to do so should take these cultural factors into consideration.

The intersection of culture and the family environment may play an important role in how socialization influences are impressed upon children. Children's behaviors are

directly influenced by family socialization practices, and because parents typically socialize children to adopt the behaviors necessary to be accepted by and successful within a particular cultural group, these influences and socialization practices must be examined within the cultural contexts in which they occur.[97] In addition, it is important to consider the sociocultural resources that impact those influences and practices and how and why they are carried out.[98] Taking this approach may help to enhance understanding of how parenting behaviors and family socialization practices may contribute to the prevention or promotion of childhood obesity.

### 6.2.2 The Role of Extended Family Networks in Teaching Cultural Norms

The relationships that develop between children and their immediate and extended family members are culturally defined[98] and constitute an important factor for consideration in understanding the context in which childhood obesity and related dietary behaviors develop. African American families often have dynamic, multigenerational structures, with relatives within and across generations sharing the responsibility for rearing and caring for the family's children.[5,46] African American children are more likely to live with or share a residence with extended family members,[5,46] who often play a significant role in socializing children to adopt cultural norms.[4] The structure, functioning, and relationship dynamics in African American families can be partially attributed to family-based collectivism, which often leads to an increased sense of closeness within the family, resulting in mutual respect and trust, dependence on and provision of support during times of hardship, and shared life experiences among family members.[5,45,46,49,181] In addition, family-based collectivism may result in family members serving as

behavioral and attitudinal referents for one another, particularly in regards to respecting and continuing family traditions.[5,45,46,154,171]

Parental socialization strategies typically include role modeling, reinforcement, and/or identification of acceptable behaviors.[188] However, research suggest that within family units, mothers and fathers may demonstrate differences in how and when they use these strategies; for example, mothers may reason with their children to eat certain foods, while fathers may threaten to limit children's playtime if certain foods are not eaten.[55] It is plausible that there are also differences between primary caregivers and extended family members in the socialization strategies they use for teaching children cultural norms related to dietary behaviors.

Childhood obesity is often addressed through the use of family-based interventions. However, there is evidence to suggest that these types of interventions, including those designed specifically for African American children, have not resulted in the desired level of efficacy.[90] The traditional structure and functioning of African American families merits the use of an intergenerational framework for exploring how cultural heritage and individual behaviors interact to promote or inhibit the healthy development of African American children.[52] However, an extensive review of the literature indicates a clear need for a qualitative examination of the relationships urban African American children have with their extended family members and how children's engagement with extended family members may influence the children's dietary and physical activity behaviors. There is also a need for a greater understanding of family dynamics and interaction within extended family networks, particularly concerning how these factors influence behaviors. More specifically, developing a deeper understanding

of how extended family networks and the socialization strategies practiced within those networks influence children's dietary and physical activity behaviors may provide significant insight for the development of effective and culturally appropriate interventions to prevent and treat obesity among African American children.

### 6.2.3 Purpose of the Study

This paper presents findings from a qualitative study designed to examine cultural and familial influences on the physical activity and dietary behaviors of African American children residing in Baltimore City, Maryland. The study aims to explore the roles extended family members hold in socializing children to adopt dietary and physical activity behaviors and related cultural norms. The primary research question guiding the data analysis is "What are the core cultural values related to dietary practices and behaviors that are transferred to children via primary caregivers and extended family members?" This paper presents diet-related socialization themes to address the main objectives of this portion of the analysis, which were: 1) to explore the core cultural values related to dietary practices and behaviors that are transferred to children via the socialization practices of extended family members, and 2) to explore how, if at all, the diet-related socialization practices of extended family members differ from those employed by primary caregivers.

## 6.3 METHODS

This study took place in two phases and spanned a total of 23 months, from the start of data collection for the first phase (September 2008) to the end of data collection for the second phase (August 2010). Phase 1, the Childhood Neighborhood Study, included the collection of quantitative and qualitative data to examine multiple household and neighborhood factors related to childhood obesity. At the onset of the Childhood Neighborhood Study, Phase 2, the Extended Family Follow-Up Study, was not planned. During data collection and analyses for Phase 1, themes related to extended family networks emerged, and Phase 2 was developed to explore those themes in greater depth. Figure 8 depicts the research design for Phase 2. The Johns Hopkins Medicine Institutional Review Board approved the research protocols for each phase.

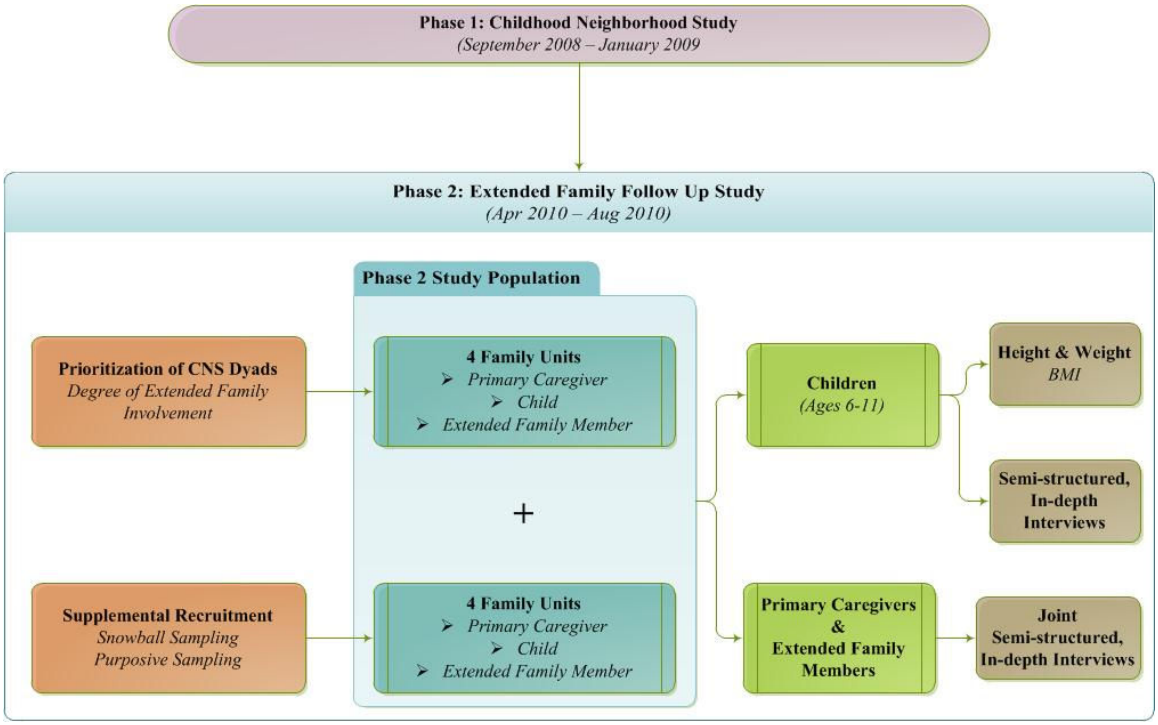



**Figure 8. Phase 2 Research Design**

### 6.3.1 Recruitment Strategy

The Extended Family Follow-Up Study (Phase 2) was designed to build upon and extend the Childhood Neighborhood Study (Phase 1) by conducting a more detailed examination of the family-level factors related to childhood obesity, particularly among urban African American children and their extended family networks. Five recruitment categories were developed based on reviews of the primary caregiver and child interviews from Phase 1. These categories reflected the extent to which extended family members were involved in the child's physical activity, dietary, and/or general practices or routines and the subsequent anticipated degree of influence on the child's weight-related behaviors. For

example, it was hypothesized that children residing in multi-generational and/or blended family households would experience a greater degree of interaction with and influence from extended family members, as compared to children who did not have any extended family members in the Baltimore Metropolitan Area.

Table 15 lists the five categories, in order of greatest to lowest recruitment priority, as well as the number of primary caregiver-child dyads assigned to and interviewed from each category for Phase 2. There was no prioritization of individual families within each category. One primary caregiver-child dyad from Phase 1 was excluded because of the child's developmental and special needs status, leaving a sampling frame of 30 primary caregiver-child dyads. All other primary caregiver-child dyads from Phase 1 were eligible to participate if the primary caregiver 1) still resided with and was the legal guardian of the child who participated in Phase 1; 2) was willing to allow the child to complete a 30-45-minute interview and to allow the child's height and weight measurement for Phase 2; and 3) was willing to identify and complete an interview with an adult member of the child's biological or fictive extended family, with the understanding that some information from the Phase 1 interview might be shared with the extended family member. Fictive kin encompassed individuals who were not biologically related to the primary caregiver and/or child but were considered by the primary caregiver to be "like family" and/or have a significant secondary caregiver role for the child; this was allowed because of the traditionally dynamic structure of African American families, in which the inclusion of fictive kin is common.[5,45,46] Each participating primary caregiver-child dyad from Phase 1 was combined with their respective extended family members to create a family unit for Phase 2.

**Table 15. Phase 2 Recruitment Priority Strategies**

| Category | Phase 1 PC-Child Dyads (*n*) | Phase 2: Recruited & Interviewed (*n*) | Phase 2: Other Recruitment Outcomes (*n*) |
|---|---|---|---|
| Multi-generational households | 8 | 1 | Ineligible (1)<br>Loss to follow-up (6) |
| Extensive EFM involvement AND influences and/or differences in diet/physical activity discussed explicitly by child and/or PC | 10 | 2 | Ineligible (2)<br>Loss to follow-up (4)<br>Refusal (2) |
| General, extensive EFM involvement discussed by child and/or PC | 7 | 1 | Loss to follow-up (5)<br>Refusal (1) |
| Extended family not in Baltimore, but visit regularly | 2 | 0 | Loss to follow-up (2) |
| Extended family not in Baltimore nor discussed by child or PC | 3 | 0 | Loss to follow-up (2)<br>Refusal (1) |
| **Total** | **30** | **4** | **26** |

Due to loss to follow-up (*n* = 19), lack of eligibility (*n* = 3), and refusal to participate (*n* = 4), only 4 of the primary caregiver-child dyads from Phase 1 were successfully contacted and scheduled to complete an interview with their extended family members for Phase 2. The high rate of families loss to follow-up may have been attributable to several factors, one of which was likely the 20 months that lapsed between the start of the data collection periods for Phase 1 and Phase 2. In addition, at the time of data collection for Phase 1, almost half of the primary caregivers in the sampling frame indicated that they were renting their residences (*n* = 14), and more than one-third of the primary caregivers provide cellular telephone numbers as their main form of contact (*n* = 11), indicating that this group of the families may have been quite transient, thereby decreasing likelihood that they could be successfully contacted after 20 months.

A combination of snowball and purposive sampling methods was employed to supplement this sample with appropriate family units. Snowball sampling was implemented by requesting referral information for potential participants from each family unit after its interviews for Phase 2 were completed. Purposive sampling was used to identify and recruit potential family units during a "National Night Out 2010" event sponsored by several community-based organizations located in and/or providing services to the Oliver neighborhood of East Baltimore.

A primary caregiver identified through snowball and purposive sampling was eligible for participation if he/she 1) was a resident of Baltimore City; 2) resided with and was the legal guardian of a child who was 6 to 13 years of age; 3) was willing to allow the child to complete a 30-45 minute interview and have his/her height and weight measured; and 4) was willing to identify and complete a 1-hour interview with an adult member of the child's biological or fictive extended family. The 6 to 13 year-old age range was established to correspond with the expected age range of Phase 1 child participants at the time data was collected for Phase 2. Because Phase 2 did not focus on neighborhood-level factors of childhood obesity, there were no neighborhood-specific residency requirements. Four additional family units were successfully recruited and interviewed for Phase 2 using this sampling strategy, creating a final sample consisting of 4 family units whose primary caregiver and child participated in both phases of the study, 2 family units that were identified via snowball sampling, and 2 family units that were identified via purposive sampling.

### 6.3.2 Interview Procedures

Each family unit participated in semi-structured, in-depth interviews that took place in the home of the primary caregiver. The interviews required one visit to the home, during which time a research assistant conducted a one-on-one interview with the child, while I conducted a joint interview with the primary caregiver and extended family member. The average length for the child and primary caregiver-extended family member interviews were 40 and 50 minutes, respectively. The interviews were audio recorded and transcribed verbatim by a professional transcription service. Within 48 hours of each interview, each interviewer completed a post-interview summary; the summary included a description of the overall interview experience and any notable actions and communications that took place during the interview.

The interviews were conducted using interview guides that were piloted on two family units that did not participate in either phase of the study. A review of the pilot interview transcript and audio files, as well as feedback from the pilot participants, was used to revise the interview guide questions as needed. These revisions were primarily needed to help improve clarity of the interview questions and the degree to which they addressed the research questions and study aims. Following the methodology of Phase 1, picture-based prompts were developed to accompany the children's interview guide. Pictures were compiled and grouped together to provide children with examples of different types of physical activities and diet-related practices. There were corresponding questions developed for each group of pictures; these questions were designed to solicit the children's discussion of what, if any, differences in how they experienced the activity or practice when in the care of their extended family members as compared when in the

care of their primary caregivers. Figure 9 provides examples of prompts used for physical activity and diet-related questions. Prior to the start of the interview, each child's height and weight measurements were obtained to facilitate BMI-for-age calculations.

**Figure 9. Sample Child Interview Guide Picture Prompts**

The guide for the primary caregiver-extended family member interviews was more detailed and designed to prompt the adults' discussion of differences and/or similarities in how they taught the children about physical activity and dietary norms, motivations for their teaching strategies, and what aspects of physical activity and diet they felt were most important for the children to learn. In addition, questions were posed to solicit the primary caregivers' and extended family members' discussion of the culture of their extended family networks, as well as their perceptions of the influence of the extended family networks on the family unit's day-to-day physical activity and diet-related practices. Although interview guides were used for all interviews, the semi-structured interview format allowed for flexibility during the interviewing process, allowing me to reorder and reword the questions and probes as appropriate; this format also allowed the participants some freedom in discussing topics that were not directly

related to the questions I posed, but may have provided additional meaning and context to the topics of interest.[169]

### 6.3.3 Data Analysis

Within 48 hours of each interview, post-interview summaries and audio files were reviewed in order to begin the data immersion process. The audio files were reviewed again upon receipt of each interview transcript to ensure the accuracy of the transcripts, and all participant names were changed to pseudonyms prior to further analysis. The transcripts, audio files, and post-interview summaries were reviewed at several other points during the data analysis to help facilitate further discovery of meaning in the participants' statements; notations were taken, as appropriate, during each review.

A simplified grounded theory approach was used to guide coding of the transcripts.[168] This approach allowed for the identification of concepts included in the interview guides, as well as additional concepts that emerged during the course of the interviews.[168] The iterative coding process began with open coding of the adult interview transcripts. In this stage of coding, I focused on identifying and providing preliminary labels for concepts that were present in the data. Upon continued review of the transcripts, emergent concepts were arranged into an initial categorical scheme. The scheme was used to recode the adult interview transcripts, and additional codes were added to the scheme as concepts continued to emerge from the data; segments of the data were compared to determine whether codes were appropriately assigned and reflected the same concept within and across the family units.

A "constant comparison" method of analytic review was used until saturation was achieved (i.e., no new codes were identified) and to help maintain the context in which the experiences of the participants occurred and increase the generalizability of the data.[168,170] The final coding scheme was used for all of the Phase 2 transcripts. It was developed from the adult interview transcripts because they were more detailed in nature and included more simple concepts that were captured in the child interview transcripts. To help improve the validity of the data analysis process, several versions of the coding scheme were shared with the graduate-level research assistant who conducted all of the adult interviews for Phase 1 and provided feedback on improving the clarity of codes and the description assigned to each of the codes.

## 6.4 RESULTS

### 6.4.1 Study Participants

The final study sample was comprised of 24 individuals from eight family units (i.e., one child, primary caregiver, and extended family member from each family). With the exception of two individuals from one family unit, all of the participants identified themselves as African Americans; in that family unit, the extended family member was White and the primary caregiver identified herself as "multiracial", (i.e., White and African American). The children ranged in age from six to eleven years with an average age of 10, and five of the children were male. BMI values ranged from 17 to 33 and the children's BMI-for-age percentiles indicate that two children were of healthy weight, two

children were overweight, and four children were obese. All of the primary caregivers were the biological mothers of the children, with the exception of one family unit in which the primary caregiver was the child's maternal grandfather, and all of the extended family members were maternal relatives of the children. Table 16 outlines each family unit, in the order in which the interviews took place, and includes the characteristics of the participating children and their primary caregivers and extended family members. Relevant demographic data for the Neighborhood Statistical Area inhabited by the child and primary caregiver for each family unit were collected from the 2000 Census and the Baltimore Neighborhood Indicators Alliance-Jacob France Institute.[182,183] These data are presented to provide additional context for the primary data collected through the interviews. Table 17 details population, household, and income data for each family's neighborhood in the order in which the families were interviewed.

**Table 16. Phase 2 Family Unit Characteristics**

| Child Characteristics | | | | | Primary Caregiver | | Extended Family Member | | Family Recruitment Method |
|---|---|---|---|---|---|---|---|---|---|
| Pseudo | Gender | Age | Child BMI (%tile)[6] | | Pseudo | Relationship to Child | Pseudo | Relationship to Child | |
| | | | Phase 1 | Phase 2 | | | | | |
| Madison | Female | 11 | 26 (>95th) | 25 (>95th) | Melissa | Mother | Betty | Maternal Grandmother | Phase 1 Participant |
| Ashlyn | Female | 6 | 16 (50th – 75th) | 17 (75th – 85th) | Dionne | Mother | Tracey | Maternal Cousin | Phase 1 Participant |
| Brandon | Male | 11 | 18 (75th – 85th) | 21 (85th – 90th) | Marie | Mother | Jeanne | Maternal Grandmother | Phase 1 Participant |
| Jordan | Male | 11 | 17 (50th – 75th) | 21 (85th – 90th) | Stephanie | Mother | Lynette | Maternal Grandmother | Phase 1 Participant |
| Eric | Male | 11 | ----- | 26 (>95th) | Crystal | Mother | Clara | Maternal Grandmother | Snowball from Phase 1 |
| Eddie | Male | 8 | ----- | 18 (75th – 85th) | Lawrence | Maternal Grandfather | Lillian | Maternal Aunt | Snowball from Phase 2 |
| Shanice | Female | 11 | ----- | 26 (>95th) | Renee | Mother | Ann | Maternal Aunt | Purposive |
| Isaiah | Male | 10 | ----- | 33 (>95th) | Debbie | Mother | James | Maternal Uncle | Purposive |

[6] CDC BMI-for-age growth charts weight status categories are underweight (< 5th percentile), healthy weight (5th - < 85th percentile), overweight (85th - < 95th percentile), and obese (> 95th percentile).

**Table 17. Phase 2 Neighborhood Comparison**

| Neighborhood | Family Members | Population | | | Households | | | Family Income | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total (*n*) | African Americans (%) | Children, Ages 5-14 (%) | Total (*n*) | Family Households (%) | With Children (%) | Median | Below Poverty Level (%) |
| 1 | Madison, Melissa, Betty | 5,070 | 82% | 13% | 1,930 | 67% | 36% | $54,358 | 4% |
| 2 | Ashlyn, Dionne, Tracey | 1,820 | 99% | 13% | 670 | 63% | 37% | $33,880 | 17% |
| 3 | Brandon, Marie, Jeanne | 1,310 | 94% | 15% | 535 | 49% | 30% | $20,912 | 50% |
| 4 | Jordan, Stephanie, Lynette | 2,810 | 97% | 15% | 1,095 | 58% | 32% | $32,061 | 26% |
| 5 | Eric, Crystal, Clara | 2,550 | 88% | 16% | 1,075 | 60% | 39% | $32,500 | 31% |
| 6 | Eddie, Lawrence, Lillian | 6,030 | 81% | 12% | 2,745 | 51% | 29% | $42,702 | 7% |
| 7 | Shanice, Renee, Ann | 4,140 | 98% | 17% | 1,320 | 71% | 42% | $31,420 | 20% |
| 8 | Isaiah, Debbie, Ron | 5,475 | 99% | 18% | 1,950 | 62% | 41% | $20,119 | 38% |
| **Baltimore City** | **-----** | **651,154** | **65%** | **14%** | **257,996** | **57%** | **33%** | **$35,438** | **19%** |

### 6.4.2 Emerging Themes in Diet Socialization

With regards to mechanisms used by primary caregivers and extended family members in socializing children to adopt dietary behaviors, three primary themes were identified and are discussed below: "Do as I say…or do," "We fellowship with food," and "What grandmothers do."

#### 6.4.2.1 Do As I Say…or Do

This theme refers to the primary caregivers' and extended family members' efforts to influence the children's behavior through modeling the dietary behaviors they desired to see enacted by their children, facilitating desired dietary patterns, verbally instructing the children in acceptable dietary behavior. Within this theme, there were four dominant concepts: creating change, portion control, child choice, and conflicting parenting behaviors. The concept of "creating change" refers to primary caregivers' and extended family members' practices, challenges, attitudes, and beliefs regarding making healthful changes to their children's dietary behaviors. "Portion control" reflects the adults' efforts to control or teach their children about controlling the amount of food the children eat. The concept of "child choice" refers to the children's permission to choose their own foods during grocery shopping and at mealtimes. "Conflicting parenting behaviors" reflects the inconsistencies in the adults' verbal instructions and parenting practices related to the children's dietary behaviors.

### (a) Creating Change

Several of the primary caregivers and extended family members discussed their conscious efforts to encourage and model healthy behavior change for the children in their families. For some of the parents, these efforts appeared to be motivated by their awareness of the children's potentially unhealthy weight status. In some cases, these efforts were supplemented or motivated by influences that were external to the family. Debbie, who was concerned about her son's weight and lack of portion control and physical activity, used a health-related television show to facilitate their discussions of the potential consequences of his behaviors:

> And then when they have the little story come on, especially the ones that say, 'I'm fifteen and overweight,' I'll be telling Isaiah, 'Come on and sit down, and let's watch this.' He was saying, 'How old?' I said, 'They're only 15.' They was four and 300 pounds, and I said, 'If you don't stop eating the things that you eat--' Because he's old enough to say, 'Well, I know my mom wouldn't let me have it, let me get this,' But if he can get away with it, he's going to get it. So I try to explain to him, 'You need to watch these shows to see what these children is going through.'

Ann, the aunt of 11-year-old Shanice, who also expressed concerns about the weight status of her daughter and niece, noted that due to her daughter's recent discussion with her pediatrician, she and Renee, Shanice's mother, had observed recent changes in the children's food-based decisions when acquiring food outside of the home

> Well, the doctor of course will say—the doctor asks, 'What do you want to eat? When you go to McDonald's, what do you get?' And she'll say, 'A Big Mac,' or something like that. So the doctor say, 'No. Why don't you try the nuggets?' So here now, that's the only thing she'll get from McDonald's. And she won't get the fries. And then a lot of times they'll hear us talk about what's good for you, and then when we go to the grocery store, they're like, 'We'll we're going to get this because this is good for us.'

Some of the primary caregivers discussed making changes in their dietary routines and behaviors as part of their efforts to develop healthier lifestyles. However, in

most instances, it appeared that although there was an indirect modeling of healthy dietary behaviors, the primary caregivers did not actively encourage similar changes in their children's dietary behaviors. For example, Renee, had recently achieved success in her weight loss efforts, but did not enforce her dietary behavior changes for the rest of her household. This may have been due, in part, to the fact that some of the children in her household received nutrition education classes outside of the home and the possibility that Renee believed they were capable of making their own decisions based on the information they received:

> I had to do it for myself. The other ones, they not—I don't know. Well, they had nutrition class. They know because they got it through school and through the programs they join. So the oldest ones really know what they're supposed to eat and not.

Dionne, the mother of 6-year-old Ashlyn described her family as, "…genetically, we have hips, we have thighs, we big breasted," and noted the extended family network's recent formation of an informal support group for improving their health and losing weight. However, she did not feel that Ashlyn would be receptive to making these changes or that Ashlyn's current health status warranted dietary behavior chance. Therefore, Dionne did not make efforts to encourage healthful changes in Ashlyn's diet:

> I can't say leading by example, because like I said, she ain't going to pay me no mind. She's all in her own little self… But by her being six, leading her by example for her is eating right. Now, she eats certain healthy things. She loves peanuts. She loves fruit. You know, she drinks plenty of water 24-7. It's just that by her being six and me just getting more knowledge of how to eat more properly, I just don't believe—I believe she's just a little young for her to kind of get the concept of hey this is more nutritious than this. 'I'm six years old. Can I have these potato chips, Ma?' Opposed to, 'Ma, let's eat some vegetables.' … Just because I changed—and I know it may sound bad now—just because I changed my eating habits, I didn't change them necessarily for her also. Ashlyn still eats pork sausages, pork chops, ribs, and if her aunt make it and she wants [it], she is going to eat it. And I'm not going to deny her because it was something that I changed myself. If my aunt makes fried food, Ashlyn loves fried chicken. That's

> her favorite. Because I only eat fried food once a week, I'm not going to deprive her of that. By her only being six, she's still healthy. She is average height and size for a six-year-old.

Tracey, Ashlyn's cousin, felt that it was necessary for her to actively "lead by example" with her son, who was 12 and had recently expressed concerns about his weight, and Dionne believed that this was more appropriate, given his older age and weight status. Although Dionne did not identify a specific age at which she would adopt a more active approach to encouraging healthful dietary behaviors for Ashlyn, she did note that she may be more capable of doing so once she had achieved some mastery of healthful behaviors within her own diet:

> So I want to say maybe I can lead more by example once I know that I'm really into my diet, like as far as my eating habits. Because, like I said, I don't eat vegetables. I eat salad, but I'm not a big veggie person myself. So I think once I start applying it to my everyday living, and then kind of introducing that to her. Then I can start leading by example, 'Hey, I'm eating this.'

In contrast to the mothers and extended family members of Shanice and Ashlyn, Debbie, the mother of 10-year-old Isaiah, who had recently received diet recommendations from her physician due to concerns about her cardiovascular health, actively incorporated her diet changes into the diets of Isaiah and his younger sister. While she did not face much opposition from her children, Ron, who was Isaiah's uncle and also a member of the household, resisted the changes. Debbie described her recent changes and the challenges she faced in trying to change her family's dietary routines and behaviors:

> Well, when I go to the market, I try to buy everything that I would want them to eat. Now, I'm trying to lean more to the more healthy side because I need to get more healthier myself, as well, because two or three years ago, I had a heart attack, and it came from having [my daughter]… So they put me on this diet that everything be like low-calorie this, low-calorie that. Ron doesn't like it. So I try to bend a little bit on getting some things that I know he will eat. But also on the

> other end, I try to get things more healthier. So I definitely keep fruit in the house. I don't care how much fruit you eat, but when I start buying snacks, I'm buying low-calorie things… the whole-wheat spaghetti, the buckwheat pancake mix. I'm trying to lean on this side, but I know I still have to get an extra box if he wants that. Them, I'm trying doing low-calorie everything, diet sodas if I do buy sodas, trying to keep 100 percent juice instead of juice blends. So, I'm trying to lean more on the healthier side. Trying to get him on board, but the children will eat basically what I cook.

Debbie's active efforts to promote healthful changes in her children's dietary behaviors may have been related to the fact that changes in her own behaviors were related to a specific health concern, rather than general weight concerns. In addition, although it was apparent that Ron did not prefer the healthier foods, there was no evidence to suggest that he deliberately discouraged the children from eating those foods. He did, however, continue to take the children to the corner store, where he "pretty much let them get what they want," which usually included items such as cookies, ice cream, and potato chips.

The concept of creating change highlights deliberate efforts made by the primary caregivers and extended family members to facilitate and/or encourage positive changes in the children's dietary behaviors. The adults' motives for desiring changes in children's dietary behaviors were related to concerns about the children's weight and, in one case, the primary caregivers' need to manage a chronic health condition. In other families, primary caregivers discussed actively making changes in their dietary behaviors but demonstrated more passive strategies concerning their children's dietary behaviors.

#### (b) Portion Control

Within some of the families, it appeared that the practice of "portion control" was one of the primary dietary behaviors taught by the primary caregivers and extended family members. For Jeanne, the grandmother of 11-year-old Brandon, it was important

to focus on how much her grandchildren were eating rather than restricting certain foods or food groups from their diets. Based on statements made throughout her interview with Marie, Brandon's mother, it became evident that Jeanne held the primary responsibility for grocery shopping and preparing meals, which may have given her the ability to enforce portion control of some foods by not bringing them into the home as frequently:

> But I talk about how much you eat. And like I tell them, pork—now I'm dealing with a pressure problem—but pork is also the other white meat. So I don't buy it as much… And I'm not going to knock them for what they want. It's just how much you eat. That's all you that you got to worry [about], is how much you eat.

Although this was recognized as a healthy dietary behavior by many of the adults, some acknowledged that they faced challenges in enforcing the practice in their households. Renee, Shanice's mother, discussed an example of this when she stated:

> It's the whole household for me, how much you're eating. It's how much. Because I don't really believe in diets, because some of them just crash diets, and for me, for me to get to my weight loss, I didn't do a diet; I just cut back on stuff that I had the most. So that helps me a lot, and I did a lot of walking. So it's not what the food is; it's how much we're giving them and portions of how much we allow them to eat. Like they could have just ate three chicken wings, and like she said, 15 minutes later, they want another two to three chicken wings, and we like, 'Y'all just ate.' And with their chicken wings, they might have just had the whole full-course meal, like macaroni and cheese, some corn, some starch—I mean, greens—and then 15 minutes later, you want some more chicken. They'll pick the food. I believe they will pick the chicken before they will pick the food.

However, beyond the verbal exchange of reminding the children of their recent food consumption, it did not appear that Renee actively encouraged Shanice to practice portion control. Similarly, Ron's, Isaiah's uncle, voiced his frustration with the lack of portion control exhibited by Isaiah and Isaiah's younger sister, but only discussed the use of verbal instruction to encourage the children's portion control:

> And also, we tell Isaiah all of that time that you don't necessarily have to eat all of the time to get full. You just eat to sustain yourself…but he'll eat or try to eat all

> of the time to get full and stuffed…[my niece] is starting to do the same. She's trying to eat until she's full and stuffed.

Debbie, Isaiah's mother, agreed that this was a challenge in their household and speculated on some of the underlying causes of Isaiah's behavior and discussed some of her strategies for addressing her concerns about his behavior:

> And they're sitting around, 'I don't feel good.' Stuff like that, and I have to explain to them that—I was taught—well, Ron don't do it no more, but I still do it—you don't drink until after you eat. And our grandfather taught us that, because if you're drinking and eating at the same time, you're going to get full faster and you won't complete all of your meal. So, I have been doing it since I've been born. I don't drink anything until probably maybe sometimes an hour after I've done ate. On the other hand Ron and Isaiah, they've got to have their drink right beside them. So every couple of spoon or forkfuls, they're drinking something, and I try to say, 'No, you don't drink until after you eat your food.' …Because Isaiah will go overboard. As long as it's there, he will eat it. Every now and then, I fuss, 'Hey you just had some. You had enough.' But he will sneak. If I'm not in the room, and he can get in that kitchen, and he already has in his mind what he wanted, he will get it. And I think a lot of times he do me like that—he's a house person. He'll go outside only when he feel like it, but as long as you got computer or TV and video games, he's fine. He'll sit there and just eat whatever he can eat… So I think a lot of the eating habits that he has picked up because he's just constantly in the house.

Although Debbie noted teaching Isaiah what she believed was an effective strategy taught to her by her grandfather, her statements indicate that she also relies primarily on verbal instructions and may not feel as if she has a lot of control over how much Isaiah eats.

Primary caregivers and extended family members identified portion control as a strategy for monitoring their children's diets. The adults described the use of passive, verbal strategies to enforce portion control during and between meals, and primary caregivers and extended family members expressed similar challenges and frustrations concerning children's adherence to verbal instructions regarding portion control.

### (c) Child Choice

Some of the children discussed the choices they were allowed to make while grocery shopping with their primary caregivers or extended family members. In 11-year-old Madison's case, her mother (Melissa) made most of the decisions about what was purchased and had to approve of foods selected by Madison:

> It's basically up to her, but she kind of like gets the things that's on sale. But she will make sure it's good for us to eat it first, and then she'll get it. Like just grocery shopping. Maybe like a couple snacks, but not too many, because I bring—sometimes I bring snacks to school.

Brandon mentioned that he and his brothers were sometimes allowed to make their own food selections, and he was able to identify specific foods that his mother (Marie) and grandmother (Jeanne) perceived as being "unhealthy" and limited in the children's diets, "like too much sweets and too much red meat." However, despite Brandon's explicit identification of red meat as a food that his mother did not allow him to select very often, it appeared that Marie continued to allow the children to have their meat of choice: "I tried to [stop them from eating red meat], but they love their hamburgers, so--.

Isaiah's choices were even more limited when he went grocery shopping with his mother (Debbie), as he stated that his task was to pick up foods from the shelves and "choose what we need in the house." This indicated that he was not actually making decisions about what was purchased, but was serving as a helper during the grocery shopping process. Eight-year-old Eddie noted that he was also disallowed from making food choices while grocery shopping with his grandfather (Lawrence) and aunt (Lillian); however, he was allowed to use the microwave unsupervised and choose and prepare his own breakfast and lunch foods (e.g., cereal, sandwiches, eggs, noodles). While most of the other children indicated similarities in what their primary caregivers and extended

family members allowed in regards to their food choice allowances during grocery shopping, Shanice described differences in what was allowed by her mother (Renee) and aunt (Ann). Renee did not allow Shanice and her siblings and cousin to go grocery shopping with her because, "She says we ask for too much." In contrast, Ann often took the children with her and usually purchased the foods they requested.

In some instances, the primary caregivers discussed the children's independence in food choices relative to their own food preferences. For example, Dionne noted that because she did not like vegetables and was forced to eat them as a child, she did not force Ashlyn, who also disliked vegetables, to eat them. Dionne justified this behavior with information she received from Ashlyn's pediatrician:

> And the only reason why I don't force veggies on her [is because] I'm not a big veggie person myself. Her dad was. And I remember we took her to the doctor… The pediatrician was stating—and I don't know if it was because it was different backgrounds. He was basically saying well if a child continues to grow and doesn't have any type of educational development or anything that slows, [he would] prefer a child to eat something that they enjoy as opposed to not eating nothing at all… So he was saying as long as she's getting her nutrients from somewhere else, and she's average and not below her weight level, then that was fine. Because I remember being tortured as a child sitting, vegetables cold. I [wouldn't] eat them, so I couldn't eat nothing else. So come breakfast time, here are all the little vegetables that I did not eat the night before. So I ain't want breakfast because I'm not eating them again.

Although Crystal, the mother of 11-year-old Eric, also disliked vegetables and did not force her children to eat foods they disliked, it appeared that she avoided sharing her food preferences with her children and deliberately tried to give them opportunities to make their own food choices. This was related to her perception of their need to consume vegetables, as well as her perception that her own preferences did not influence their decisions and, potentially, her desire to avoid purchasing foods that would go to waste:

> Because I don't like peas, and I don't like carrots. But I'll eat it sometimes, if it's shaved in salad or something like that, I'll eat it. Or soup. But [not] other than that. But I give it to them though. I don't tell them I don't like them. I just don't eat. They need them. They probably not going to have a dislike just because I don't eat it. I don't not buy it, because I know that they might like it. …if they don't—everybody's entitled to their thing. If you don't like it, you don't like it. I'd rather you tell me and I won't buy that.

There were varying degrees of child choice allowed across and within the families. Although children were present during grocery shopping, they were usually assisting with the process of selecting foods but not actually involved in making choices about the foods that were selected. In one family, the extended family member was more lenient with the children and allowed them to make choices about food purchases. Child food choice allowances were also discussed within the context of the primary caregivers' food preferences, particularly concerning vegetable consumption.

### (d) Conflicting Parenting Behaviors

During some of the adults' interviews, it became apparent that the verbal instructions given to the children conflicted with the behaviors facilitated, encouraged, or modeled by the primary caregivers and/or extended family members. In some cases, the adults were aware of and discussed their conflicting instructions and actions. For example, Madison's mother (Melissa) explained that her actions not only conflicted with her own words, but also with the words and actions of Madison's stepfather:

> My husband and I a lot of times tell her—especially my husband—he tells her—because she always—she talks about her weight, first of all. She talks about her weight. 'Oh, I don't want to get big. I mean, I want to lose some weight in my thighs. I want to do this, I want to do that.' He says, 'Well, you should be eating this instead of that.' So he might tell her, 'You should be eating fruit instead of chips.' Or, 'You should be drinking water instead of soda.' So he definitely tells her a lot that she should be doing this and that. And he's a pretty healthy eater too, so he shows by example also. Me, I don't think I'm a good example. …like the water. I can't drink water, or I can't drink a lot. I try, but not a lot. So, I tell her

> she should be drinking water, especially during—if it's not a meal—that she should drink water in between meals. And I'm not the type of person that likes to do that, because I don't like telling somebody to do something and not do it, but--.

Similar to Melissa, other primary caregivers and extended family members also recognized their conflicting words and actions. Ann described how these conflicts sometimes occurred when the family acquired meals from restaurants:

> Country Buffet. Mainly Country Buffet, because it's all you can eat. And those two little girls, [my daughter] and Shanice, eat a lot. And we get on them constantly about the way they eat. 'Y'all need to stop eating so much. Y'all eat too much,' we'll say. But then we let them have it. We can say to them, 'No, you're not getting it,' and then they'll ask again, and then finally, 'Just go ahead.'

Renee affirmed Ann's statement and provided some explanations as to why the conflicts took place: "Yeah, so we give in… Because they got on my nerves too much. And them two will get together, and they act like they is really, really starving, like we don't feed them."

In some instances, the primary caregiver or extended family member made efforts to adhere to certain dietary routines due to the management of chronic health conditions, such as diabetes or hypertension. Although it was often perceived that these were healthy dietary routines, they were not enforced as part of the children's dietary routines. For example, Lillian explained that because of the diabetic status of Eddie's grandfather (Lawrence), "…my father don't get fried food. I don't give him no fried food. But the kids—we give them the fried chicken, the fried pork chop." In this family unit, the children's grandmother had also been diagnosed with hypertension, and even though Lawrence and Lillian discouraged the use of salt in the household, the adults did not appear to actively and consistently enforce the desired behavior, and the grandmother

often modeled behaviors that conflicted this and were often mimicked by the children. As stated by Lillian:

> Only thing we mainly stress around here is, we don't use salt. We don't use salt at all. Well, my mother do. She ain't supposed to. But I'm not—I can't tell her not to. I do [for my dad], because of health reasons. I try to with my mother, but she'll go in there. 'Don't tell me what to do.' It's all on there, but [my dad], he won't use salt at all… We just say no salt in the food. We try to, you know, we try to keep them from the hot sauce, but ain't but so much—I mean, there's something we can do about it, just don't buy it, but if we have company--.

Debbie and Ron also noted that there were conflicts in parenting behaviors within their home. In addition to conflicts within her own parenting behaviors, Debbie's parenting behaviors also conflicted with those practiced by Ron, who provided an example of this when he stated:

> I mean, sometimes I think my sister give them maybe like an ice cream or something like that before they actually eat. And I prefer for them to really eat first and then have a treat later. And she'll feed them as much as they probably want to eat. I guess that's the womanly, nurturing thing in them, or something. She'll let them eat. And me, I just rather eat in [moderation].

Debbie's conflicting parenting behaviors were further discussed and explained when she responded to Ron's statement:

> If I'm in the process of cooking, and it's not something that's not too sweet, then I'll let them have it, even if it's a piece of fruit. I'll give a freeze pop or something light. But if you want to eat some peanut butter and jelly sandwich or something like that, I say, 'No. Wait.' But sometimes, I let them just go ahead. Just go ahead to keep them out of my way a lot of times.

Within each of the families, there was evidence of conflicting parenting behaviors. Primary caregivers and extended family members both demonstrated inconsistencies in their parenting behaviors, and in some families, children experienced differing parenting behaviors from the different adults in their families. Some of the primary caregivers and extended family members were aware of the inconsistencies, but

beyond recognizing that this allowed the children to eat more than what was desirable, there were no discussions of how the inconsistencies affected the children's dietary behaviors.

The "Do as I Say…or Do" theme addresses efforts made by the primary caregivers and extended family members to directly influence the children's dietary behaviors. There were discussions that indicate the adults' implementation of changes to promote healthful eating behaviors within their families, as well as the challenges and parenting inconsistencies that were experienced during the process of creating change. In addition, primary caregivers and extended family members discussed their perceptions of portion control as being an important diet monitoring strategy within their families. The adults' statements regarding child choice describe children's passive involvement in food acquisition, as well as the primary caregivers' influences on child food preference.

#### 6.4.2.2 We Fellowship With Food

Much of the conversation related to dietary routines and behavior centered on the inclusion of food as a significant component of various types of fellowship within the extended family networks. The dominant concepts within this theme were "Sunday dinners" and "Family celebrations". Both of these concepts were present, in varying degrees, within all of the adult interviews, and several of the children elaborated on their families' dietary behaviors during holidays and special occasions.

##### (a) Sunday Dinners

This concept refers to the preparation and consumption of a special dinner meal on Sundays with characteristics that set it apart from dinner meals prepared on other days

of the week. Several of the primary caregivers and extended family members noted that the Sunday dinner was a "full course meal", rather than a lighter fare or one prepared with convenience foods (i.e., frozen meals or meal components, canned foods, boxed meals). As explained by Lillian, the aunt of eight-year-old Eddie, "If it's Sunday, I'll fix a Sunday meal…like chicken, macaroni and cheese, and a green vegetable, cabbage, or other greens. I always make sure I give them a green vegetable." Similarly, Jeanne, the grandmother of eleven-year-old Brandon, statements indicate that as the primary meal preparer, she distinguished Sunday dinners from other meals by expanding the main course of the meal:

> So, I'll cook minced barbeque. I'll do that. It ain't like something I do every month, but every week or every Sunday, if I had like a roast, I'm going to have fried chicken. I might have chicken every Sunday just basically. …I usually have two meats every Sunday. But I'm going to have chicken if I don't have nothing else. I'm telling you, because that's what I know they're going to eat. And then do turkey wings and stuff like that.

Debbie, the mother of ten-year-old Isaiah, further elaborated on elements of Sunday dinners that were different from other meals she prepared for her family:

> The dinner that I usually cook on Sunday is a big meal. It will be—I mean, I still do the full course, your vegetables, your meat, and your starch, but it's a special meat, you know what I mean? A meal that's not normally given [during the week]. It could be barbeque spare ribs, baked fish. And probably—because I do something fast on a week—like salmon and rice with a side of broccoli or fish and chips, fish and French fries, something like that or hot dog and pork and beans, things like that. But Sunday is a real sit down, full meal and with dessert. [Dessert is] different because I do—probably bake a cake or bake cupcakes or do brownies, something or we'll have a pie, something like that. And we'll probably have ice cream to go with it, or if you want fruit cocktail or peaches or whatever, you'll have that to go with it. But during the weekdays, it's just grab all, whatever snack you find in the cabinet or whatever chips or whatever and in it goes.

The setting of the Sunday dinners was also a distinguishing characteristic of the meal. Several of the adults discussed the coming together of family members for Sunday

dinner as a memorable part of their own childhoods. As Melissa, the mother of eleven-year-old Madison, recalled, "And me, that's how it was when I was growing up. Sunday dinner's supposed to be the good dinner, the nice dinner. Everybody comes together and eats definitely on Sunday." In addition, many of the adults expressed that this was a family-based tradition that needed to be continued and taught to their own children. An example of this was illustrated through statements made by Isaiah's uncle (Ron): "Well, we was always brought up Sunday you sit down together, and we carry that on even now. We kind of all sit down as a family."

For some of the primary caregivers and extended family members, the setting of their regular Sunday dinners was perceived as an important factor that reinforced the closeness within their families. Renee, the mother of eleven-year-old Shanice, provided a detailed explanation of why she and Shanice's aunt (Ann) felt it was important for their children to experience regular Sunday dinners:

> Yeah, they're taught that at Aunt Ann's or Aunt Renee's house on a Sunday dinner, you're getting that family conversation and maybe something you missed on the week, forget to ask about, and it's brought up at the table or something. So I think it brings some sense of closeness, like a Big Mama's house… I just think being family-knit and close together. That's the only thing. There's a lot of people lost their sense of way, and it's about family. When they grow up, I don't want my kids to say, 'Mostly all through the week and through Sunday weekends, we had fast food,' or, 'We didn't do this together,' or, 'We didn't do that.'… But that's the only thing I really wanted to keep, because I remember the Sunday dinners. And I see a lot of young kids, they'll do the Sundays and the weekdays, they either got a Wendy's bag, Kentucky Fried Chicken, and I'm like, 'Wow.'

Madison's grandmother (Betty) noted that because of time constraints related to her work schedule, she was often unable to prepare a Sunday dinner for her family. However, because the preparation of this meal was important to her and the family, she made arrangements to prepare a Sunday dinner on other days of the week:

> [I] might like cooking every other day or something. Especially on Sundays. Sometimes, I can't even cook on Sunday because I get home so late, unless I start putting it in the slow cooker the night before, or that morning… But I'll cook sometimes—make a Sunday meal on a Monday.

Sunday dinners were discussed across all of the participating families. Although there were some differences in the characteristics of the meals, it was evident that this was a valued food-based family tradition that involved the preparation of special foods that were not prepared during the course of the workweek. Some of the adults also discussed the importance of family members coming together to consume the Sunday dinner meal, which presented an opportunity for family members to fellowship with one another and appeared to be related to the perceived need to maintain a sense of familial closeness.

**(b) Family Celebrations**

In addition to regular Sunday dinners, many of the participants discussed the central role of food during holidays and special occasions (i.e., birthdays, weddings, funerals, etc.). Celebration of traditional holidays (i.e., Mother's Day, Independence Day, Christmas, etc.) often included the coming together of the extended family and the preparation of foods that were reserved for that time of year. For example, Dionne, the mother of six-year-old Ashlyn, noted, "On Christmas, we have brunch. And my grandmother makes us rabbit and gravy served over top of grits with biscuits on the side. Mmmm—that's the only time we get it." In addition, food-centered celebrations were also valued for the fellowship involved in preparing foods. As noted by Shanice's aunt (Ann), "Probably just getting together. That's the central part. Just coming together and preparing and doing stuff together."

Some of the children also described special foods for warm-weather holidays that were celebrated with cookouts. Brandon noted that during these celebrations, some foods, such as hotdogs and hamburgers, were similar to, yet in some way different from, what they might consume at more routine meals: "Real stuff. Real hot dogs and real hamburgers, chicken and ribs, salad, macaroni salad and that's basically it." Several children and adults identified these foods, along with others (e.g., watermelon, fruit salad, ribs, fish, corn on the cob, etc.), as being characteristic of cookouts and other warm-weather celebrations. It is important to note that in some families, the children and adults mentioned that they only saw extended family members during these and similar family celebrations on holidays and special occasions.

There was also evidence to suggest that the families celebrated other types of special occasions on a more regular basis. These occasions were more casual and usually involved the immediate family or household unit rather than the larger, extended family. Several of the adults noted that these occasions were limited to once a week and/or coincided with their paydays. For example, Jeanne explained that family looked forward to eating out as a special family activity whenever she or Brandon's mother (Marie) received their paychecks:

> Oh, and we get a treat. When we get paid, we get a treat. So we go out. We may have pizza. We may have a sub or something or whatever. And sometimes we may go to McDonald's, or Subway. So we do treat. We do treat maybe on the weeks we get paid. We're not going to cook, I'm telling you.

This also appeared to a family-based tradition that was being continued from some of the adults' childhoods. Debbie and Ron explained that they tried to limit the family's dining out to Fridays in an effort to recreate the special dining occasions they experienced as childhood for, which were described by Ron:

> On Wednesdays, the school system used to give a half-a-day. And our parents used to come pick us up, me, my sister, and my cousin… They used to come pick us up from school and we would go to…The Ponderosa…an all you can eat place. And that was our eating out every Wednesday. That's what we would do, and it was wonderful.

The "We Fellowship With Food" theme demonstrates the families' use or incorporation of food in formal and informal celebratory activities. The observance of Sunday as an important day for preparing a special dinner was evident across all of the families, and several of the adults also noted the importance of consuming Sunday dinner together. In addition, food and the fellowship associated with preparing and consuming food were central to extended family gatherings to celebrate holidays, birthdays, and other special occasions; food was of similar importance in celebrating informal, more frequent occasions, such as paydays and/or the end of the workweek. The incorporation of food in these activities appeared to be a food-based family tradition for many of the families.

#### 6.4.2.3 What Grandmothers Do

There were equal representations of maternal grandmothers ($n$ = 4) and other maternal relatives ($n$ = 4) in the study sample. Even in family units in which the grandmother was not a study participant, the adults discussed their grandmothers. This theme addresses the roles and obligations of grandmothers, as perceived by the primary caregivers, grandmothers, and other extended family members.

For some of the grandmothers, there were perceived roles and obligations that were distinctively different from those of the mothers. Lynette, the grandmother of eleven-year-old Jordan, indicated that her parenting behaviors toward Jordan and his siblings mimicked her childhood interactions with her own grandmother: "That's it. I'm

grandma, and from how I was raised, I just—I got everything I wanted. So, that's what I do. My grandmother gave me everything." Some primary caregivers and other extended family members also discussed the actions and roles of grandmothers as family matriarchs. Debbie and Ron spoke highly of their grandmother and of her encouraging the family to help others in need; as Ron stated:

> …if I must say so myself, our family pretty much stood [out] amongst all of the other families in the neighborhood… Our family would be glad to help out a person in need. My grandmother—people would come to her to sew things, and if they didn't have the money she would do it, you know, pro bono. And my grandmother would feed people…

Debbie noted that despite the negative changes in the surrounding community, she tried to continue the practice of helping her neighbors whenever possible. Similarly, in Ashlyn's family, her great-grandmother's teachings, as well as the closeness of the extended family network, continued to influence the interactions and dietary behaviors of the family members. As explained by Dionne:

> I mean because you're teaching actually—what you teach today is basically your knowledge. You know what you learn in the past is how you maintain yourself and your lifestyle for your future. If you was brought up vegan, nine times out of ten, you're going to raise—you're accustomed to it, so you're going to raise your children and you're going to continue to stay. A lot of vegetarian friends that I have was brought up vegetarian and still to this day doesn't eat red meat, doesn't eat pork, chicken and fish only. You know, so it really plays a major part especially if you're from a very tight knit family. Now, if you was more of a black sheep you probably experienced more, you probably venture off with friends and came up with some new customs of your own and you applied them to your everyday life. But by us being very tight knit and such a tight bond that we have it's like our influences it still remains the same, the teachings from my grandmother.

Although the grandmothers' roles were respected and some of their actions were being perpetuated within the families, there were still some differences between the parenting behaviors of the participating mothers and grandmothers. For example,

throughout the interview with Lynette and Stephanie, it was apparent that the Stephanie, who noted that the Lynette was more like to "feed them junk" (i.e., potato chips, pizza, ice cream, cookies, etc), was less permissive with children and that these types of food allowances were provided "only when grandma's here". Of her own diet-related parenting behaviors, Stephanie stated, "I teach them like to eat—only eat healthy stuff. Juice or sodas do not quench your thirst, only water. Eating vegetables builds their bones."

Crystal, the mother of eleven-year-old Eric, explained differences in the amount of "junk" Eric and his sister were allowed when in the care of their grandmother (Clara):

> They listen more, where they think—you know, for grandmother situation, they can get away with a little bit more stuff like that. Like I probably won't give them no junk as much as she might give them junk… like popsicles, cookies--. …Because, I mean, they don't need no junk all day long. That's how it is. Me, it's like, alright, if you let my daughter ask for popsicles all day long, it'll be all day long. And when the next day comes, there won't be none. You know what I'm saying? So, she'll be like, 'Can I have a popsicle?' And then later on, down the line, 'Can I have a popsicle?' And that'll be all day. So sometimes you got to give a cutoff—not saying [my mother] don't. I'm just saying that--.

Clara's response to this indicated that she and Crystal had differing perceptions of the frequency at which the children were given these types of foods:

> I give it to her around after eating, like a reward. Or say she do something that I want her to do. I give her a popsicle then, but I don't give it to her just like keep on giving it to her. I'll say, 'Erica, go get me one.' Then she'll say, 'Well, Grandma, can I have one?' I'll say, 'Alright.' And I might have just gave her one, but if it's real, real hot, and we outside, I'll give them one over. That's the only time I'll go over, if it's hot. Now as far as the junk up there, I don't put junk in them like that constantly.

Similarly, as Melissa explained, she and Betty disagreed on acceptable feeding practices when they shared a household:

> Thank goodness we don't live together anymore. Because when we were living together—phew! Madison was grandma's baby. I wasn't her mother. I was just

> there. I would say—when she was a real little baby, she would give her soda, and I didn't want her to have soda when she was young, because when they're growing up, they really don't know. They're going to drink what you give them, so I didn't want her to have soda. But my mom's like, 'It's okay. You can let her have some.' But that's when we were disagreeing, when we were living together.

In other instances, the grandmothers were more passive in their diet-related parenting behaviors. Brandon's grandmother (Jeanne), for example, valued her role as the primary meal preparer in the household, but preferred to let Marie, Brandon's mother, take the lead in teaching the children about acceptable dietary behaviors: "Yeah, I talk a little, but their mother is the one that encourage [*sic*] the food. I cook it. It's all there." Despite her active involvement during Madison's early childhood, at the time of the interview, Betty also used passive strategies for helping Madison improve her dietary behaviors: "No, not really. It's just times that I might say, 'Go on a diet,' or something. 'Eat a salad,' or something like that. But no, I don't really [say much]."

The "What Grandmothers Do" theme highlights the unique roles and responsibilities of grandmothers with regards to the children's dietary behaviors. These roles and responsibilities differed from those of the mothers and other relatives. In addition, primary caregivers and extended family members expressed their respect for their grandmothers and believed it was important for them to continue the food-based family traditions learned from their grandmothers. The grandmothers who participated in the study demonstrated a range of involvement in the children's dietary behaviors and routines, with some being active in their influences and others adopting more passive approaches.

## 6.5 DISCUSSION

This study presents an analysis of some of the mechanisms used by primary caregivers and extended family members to socialize children to adopt cultural and familial norms regarding dietary behaviors. The analysis addresses factors that may influence these mechanisms, as well as the sociocultural context in which the socialization practices take place. In addition, the analysis provides a comparison of the mechanisms used by primary caregivers and extended family members and highlights the roles and responsibilities of grandmothers in the extended family networks.

The results of this study suggest that family-based collectivism may influence children's dietary routines and behaviors. One of the basic elements of family-based collectivism is showing respect for family traditions,[185] and this was demonstrated within the family units in multiple ways. Primary caregivers and extended family members both discussed the importance of continuing and exposing their children to the food-based traditions that were valued by their families, most notably, weekly Sunday dinners and special holiday meals. The adults often discussed these, along with other, more casual food-based traditions, as being memorable occasions experienced in their own childhoods.

Family members serving as attitudinal and behavioral referents for each other also characterizes family-based collectivism.[149,150] This is something that was demonstrated by children and adults. Ashlyn's mother (Dionne) believed that she and her family members closely followed what Dionne's grandmother taught them about food and meals because of the sense of closeness they felt towards each other; this suggests that Dionne's grandmother was a significant behavioral referent for the family. There were also implied

examples of this among children in other family units. For example, Isaiah's uncle (Ron), noticed that Isaiah's habits of overeating were being adopted by Isaiah's younger sister, and it appeared that Shanice's habits may have been influenced by her cousin, who was making changes in her food choices based on recommendations from her pediatrician.

Among the participating families, the primary caregivers and extended family members exhibited more similarities rather than differences in regards to some of the themes and concepts that emerged from the data. This may also be related to family-based collectivism, as well as the structure and functioning of many of the families. Given the sense of familial closeness that was discussed by many of the adults, it is plausible that the shared behavioral and attitudinal referents within the extended family networks contributed to the similar parenting practices demonstrated by the primary caregivers and extended family members.

The discussion of Sunday dinners was common across all of the adult interviews and may have implications for the weight status of the children and their family members. In addition to the preparation of special foods, these weekly meals were also different from meals prepared during other days of the week because of the setting in which they were eaten. Several of the primary caregivers and extended family members noted that the Sunday dinner meal was usually the only meal that all members of the family or household consumed together, rather than in different areas of the house or at different times of the evening. Research suggests that children belonging to families that regularly consume meals together are less likely to be obese. [58,59] However, because this is considered a time of fellowship and "catching up," these may be prolonged meals at

which portion control is not closely monitored, leading to the possibility that these meals may also indirectly promote overeating among the children.

Several of the primary caregivers and extended family members demonstrated inconsistencies in the mechanisms they used to monitor the children's dietary behaviors. In addition, within some of the family units, there were inconsistencies between the primary caregiver and participating extended family member and, in some cases, other members of the family or household. The inconsistencies appear to negatively affect the children's behaviors, as the primary caregivers and extended family members reported that they often indulge the children and grant their request for additional and/or unhealthy food, despite the verbal instructions for healthier behaviors. Several of the family units resided in neighborhoods of lower socieoeconomic position, and previous research suggests that parents of lower socioeconomic position experience increased emotional stress and may have a decreased ability to parent effectively.[188,189] Given the inconsistencies in the parenting behaviors related to the children's diet, there may be a need for family-based childhood obesity interventions with components that focus on improving parents' self-efficacy to enforce behaviors that they know are healthy for their children. This might include the use of multiple approaches related to parent-child communication, communications about child dietary behavior between adult caregivers, and time management. In addition, based on the attitudes and beliefs that were expressed by some of the primary caregivers and extended family members, there may also be a need for caregiver-focused intervention components to educate caregivers and correct misconceptions about healthy and unhealthy dietary behaviors.

The findings of this study suggest that children's dietary behaviors are influenced by multiple sources within the extended family, and statements made by the primary caregivers indicate that they experience challenges in balancing the dietary needs, preferences, beliefs, and attitudes of those who are involved in the dietary routines and behaviors of the children, as well as the family or household at large. This further supports recommendations to adopt a more holistic approach to family-based childhood obesity interventions by reaching beyond the immediate family unit to acknowledge and embrace the extended family network and its influences on children's dietary behaviors.[17,34] Given the significant degree of family-based collectivism displayed among the families, this may be enhanced by identifying and targeting extended family members that are viewed as family leaders or behavioral referents within the network.

### 6.5.1 Strengths and Limitations

The primary strength of this work is the use of multiple referents during the data collection process. Including the extended family members as a primary data source, rather than collecting secondary accounts of the extended family members' interactions with the children from the primary caregivers and/or children facilitated in-depth explorations of the physical activity behaviors and routines of children and some of the adult family members with whom they interact most often. Furthermore, the two-part research design allowed for a review of multiple family interviews from the Childhood Neighborhood Study, which highlighted areas in which further questioning was needed to help develop the interview guides and analysis for the current phase of the study.

However, the data collected and analyzed are self-reported, and there may be some differences in what the participants discussed and what was actually experienced within each family. In addition, because only three family members were interviewed for each family unit, this work can only provide an analysis of the families based on the accounts of those individuals. The behaviors, attitudes, and beliefs of other members of the extended family network may also play direct or indirect roles in influences the dietary and physical activity behaviors of children, but additional research is required to explore and understand those influences.

In general, the primary caregivers and extended family members were forthcoming when responding to the interview questions. The adults contributed to one another's responses and appeared to be comfortable with interviewing together. However, while there were no apparent drawbacks to conducting paired interviews with the primary caregivers and extended family members, it is possible that conducting individual interviews would elicit additional and/or different responses, from one or both of the adults.

Although this work presents an in-depth analysis of the physical activity behaviors of urban African American children and their families, it is important to note that the findings cannot be generalized to all African American children residing in similar geographic settings or with similar family structures. Furthermore, although the study population includes children and families from multiple Baltimore City neighborhoods, all with varying demographic characteristics, the findings of the study are also not generalizable to all children and families across the city or within each of those neighborhoods. However, given the population and geographic setting of the study, it

may be possible to use the findings presented here to make inferences about the cultural contexts surrounding the physical activity behaviors of African American children in other urban settings, within the neighborhoods inhabited by the study participants, and in other Baltimore City neighborhoods with similar demographic characteristics.

# 7.0 DISCUSSION

## 7.1 SUMMARY OF FINDINGS

This thesis presents an analysis of the mechanisms used by primary caregivers and extended family members to socialize children to adopt cultural and familial norms regarding dietary and physical activity. My analysis addresses factors that influence these mechanisms, as well as the sociocultural contexts that surround the mechanisms. In addition, I compare and contrast the mechanisms used by primary caregivers and extended family members.

### 7.1.1 Manuscript 1: "We've got a huge family.": Exploring Influences on Children's Weight-Related Behaviors within the Familial Context: A Case Study Analysis

This paper focused on the four family units that participated in both phases of the study. The analysis was presented in the form of a detailed case study of each of the families, highlighting the physical activity and diet monitoring and socialization strategies engaged by the primary caregivers and extended family members. Salient themes and concepts related to physical activity behaviors indicate that while all of the children enjoyed being physically activity, mothers differed in the degree to which they facilitated recreational

physical activity, as well as in their motives for so doing. In addition, changes in family structure and proximity to extended family members affected how frequently children engaged in physical activity. Emerging themes and concepts related to dietary behaviors indicate that "Sunday dinners" were viewed by mothers and extended family members as important times of family fellowship and were characterized by the preparation and consumption of foods that were not typically prepared and consumed during other days of the week. In addition, the participating grandmothers appeared to value their roles in preparing meals for the families, and, in two of the cases, the grandmothers also valued their perceived role in teaching their grandchildren and other family members about traditional meal preparation techniques.

Similar to other research, the findings of this paper suggest that children's weight-related behaviors are affected by multiple familial factors. This paper also indicates that extended family members have a role in, and may perceive or assume some responsibility for, influencing these behaviors. Grandmothers may have more pronounced and significant roles and responsibilities than other extended family members. In addition, the degree to which extended family members influence children's weight-related behaviors may be related to how and to what extent family-based collectivism is operationalized within the family. The emerging concepts and themes in this paper provided additional guidance for further data analyses related to Manuscripts 2 and 3, which present a more detailed examination of physical activity- and diet-related socialization strategies, respectively.

### 7.1.2 Manuscript 2: "I have to say, 'Go outside and play.'": Understanding the How, When, and Why of Physical Activity Socialization Practices in Urban African American Extended Family Networks

This paper included an analysis all of the families ($n$ = 8) that participated in Phase 2 of the study and focused on the mechanisms used by primary caregivers and extended family members to encourage children to adopt cultural and familial norms regarding physical activity. Emerging themes and concepts indicate that children may experience different socialization influences from primary caregivers and extended family members. In some family units, extended family members demonstrated more active, direct influences on the children's physical activity behaviors, while primary caregivers provided more passive, indirect influences, particularly regarding recreational physical activity. In other family units, there were similar influences from primary caregivers and extended family members; this was observed in families in which primary caregivers and extended family members used very active strategies to influence children's physical activity behaviors, as well as in families in which both adults described more passive, indirect approaches.

Differences in the socialization strategies used by primary caregivers and extended family members may have related to a number of factors internal and external to the family and household, including time constraints and neighborhood safety concerns, which were also perceived as barriers to facilitating children's physical activity. Several of the families had recently implemented changes to promote a more physically active childhood, and in some instances, the members of the extended family were engaged in making these changes.

The findings of this paper suggest that family-based collectivism contributes to the degree to which extended family members use active socialization strategies to teach children cultural norms related to physical activity behaviors. Family-based collectivism may be demonstrated through more frequent interactions between family members, and these interactions, in turn, may result in extended family members having significant roles as attitudinal and/or behavioral referents for the children; they may also become sources of social support for the children's physical activity engagement. In addition, extended family members, particularly grandmothers, feel a greater sense of obligation and/or desire to participate in and facilitate the children's physical activity.

### 7.1.3 Manuscript 3: Food, Fellowship, and Family: Exploring the Cultural and Familial Contexts of Dietary Socialization Practices in Urban African American Extended Networks

Manuscript 3 also included all of the families ($n$ = 8) that participated in Phase 2 of the study, but focused on the mechanisms used by primary caregivers and extended family members to encourage children to adopt diet-related cultural and familial norms. The analysis revealed emerging themes and concepts that suggest that family-based collectivism is a salient component of familial dietary norms. The adults valued food-based family traditions regarding food and meals, and believed that it was important to teach children to do the same. In addition, grandmothers were described as being respected and acknowledged as behavioral referents regarding the family's food-based traditions. In general, it appeared that children experienced less restrictive diet monitoring strategies from extended family members, as compared to primary caregivers.

Both primary caregivers and extended family members demonstrated inconsistencies in the mechanisms they used to monitor the children's dietary behaviors.

The findings of this paper suggest that family-based collectivism contributes to how primary caregivers and extended family members socialize children to adopt cultural norms related to dietary behaviors. This may be operationalized through the adults' role-modeling of behaviors and practices that teach children to show respect for food-based family traditions, as well as for family matriarchs, who often serve as behavioral and attitudinal referents, particularly regarding meal preparation techniques. The findings also suggest that children's dietary behaviors may benefit from primary caregivers and extended family members' improved self-efficacy regarding implementing and maintaining consistency in healthful diet monitoring strategies.

## 7.2 STRENGTHS AND LIMITATIONS

The primary strength of this research is the use of multiple data sources and referents from both phases of the study. This facilitated in-depth explorations of the dietary and physical activity behaviors and routines of the children and their family members, as well as the contexts in which these behaviors and routines occurred. Furthermore, the two-part study design allowed for a review of multiple families' Phase 1 interviews, which helped to develop the interview guides for the Phase 2 interviews.

However, the data collected and analyzed are self-reported, and there may be some differences in what the participants discussed and what was actually experienced within each family. Furthermore, the study presents a limited amount of data from the

children due to the less detailed nature of their interviews. While these data served a supplemental purpose for the data from the adults, more detailed data from the children may have strengthened the analyses and provided greater context for the topics discussed by the adults. In addition, because only three family members were interviewed for each family unit, the study can only provide an analysis of the families based on the accounts of those individuals. The behaviors, attitudes, and beliefs of other members of the immediate family and extended family network may also play direct or indirect roles in influences in the dietary and physical activity behaviors of children, but further research, which might include more family units and additional family members within each of those units, is required to explore and understand those influences.

In general, the primary caregivers and extended family members were forthcoming when responding to the interview questions. The adults contributed to one another's responses and appeared to be comfortable with interviewing together. However, while there were no apparent drawbacks to conducting paired interviews with the primary caregivers and extended family members, it is possible that conducting individual interviews would elicit additional and/or different responses, from one or both of the adults.

It is also important to consider the biases that I may have introduced as the researcher. Ideally, I would have shared portions of the data analyses and results with the study participants to gain their perspectives on whether I accurately described their families and behaviors. Because this was not possible, this thesis represents only my interpretation of reality regarding the participants' culture, extended family networks, and weight-related behaviors. Therefore, any applications of the findings should be done so

with the understanding that my own social background and family-based experiences have socialized my way of thinking with respect to the concepts explored in my research.

While this study used the constant comparison method to help maintain the contextual integrity of the data and increase the data's generalizability, it is important to note that the findings cannot be generalized to all African American children with similar family characteristics. Furthermore, although the study population includes children and families from multiple neighborhoods across Baltimore City, the findings of the study are also not generalizable to all families across the city or within each of those neighborhoods. However, given the population and geographic setting of the study, it may be possible to use the findings presented to make inferences about the familial and cultural contexts surrounding the dietary and physical activity of African American children and their families in other urban settings, within the neighborhoods inhabited by the study participants, and in other Baltimore City neighborhoods with similar demographic characteristics.

## 7.3 EMERGENT THEMES AND IMPLICATIONS FOR FUTURE RESEARCH

This thesis supports previous research that describes African American extended family networks as being dynamic in nature and commonly characterized by multigenerational households and the extensive involvement of extended family members in child rearing and socialization activities.[5,46] My work contributes to this body of literature by exploring how these characteristics of the African American family may contribute to children's

dietary and physical activity behaviors and subsequent weight status. More specifically, I address previous recommendations to explore the mechanisms by which children receive diet-related knowledge, attitudes, and beliefs from their parents and other relatives,[193] as well as how parents and other relatives share physical activity-related knowledge, attitudes, and beliefs with children. The emergent themes demonstrate areas in which primary caregivers and extended family members may differ in how they convey dietary- and physical activity-related cultural norms to children; these themes also provide insight to how a more thoughtful consideration of extended family networks and their influences may improve the effectiveness of obesity interventions for African American children and their families.

### 7.3.1 Socialization Strategies for Physical Activity Behaviors

In general, primary caregivers and extended family members in this study demonstrated, at minimum, an awareness of the need or desirability for children to engage in physical activity. However, extended family members used more direct strategies to influence children's physical activity behaviors by actively participating in recreational and functional physical activities with the children. Grandmothers, in particular, indicated that they enjoyed engagement in and/or facilitation of their children's recreational physical activities. Similar to the results of other research,[187] time and financial constraints were common reasons cited for the lack of the primary caregivers' engagement in physical activity. Despite having observed their own parents engaged in a physically active lifestyle, these barriers may outweigh previous plans to do the same for their children,[180] and although extended family members may experience similar

challenges, the resulting stress may not be as evident or have as much of an effect when they are enjoying leisure time with their families' children. This may be especially true for African American grandmothers, for whom caring for and spending time with grandchildren is often perceived as a privilege and enjoyable activity.[153] Although the grandmothers' engagement with the children is a positive socialization strategy with benefits to the child's current health status, the parent's lack of engagement in physical activity presents potentially negative implications for the children's physical activity behaviors in adulthood if they adopt the sedentary behaviors modeled by their parents.[180]

These parenting behaviors indicate that the primary caregivers may lack an awareness or understanding of their level of influence in socializing children to adopt and maintain a physically active lifestyle.[184] This suggests that in the development of future interventions, there should be a consideration of education components for primary caregivers and key extended family members concerning their roles in influencing children's current and future physical activity behaviors. Furthermore, identifying mechanisms by which key extended family members may serve as physical activity behavioral referents for primary caregivers and children may be an important consideration for future interventions; this may be particularly effective for extended family networks in which there is a high degree of family-based collectivism operationalized through frequent interactions with one another and mutual provision of social support among family members.

Several of the primary caregivers and extended family members discussed neighborhood safety concerns as a barrier to their children's physical activity; this is a common concern among urban African American parents.[19] However, one family

demonstrated how a negative neighborhood environment can motivate primary family members and extended family members to go beyond the perceived or actual boundaries of their neighborhood to seek out physically engaging extracurricular activities for their children. This presents an area for additional research to explore the motives for this type of parenting behavior, to understand the characteristics of families in which this type of socialization strategy is used by parents and other caregivers, and to determine the short-term and long-term outcomes on children's physical activity behaviors and related attitudes and beliefs.

### 7.3.2 Socialization Strategies for Dietary Behaviors

The honoring and continuation of food-based family traditions appears to be a salient practice among the study's participants. Most notable is the tradition of "Sunday dinners" that was present across all of the families. These meals may be prolonged in length due to the importance of family fellowship that is not experience during typical meals throughout the week. In addition, these meals may be prepared using techniques central to African American foodways, which could, potentially, promote the consumption of foods prepared with high amounts of fat, sugar, and salt.[107,112] Because grandmothers were discussed as behavioral referents for food-based traditions, future interventions may experience improved effectiveness by providing nutrition education incorporating healthier and culturally acceptable alternatives for these meals, as well as similar meals that are served during special occasions. Furthermore, because structured meal settings may help to prevent the development of childhood obesity,[58,59] it may also be important to promote families' practice of eating meals together on a more regular basis. However,

several factors (e.g., work and activity schedules, availability of dining space, individual meal setting preferences, etc.) may contribute to the frequency at which families eat meals together, and it may be necessary to gain an understanding of these factors before specific intervention components can be developed.

The families in this study demonstrate the potentially significant influence of behavioral referents within extended family members in the area of food-based family traditions. It is worth noting that all of the adults in the study were the biological mothers or maternal relatives of the participating children. Because women usually assume or are assigned primary responsibility for ensuring that children are properly cared for, fed, and educated, they also hold important roles in how and why children develop their understanding of cultural norms and values.[190] In addition, among African American families, female relatives are typically respected as reliable sources of health and nutrition information.[34] This was demonstrated among participants of Phase 2, as several of the adults discussed recalling the practices or consulting the advice of grandmothers and other female relatives concerning dietary behaviors and food-based routines and practices. In addition, grandmothers discussed or were discussed regarding their roles in teaching their grandchildren and other family members about food-based family traditions, especially food preparation techniques. These findings support previous research[34] that suggests that women may be successfully targeted as behavioral referents for future interventions.

The inconsistencies demonstrated in the mechanisms used to monitor the children's dietary behaviors also have implications for future research. Previous research suggests that children influence the feeding practices implemented by their parents,

thereby having an active role in shaping their own feeding environments.[194] During the Phase 2 interviews, several of the primary caregivers and extended family members discussed their diet monitoring inconsistencies within the context of children's repeated requests for certain foods, which often resulted in a sense of frustration and granting the children's requests, even when the adults were aware of the unhealthful nature of the requests. In some instances, the inconsistencies were due, in part, to differences in the diet monitoring strategies of primary caregivers and extended family members; this was most notable when the participating adults were the child's mother and grandmother. Although the mothers voiced concerns about the conflicting strategies, it appeared as though they simply conceded to the grandmothers. This concession may be partially attributed to the mothers' desire to avoid conflicts with the grandmothers,[17] and may have negative implications for the children's dietary behaviors, as previous research suggests that the risk of obesity development may be greater for children who belong to families in which there is poor communication between family members.[28] The factors contributing to inconsistencies in child diet monitoring suggest that it is important to consider intervention components focused on improving the self-efficacy of primary caregivers and extended family members, particularly with regard to enforcing and maintaining parenting practices that promote children's healthful dietary behaviors, as well as communicating expectations related to these practices and behaviors.

## 7.4 CONCLUSIONS

The purpose of this thesis is to contribute to understanding of children's weight-related behaviors through a qualitative exploration of African American extended family networks and the mechanisms by which cultural norms are shared within those networks. This work supports the consideration of the family environment and the culturally defined relationship dynamics within families when seeking to understand contextual factors contributing to children's weight-related behaviors. In traditional African American families, extended family members are active in socializing children to adopt cultural norms, and this thesis suggests that extended family members and their relationships with children in their families also have socialization influences on children's dietary and physical activity behaviors. An improved understanding of these influences, and how they differ from the influences impressed upon children by their parents or primary caregivers may contribute to the development of tailored and effective family-based interventions for preventing and treating obesity among African American children.

# APPENDIX A: INTERVIEW GUIDES

## A.1 PRIMARY CAREGIVER/EXTENDED FAMILY MEMBER INTERVIEW GUIDE

1. [Primary caregiver], please tell me who lives in this house with you and [participating child].

2. How far are other extended family members from you?
    a. Do they live in the Baltimore area or in the same neighborhood?

3. [Extended family member], tell me about your relationship with [participating child].
    a. How often do you get to see or spend time with [participating child]?
    b. What is the primary reason behind your time or visits with [Participating child]?
    c. What types of things do you normally do together?
    d. Are there seasonal differences in the amount of time you spend with [participating child]?
    e. How do meal times usually go when [participating child] is with you?
    f. How do you think you influence the diet and physical activity habits of [participating child]?
        i. How are your interactions with [Participating child], related to diet and physical activity] different than those of [Primary caregiver]?
        ii. [Primary caregiver and Extended family member], why are your interactions different?
            1. Are there any ways in which you agree or disagree on the dietary and/or physical activity habits of [Participating child]?

4. [Primary caregiver & Extended family member], tell me about your family and how you all interact with each other.
    a. [Primary caregiver], other than the primary household, where does your immediate family spend most of its time?
    b. How involved are members of your extended family with one another?
        i. What are some of things you all do for each other?
        ii. Does this change based on circumstance, occasions, etc?
        iii. What would your family consider to be a special occasion? When do those normally take place, and what types of foods and activities are included during those occasions?
    c. How much of a role do you think culture plays in the way your family interacts?
    d. How do you think your family affects your dietary and physical activity habits and those of other family members?
    e. How do you think your family may affect the dietary and physical activity habits of [Participating child]?

5. [Primary caregiver & Extended family member], tell me what you think are some of the major values in your culture.
    a. How do you think these values affect your day-to-day activities?
    b. How do you think these values affect your dietary and physical activity habits?
    c. How do you go about instilling these values in [Participating child]?
        i. [Primary caregiver and Extended family member], how and why are your practices for doing this different?
    d. How do you think these values affect the dietary and physical activity habits of [Participating child]?

## A.2 CHILD INTERVIEW GUIDE

| Interview Guide Question | Picture Prompt |
|---|---|

**Slide 1: Family Structure**

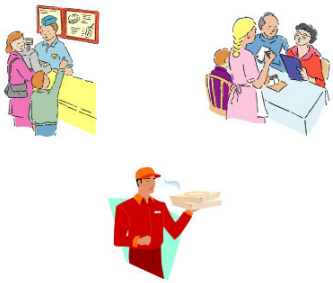
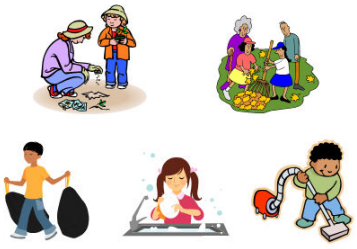
- Point out that everyone's family looks different
- Ask the child to point out a family that looks most like his/her family
- Ask the child to describe who's in their family -- find out if those family members live in the same house, or if they live elsewhere
- Ask the child to tell you a little bit about other family members who don't live with them - grandparents, aunts, uncles, cousins / play cousins, step/half-siblings, stepparents, etc.

**Slide 2: Family Meals**

- Does the child usually eat meals together with his/her family?
- Which meals are usually eaten together?
- Who is usually present at the meals?
- Do they ever eat meals with the participating EFM?
- If so, is mealtime with the EFM the same as it is with his/her parents; what's different?

**Slide 3: Grocery Shopping & Cooking**

- Probe whether the child is allowed to participate in grocery shopping trips with the parent and the EFM.
  - Discuss differences in whether the child is allowed to choose foods to purchase when with the parent v. EFM.
  - If yes, discuss differences in what types of foods are allowed by the parent v. the EFM?
- Probe whether the child is allowed to help prepare meals when with the parent v. EFM.
  - Discuss differences in which meals this is allowed and how often.
  - Also discuss whether the child is allowed to prepare his/her own meals when with the parent v. EFM -- which meals?

| Interview Guide Question | Picture Prompt |
|---|---|
| **Slide 4: Eating Out & Ordering Food**<br>• Probe differences in how often the child goes to dine-in and fast food restaurants while with the parent v. EFM.<br>  ○ Discuss differences in which restaurants are visited and which are the most favorite with parent v. EFM.<br>• Probe differences in how often food is ordered for delivery when with the parent v. EFM.<br>  ○ What types of foods are typically ordered (i.e., Chinese, pizza, subs/sandwiches, etc.) when with the parent v. EFM. |  |
| **Slide 5: Cook-outs, Parties & Special Events**<br>• Does the family ever have or go to cook-outs/parties/special events?<br>• What are the cook-outs/parties/special events for (I.e., birthdays, holidays, etc)?<br>• Where are the cook-outs/parties/special events usually held?<br>• Who is usually present (focus on EFMs)?<br>• Are these EFMs that they see regularly, or just on special occasions?<br>• What types of foods do they usually eat at cook-outs/parties/special events?<br>• What types of activities do they do during the cook-outs/parties/special events?<br>• Are these "special" foods/activities (i.e, food they wouldn't normally eat or activities they don't normally get to do)? |  |
| **Slide 6: Yard Work/Outside Chores & House Work/Inside Chores**<br>• Probe differences in whether the child is required to complete indoor (i.e., cleaning room, washing dishes, vacuuming, etc.) and/or outdoor chores (i.e., raking, taking out the trash, yard clean-up, etc.) while with the parent v. EFM.<br>• Discuss differences in which chores are required and how often while with the parent v. EFM. |  |

| Interview Guide Question | Picture Prompt |
|---|---|
| **Slide 7: Watching TV & Other Indoor Activities**<br>• Probe differences in general TV watching habits while with the parent v. EFM -- specifically, how much TV time is allowed -- are there limitations set.<br>  ○ Discuss whether eating while watching television is allowed by parent v. EFM -- also, how often and for which meals this is allowed.<br>• Probe differences in the child's other indoor activities (i.e., board games, reading for pleasure, homework assignments) with the parent v. EFM.<br>  ○ Discuss which activities and their frequencies with parent v. EFM. |  |
| **Slide 8: Playing Video Games & Using the Computer**<br>• Probe differences in video game usage during time with parents and with the EFM.<br>  ○ Discuss differences in how frequently the child is allowed to play video games with parent v. EFM.<br>  ○ Also discuss whether there are differences in the nature of the video games in terms of physical activity required (i.e., Wii v. Play Station) with parent v. EFM.<br>• Probe differences in computer usage during time with parents and the EFM.<br>  ○ Discuss differences in how frequently the child uses the computer with parent v. EFM and nature of the computer usage (i.e., for leisure or for education/enrichment) when using with parent and EFM. |  <br>  |

| Interview Guide Question | Picture Prompt |
|---|---|
| **Slide 9: Outdoor Leisure Activities**<br>• Probe differences in various physical activities, including types of activities, frequencies, watching v. participating adult, location, etc., during time with parents v. EFM. |  |
| **Slide 10: Outdoor Leisure Activities (cont.)**<br>• Probe differences in various physical activities, including types of activities, frequencies, watching v. participating adult, location, etc., during time with parents v. EFM.<br>• Also - how does the child get to/from school on most days? Walking, bus, car ride? Who takes him/her -- parent, the EFM, or someone else?<br>  ○ Probe the same for any extracurricular activities in which the child may be involved. |  |
| **Slide 11: Special Activities/Travel**<br>• Probe the family's "special" activities. What types of activities are done? How often are they done? Who is usually involved -- is it typically the parent or the EFM that takes the child on special activities? Are they overnight activities? |  |

# APPENDIX B: DATA ANALYSIS SAMPLES

## B.1 POST-INTERVEW SUMMARIES

The following is the post-interview summary for the mother and grandmother of eleven-year-old Brandon.

**Please answer the following questions based on your individual experience during the interviews. You should take about 2 pages to answer all 8 questions.**

1. According to who you interviewed, what were the main differences in the child's eating behaviors when they are in the presence of the primary caregiver compared to when they are in the presence of extended family members?

   Parent/EFM Interview

   There are no differences in how the family eats when they are with their grandmother Jeanne and when they are at their primary residence. Jeanne is the primary food preparer, and regular meal includes meat, veggie, starch. Marie only cooks once in a while, but when she does, she cooks the same types of foods as her mother. When Marie and her mother get paid, the family is allowed a treat meal – pizza, McDonald's, subs, etc. During special occasions, the family has "special foods" that may include ribs, potato salad, squash, etc. Marie and Jeanne don't feel that other EFMs don't influence what they eat – even though they see each other several days out of the week, they are not going to each other's homes to eat with each other – it is rare that they eat at each other's house.

   Child Interview

2. According to who you interviewed, what are the main differences in the child's physical activity behaviors when they are in the presence of the primary caregiver compared to when they are in the presence of extended family members?

   Parent/EFM Interview

Because the family is together so much, there really are no differences in Brandon's level of activity when he's with his mother and when he's with his grandmother. When visiting their great-grandmother, Marie's children and their cousins primarily play video games with their cousin (age 20) – this is a way to "keep them calm". Outside of playing with their cousins, Jeanne and Marie don't think the extended family has any influence on the children's physical activity or their PA.

Child Interview

3. Briefly describe who, according to who you interviewed, lives in the home and/or is considered part of the family.

Parent/EFM Interview

Child lives with his mother and three siblings. During the week, they stay with their grandmother to make it easier for the grandmother to help provide childcare. This is also the case during weekends when the mother is working.

Child Interview

4. Was there anything about the family dynamics that seemed particularly important to you during this set of interviews? If so, what?

There is an extremely large EF network in Baltimore. Jeanne's mother had 17 children – there are more than 70 grandchildren and 200 great-grandchildren; they are now entering into the fifth generation, and all of the grandchildren are adults. Several of the family members live within walking distance of Jeanne's home. Marie's children see many members of their extended family several times a week. Going "a couple of weeks" without seeing a cousin is considered a long time and warrants time to catch up. Marie makes sure that she and her children do a family activity each week, even if it's something as small as walking the mall.

Jeanne mentions that she tries to teach her grandchildren to have a multicultural perspective on life, but this comes from her experience as a crossing guard, not necessarily from her family and its history. Jeanne and Marie both make an effort to talk with the children about cultural acceptance and proper use of terms. In terms of food and physical activity – Marie uses a mix of verbalizing and modeling healthy behaviors. Jeanne says that she just cooks the food – it's up to Marie to figure out how to get them to eat it.

5. How did you feel overall about the interview process with this extended family member/parent/child?

6. Was there anything that made an impression on you that is not captured in the interview itself? (For instance, was there any apparent, unspoken tension between the primary caregiver and the extended family member when discussing the family or differences in parenting around dietary and physical activity behaviors? Did the child seem particularly hesitant to answer questions at any point in the interview?)

   N/A

7. How forthcoming were the respondents?

   The respondents were generally forthcoming. The dialogue flowed smoothly, and they both volunteered information beyond what was asked of them.

8. How would you describe the weight status of the participants (just by looking at them)?

   Parent

   The mother is overweight, but I'm not sure that she would be classified as obese because of her height.

   Extended Family Member

   The grandmother was overweight, but I'm not sure that she would be considered obese.

   Child

   The child appeared to be of normal weight.

The following is the post-interview summary for eleven-year-old Brandon.

**Please answer the following questions based on your individual experience during the interviews. You should take about 2 pages to answer all 8 questions.**

1. According to who you interviewed, what were the main differences in the child's eating behaviors when they are in the presence of the primary caregiver compared to when they are in the presence of extended family members?

   Parent/EFM Interview

   Child Interview

There didn't seem to be much of a difference in the eating patterns of the child whether or not he was his mother or other EFMs. The main EFMs are his grandmother, and some of his aunts and uncles. The grandmother lives with them in the household. It appears that the child's parents are divorced/separated, but the child does spend a lot of time with the father regularly. When with him he tends to go out to cheaper restaurants, like McDonald's, as opposed to the restaurant his mother takes him too, such as Red Robin. But the father does cook for him as well. Again, the foods that the child eats seem to be similar when the child is with his grandmother, mother, father, aunts and uncles, etc. I tried to reiterate this question in several ways, but the child continued to seem to indicate that the food he eats doesn't change when with his primary caregivers or when with EFMs. The food they eat seems to be a good balance of healthy and unhealthy: fruits, vegetables, pancakes, meat, etc. However, the child did mention that both his grandmother and mother, when going grocery shopping with them, do let the child pick out what he wants, but restrict him a little as well, when there's too much red meat asked for, etc. Cooking-wise, the child is allowed to do some stuff by himself, such as microwave, but there doesn't seem to be too much cooking by him in the household. I believe when with the grandmother, he is more restricted in what he's allowed to cook. He's not allowed to touch the stove, regardless of mother or grandmother.

2. According to who you interviewed, what are the main differences in the child's physical activity behaviors when they are in the presence of the primary caregiver compared to when they are in the presence of extended family members?

   Parent/EFM Interview

   Child Interview

   The child is very physically active. He's always outdoors, whether at home at his mother's house, or with his father. He was telling me how he plays basketball with his father regularly. And at home, he's always playing sports with friends outdoors. They play basketball, football, baseball, sometimes by the nearby lake. Sometimes the mother would come over to get the child, but he is largely unwatched, as he seems like an older child at 11 years old. The child is encouraged by both grandmother and mother to be outside.

3. Briefly describe who, according to who you interviewed, lives in the home and/or is considered part of the family.

   Parent/EFM Interview

   Child Interview

   In the home are the child, his mother, his grandmother, and his three brothers. When I asked the child to mention his family he initially said the previous, but when I asked him about cousins and stuff, he mentioned all of his aunts and uncles who live

nearby, and all of his cousins, and he even mentioned something about a nephew. I didn't gather information about his father until 2/3's of the way into the interview. He spends quite a good deal of time with his father and his family, including grandparents and cousins.

4. Was there anything about the family dynamics that seemed particularly important to you during this set of interviews? If so, what?

   There wasn't anything specific. I was kind of surprised that he hadn't mentioned his father before I asked the child about him, but the father does seem to be an active person in his life. The grandmother seems to be stricter than the mother, as she seems to be more authoritative in regards to chores, reading, and being active.

5. How did you feel overall about the interview process with this extended family member/parent/child?

   I thought the interview went okay. I think it could have gone better. The child was somewhat soft-spoken, and he seemed distracted sometimes by what his mother and grandmother were talking about with Natasha on the other side of the room. Overall, I think his responses were good, but I could have probed him better.

6. Was there anything that made an impression on you that is not captured in the interview itself? (For instance, was there any apparent, unspoken tension between the primary caregiver and the extended family member when discussing the family or differences in parenting around dietary and physical activity behaviors? Did the child seem particularly hesitant to answer questions at any point in the interview?)

   No there did not seem to be any tension at any time.

7. How forthcoming were the respondents?

   The respondent was pretty forthcoming. I just feel like he could have answered the questions better, or I wasn't asking the right questions. He seems like a good, smart kid, perhaps a little shy.

8. How would you describe the weight status of the participants (just by looking at them)?

   <u>Parent</u>
   Mother seemed a little overweight.

   <u>Extended Family Member</u>
   Grandmother seemed a little overweight as well.

   <u>Child</u>

The child looked pretty fit and healthy. Some fat, but some good muscle, too. His BMI was good.

## B.2 CODING SCHEME

| Descriptive Code | Meaning/Definition |
|---|---|
| **Health** | General discussion of health concerns/topics by the PC, EFM, or child without reference to a particular person |
| *Chronic disease prevention & management* | Discussion of general chronic disease prevention and/or management by the PC, EFM, or child; may refer to self or another family member |
| Diabetes | Discussion of diabetes prevention and/or management by the PC, EFM, or child; may refer to self or another family member |
| Hypertension | Discussion of hypertension prevention and/or management by the PC, EFM, or child; may refer to self or another family member |
| Heart Disease | Discussion of general heart disease prevention and/or management by the PC, EFM or child; may refer to self or another family member |
| *Family health history* | PC, EFM, or child's discussion of health trends among immediate or extended family members |
| *Health perceptions* | How the PC, EFM, or child perceives his/her health, or that of others, in terms of quality, desired improvements, etc. |
| *Body image* | Discussion of one's feelings about, awareness/perceptions of his/her body image |
| Child | Child's feelings about, awareness/perceptions of his/her body image; may be discussed by the PC, EFM, or child |
| EFM | EFM's feelings about, awareness/perceptions of his/her body image; may be discussed by the PC, EFM, or child |
| PC | PC's feelings about, awareness/perceptions of his/her body image; may be discussed by the PC, EFM, or child |
| *Lifestyle changes* | General changes in the way one lives (i.e., activities, opinions, interests, etc.); may be discussed by the PC, EFM, or child |
| Physical activity | Changes in the way one lives (i.e., activities, opinions, interests, etc.) specifically related to PA; may be discussed by the PC, EFM, or child |
| Diet | Changes in the way one lives (i.e., activities, opinions, interests, etc.) specifically related to diet; may be discussed by the PC, EFM, or child |
| *Weight monitoring* | Discussion of weight monitoring without reference to a particular person; may be discussed by the PC, |

| | |
|---|---|
| | EFM, or child |
| Child | Monitoring of the child's weight by self, PC, or EFM; may be discussed by the PC, EFM, or child |
| PC | PC's monitoring of his/her weight; may be discussed by the PC, EFM, or child |
| EFM | EFM's monitoring of his/her weight; may be discussed by the PC, EFM, or child |
| *Weight changes* | Discussion of changes in weight without reference to a particular person; may be discussed by the PC, EFM, or child |
| Child | Changes in the child's weight; may be discussed by the PC, EFM, or child |
| PC | Changes in the PC's weight; may be discussed by the PC, EFM, or child |
| EFM | Changes in the EFM's weight; may be discussed by the PC, EFM, or child |
| | |
| **Diet & Meals** | General discussion of diet or meals by the PC, EFM, or child without reference to a particular person |
| *Food preferences* | General discussion of food preferences by the PC, EFM, or child without reference to a particular person |
| Child | Discussion specific to the child's food preferences; may be discussed by the PC, EFM, or child |
| PC | Discussion specific to the PC's food preferences; may be discussed by the PC, EFM, or child |
| EFM | Discussion specific to the EFM's food preferences; may be discussed by the PC, EFM, or child |
| *Perceptions of child diet* | Discussion of perceptions of child's diet in terms of healthfulness, quality, etc. |
| PC | PC's perceptions of the child's diet in terms of healthfulness, quality, etc. |
| EFM | EFM's perceptions of the child's diet in terms of healthfulness, quality, etc. |
| *Child eating/diet routines* | Discussion of the child's eating/diet routines; may be discussed by PC, EFM, or child |
| *Child food choice* | General discussion of the food choices available to the child and the child's ability to choose his/her own foods; may be discussed by PC, EFM, or child |
| With EFM | Food choices available to the child and the child's ability to choose his/her own foods when in the presence of the EFM; may be discussed by PC, EFM, or child |
| With PC | Food choices available to the child and the child's ability to choose his/her own foods when in the presence of the PC; may be discussed by PC, EFM, or child |
| *Child diet monitoring by PC* | General discussion of PC's monitoring of child diet; may be discussed by PC, EFM, or child |
| Portion control | PC's monitoring of child's portion sizes of snacks or at meals; may be discussed by PC, EFM, or child |
| Junk food | PC's monitoring of child's consumption of junk food; may be discussed by PC, EFM, or child |
| Food-based rewards | PC provision of food-based rewards to the child for |

| | |
|---|---|
| | good behavior or as a treat not related to behavior; may be discussed by PC, EFM, or child |
| Permissiveness/discipline | PC's actual, perceived, or desired control over the child's eating behaviors; may be discussed by PC, EFM, or child |
| *Child diet monitoring by EFM* | General discussion of EFM's monitoring of child diet; may be discussed by PC, EFM, or child |
| Portion control | EFM's monitoring of child's portion sizes of snacks or at meals; may be discussed by PC, EFM, or child |
| Junk food | EFM's monitoring of child's consumption of junk food; may be discussed by PC, EFM, or child |
| Food-based rewards | EFM provision of food-based rewards o to the child for good behavior or as treat not related to behavior; may be discussed by PC, EFM, or child |
| Permissiveness/discipline | EFM's actual, perceived, or desired control over the child's eating behaviors; may be discussed by PC, EFM, or child |
| *Meals* | General discussion of family meals without reference to any details of the meals, as described by sub-codes; may be discussed by PC, EFM, or child |
| Preparation | How, when, where, and/or why meals are prepared by PC, EFM, or child; may be discussed by PC, EFM, or child |
| Setting | When and where meal consumption takes place; may be discussed by PC, EFM, or child |
| Eating out/Ordering In | Meals that are purchased and/or eaten outside of the home from regular and/or fast food restaurants; may also include meals that are ordered and delivered to the home; may be discussed by PC, EFM, or child |
| Convenience/Time | Meal acquisition practices that are carried out due to lack of time or ease of preparation; may be discussed by PC, EFM, or child |
| Snacks | Child's between-meal snacks; may be discussed by PC, EFM, or child |
| School meals | Meals the child consumes at school; may be discussed by PC, EFM, or child |
| *Food shopping* | When and where food shopping is done, as well as who is involved/present during the shopping; may be discussed by PC, EFM, or child. |
| *Food perceptions* | PC, EFM, or child perceptions of food in terms of healthfulness, quality, etc.; may be discussed by PC, EFM, or child |
| *Similarities in diet/meals with PC & EFM* | Indicates similarities between the PC and EFM in the child's meals and/or dietary behaviors or allowances when in the presence of the PC or EFM; may be discussed by PC, EFM, or child |
| *Differences in diet/meals with PC & EFM* | Indicates differences between the PC and EFM in the child's meals and/or dietary behaviors or allowances when in the presence of the PC or EFM; may be discussed by PC, EFM, or child |
| | |
| **Physical Activity** | General discussion of PA by the PC, EFM, or child without reference to a particular person |

| | |
|---|---|
| *PA preferences* | Preferable physical or non-physical activities without reference to a particular person |
| Child | Types of physical or non-physical activities that are preferred or not preferred by the child; may be discussed by the PC, EFM, or child |
| PC | Types of physical or non-physical activities that are preferred or not preferred by the PC; may be discussed by the PC, EFM, or child |
| EFM | Types of physical or non-physical activities that are preferred or not preferred by the EFM; may be discussed by the PC, EFM, or child |
| *Functional PA* | General discussion of PA related to work; getting to work, school, or other locations; and/or household care without reference to a particular person |
| Child | Child's PA related to household care or getting to school or other locations; may be discussed by the PC, EFM, or child |
| PC | PC's PA related to work; getting to work, school, or other locations; and/or household care; may be discussed by the PC, EFM, or child |
| EFM | EFM's PA related to work, getting to work, school, or other locations; and/or household care; may be discussed by the PC, EFM, or child |
| *Recreational PA* | General discussion of PA done for leisure or as an extracurricular activity without reference to a particular person |
| Child | Child's leisure or extracurricular activity; may be discussed by the PC, EFM, or child |
| PC | PC's leisure or extracurricular PA; may be discussed by the PC, EFM, or child |
| EFM | EFM's leisure or extracurricular PA; my be discussed by the PC, EFM, or child |
| *Perceptions of child PA* | General perceptions of child PA in terms of satisfactory levels, types, etc. |
| PC | PC's perceptions of child PA in terms of satisfactory levels, types, etc. |
| EFM | EFM's perceptions of child PA in terms of satisfactory levels, types, etc. |
| *Child activity monitoring* | General discussion of monitoring of child PA in terms of location, time allowances, playmates, etc. with no reference to who is serving as the monitor; may be discussed by PC, EFM, or child |
| By primary caregiver | PC's monitoring of child PA in terms of location, time allowances, playmates, etc.; may be discussed by PC, EFM, or child |
| By EFM | EFM's monitoring of child PA in terms of location, time allowances, playmates, etc.; may be discussed by PC, EFM, or child |
| PC's permissiveness/discipline | PC's actual, perceived, or desired control over the child's activity-related behaviors; may be discussed by PC, EFM, or child |
| EFM's permissiveness/discipline | EFM's actual, perceived, or desired control over the child's activity-related behaviors; may be discussed by PC, EFM, or child |
| *Playmates* | Discussion of the child's PA playmates without |

| | |
|---|---|
| | reference to whether the playmates are EFMs or not; may be discussed by PC, EFM, or child |
| Extended family playmates | Child's PA with playmates who are also EFMs; may be discussed by PC, EFM, or child |
| Non-family playmates | Child's PA with playmates who are not EFMs; may be discussed by PC, EFM, or child |
| *School activities* | Child's PA directly related to school; may be discussed by the PC, EFM, or child |
| *Indoor activities* | General discussion of the child's indoor activities; may be discussed by the PC, EFM, or child |
| Television | Child's television watching behaviors or allowances; may be discussed by the PC, EFM, or child |
| Computer/video game | Child's time spent on the computer or playing video games; may be discussed by PC, EFM, or child |
| Other | Child's time spent on other indoor activities; may be discussed by the PC, EFM, or child |
| *Similarities in activities with PC & EFM* | Discussion that indicates differences between the PC and EFM in the child's PA behaviors or allowances when in the presence of the PC or EFM |
| *Differences in activities with PC & EFM* | Discussion that indicates differences between the PC and EFM in the child's PA behaviors or allowances when in the presence of the PC or EFM |
| | |
| **Socialization Practices** | General discussion of socialization practices, without specifying whether they are related to diet/PA and/or whether the practices are verbal or action-based; may be discussed by PC, EFM, or child |
| *Diet – verbal instruction/encouragement* | Socializing children to adopt desired dietary behaviors using verbal instruction or encouragement; may be discussed by PC, EFM, or child |
| PC | PC's use of verbal instruction or encouragement to socialize children to adopt desired dietary behaviors using verbal instruction or encouragement; may be discussed by PC, EFM, or child |
| EFM | EFM's use of verbal instruction or encouragement to socialize children to adopt desired dietary behaviors using verbal instruction or encouragement; may be discussed by PC, EFM, or child |
| *Diet – behavior modeling* | Socializing child to adopt desired dietary behaviors by demonstrating behaviors to be modeled; may be discussed by PC, EFM, or child |
| PC | PC's use of behavior modeling to socialize child to adopt desired dietary behaviors; may be discussed by PC, EFM, or child |
| EFM | EFM's use of behavior modeling to socialize child to adopt desired dietary behaviors; may be discussed by PC, EFM, or child |
| *PA – verbal instruction/encouragement* | Socializing child to adopt desired PA behaviors using verbal instruction or encouragement; may be discussed by PC, EFM, or child |
| PC | PC's use of verbal instruction or encouragement to |

| | |
|---|---|
| | adopt desired PA behaviors; may be discussed by PC, EFM, or child |
| EFM | EFM's use of verbal instruction or encouragement to adopt desired PA behaviors; may be discussed by PC, EFM, or child |
| *PA – behavior modeling* | Socializing children to adopt desired PA behaviors by demonstrating behaviors to be modeled; may be discussed by PC, EFM, or child |
| PC | PC's use of behavior modeling to socialize child to adopt desired PA behaviors; may be discussed by PC, EFM, or child |
| EFM | EFM's use of behavior modeling to socialize child to adopt desired PA behaviors; may be discussed by PC, EFM, or child |
| *EFM-PC differences* | Differences between the PC and EFM regarding the socialization practices used; may be discussed by the PC, EFM, or child |
| *EFM-PC similarities* | Similarities between the PC and EFM regarding the socialization practices used; may be discussed by the PC, EFM, or child; |
| *Socialization by non-family members* | Socialization practices experienced by the child from non-family members (i.e., health care providers, teachers, friends, etc.); may be discussed by PC, EFM, or child |
| | |
| **Family Culture** | General discussion of family culture without reference to specific values, norms, beliefs, etc.; may be discussed by PC, EFM, or child |
| *Family history* | Historical/past family characteristics, such as place of origin, migration, trades/jobs/careers, racial/ethnic origin, etc.; may be discussed by PC, EFM, or child |
| *Immediate v. extended family units* | Discussion that distinguishes the actual or perceived immediate family unit apart from the extended family at large or other units within the extended family in terms of values, activities, diet, etc.; may be discussed by PC, EFM, or child |
| *Extended family activities* | Activities carried out jointly by the extended family; not limited to physical activity; may be discussed by PC, EFM, or child |
| Special/seasonal occasions | Extended family activities that center around special and/or seasonal occasions, such as birthdays, holidays, general celebrations, etc.; may be discussed by PC, EFM, or child |
| Cookouts | Extended family gatherings that explicitly involve cooking out/grilling food; may be informal and/or spontaneous gatherings or as a part of special/seasonal occasions; may be discussed by PC, EFM, or child |
| Travel | Actual or desired travel with extended family; may include day trips or extended stay vacations; may be discussed by PC, EFM, or child |
| Casual quality time | Informal extended family gatherings that primarily take place to facilitate fellowship among family members; may be discussed by PC, EFM, or child |

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| *Family values* | Discussion that describes core family values; may be discussed by PC, EFM, or child |
| Family-based collectivism | Discussion that indicates that the PC, EFM, child, or other family members hold the family as the standard of moral value, subjugates oneself to the family and its common good; may refer to the immediate/nuclear family or the extended family; may be discussed by PC, EFM, or child |
| Family closeness | Descriptions of closeness in family bonds; may also describe lack of close family bonds; may refer to the immediate/nuclear family or the extended family; may be discussed by PC, EFM, or child |
| EFM-child relationship | Discussions specifically related to the relationship and perceptions of the relationship between the EFM and child; may describe closeness, distinction from other EFM-child or PC-child relationships, etc.; may be discussed by PC, EFM, or child |
| Family v. self-obligations | Discussion that describes the PC, EFM, or child's perceived obligations to him/herself in comparison to obligations to the family; may refer to the immediate/nuclear or extended family; may be discussed by PC, EFM, or child |
| Accountability/support | Discussions of one's need for or receipt of accountability or support from the family; may also describe how an individual provides accountability or support to other family members; may refer to the immediate/nuclear or extended family; may be discussed by PC, EFM, or child |
| Amicable family environment | Discussions that indicate a generally amicable family environment; may refer to the immediate/nuclear or extended family; may be discussed by PC, EFM, or child |
| Spirituality | Discussions of activities that are directed toward spiritual development (i.e., going to church, participating in church activities, etc.); may also include perceptions of spirituality or EFM/PC's desire for/encouragement of more spirituality-based activities for the child and/or family; may refer to the immediate/nuclear or extended family; may be discussed by PC, EFM, or child |
| *Family traditions* | General discussion of family traditions; may be discussed by PC, EFM, or child |
| Meal- and food-based traditions | Discussions of family traditions surrounding food, dietary behaviors, meal preparation techniques, etc.; may be discussed by PC, EFM, or child |
| Sunday dinner | Description of Sunday dinner as a time for special meal preparation and eating together for fellowship; may be discussed by PC, EFM, or child |
| Eating out | Discussion of eating out, or the lack thereof, as a family meal tradition; may be discussed by PC, EFM, or child |
| Teaching meal preparation techniques | Discussion of traditional family meal preparation techniques, the desire or perceived need to teach family meal preparation techniques to children, and the actual practice of teaching the techniques; may |

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| | be discussed by PC, EFM, or child |
| Physical activity-based traditions | Discussion of family traditions surrounding recreational or functional PA; may be discussed by PC, EFM, or child |
| Unorganized recreational physical activities | Discussion of family traditions of unorganized recreational PA, such as after school play time and the availability or lack of resources for this type of PA; may be discussed by PC, EFM, or child |
| Organized recreational physical activities | Discussion of family traditions of organized recreational PA, such as participation in community sports, and the availability or lack of resources for this type of PA; may be discussed by PC, EFM, or child |
| Functional physical activities | Discussion of family traditions of function PA related to work, household maintenance, etc.; may be discussed by PC, EFM, or child |
| *Generational differences* | EFM or PC's discussion of EFM-PC-child generational differences in family values, activities, diet, PA, etc. |
| *Family structure/composition* | Description of immediate/nuclear and/or extended family structure or composition; may be discussed by PC, EFM, or child |
| Multigenerational/blended household | Households in which multiple generations or individuals from multiple family units within the same extended family reside together; may be discussed by PC, EFM, or child |
| Family composition changes | Discussion of changes to the immediate/nuclear or extended family composition; may be due to relocating, death, or other mandatory obligations; may be discussed by PC, EFM, or child |
| *Fictive kin* | PC or EFM's discussion of individuals who are not biological relatives but who are embraced and treated as family members |
| Community trust & safety | PC or EFM's discussion of the connection between community trust/safety and the ability to have or comfort with having fictive kin |
| Assisting non-family members | PC or EFM's discussion of a desire or perceive obligation to assist non-family members; barriers/facilitators to providing assistance |
| | |
| **Child Relationships with Extended Family Members** | General discussion of the child's relationship with EFMs and factors that contribute to the quality and nature of the relationships; may be discussed by PC, EFM, or child |
| *EFM relationship with child* | Discussion of the child's relationship with the participating EFM and factors that contribute to the quality and nature of their relationship; may be discussed by PC, EFM, or child |
| Primary purpose of time together | Description of the primary purpose of the time the child and EFM spend together; may be discussed by PC, EFM, or child |
| Childcare | Discussion that indicates that the provision of childcare by the EFM is the primary reason for the time the child and participating EFM spend together; may be discussed by PC, EFM, or child |

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| Quality time | Discussion that indicates that the child or participating EFM's desire for informal quality time is the primary purpose for their time spent together; may be discussed by PC, EFM, or child |
| Other | Discussion that indicates that something other than childcare or informal quality time (e.g., facilitating time with playmates, travel/vacations, etc.) is the primary purpose for the participating EFM and child spending time together; may be discussed by PC, EFM, or child |
| Frequency of time together | Description of how frequently the child and the participating EFM spend time together; may be discussed by PC, EFM, or child |
| Daily or near daily | The child and participating EFM spend time together daily or almost daily; may be discussed by PC, EFM, or child |
| Primarily during weekends | The child and participating EFM primarily spend time together on the weekends; may be discussed by PC, EFM, or child |
| Occasionally or as needed | The child and participating EFM only spend time together occasionally or as needed; may be discussed by PC, EFM, or child |
| Time spent together in presence of PC | The child and the participating EFMs spending time together while the PC is present; may be discussed by PC, EFM, or child |
| Time spent together in absence of PC | The child and the participating EFMs spending time together while the PC is not present; may be discussed by PC, EFM, or child |
| *Other extended family relationship with child* | Discussion of the child's relationship with other EFMs and factors that contribute to the quality and nature of those relationships; may be discussed by PC, EFM, or child |
| Primary purpose of time together | Description of the primary purpose of the time the child and other EFMs spend together; may be discussed by PC, EFM, or child |
| Childcare | Discussion that indicates that the provision of childcare by other EFMs is the primary reason for the times the child and other EFMs spend together; may be discussed by PC, EFM, or child |
| Quality time | Discussion that indicates that the child or other EFM's desire for informal quality time is the primary purpose for their time spent together; may be discussed by PC, EFM, or child |
| Other | Discussion that indicates that something other than childcare or informal quality time (e.g., facilitating time with playmates, travel/vacations/etc.) is the primary purpose for the child and other EFMs spending time together; may be discussed by PC, EFM, or child |
| Frequency of time together | Description of how frequently the child and other EFMs spend time together; may be discussed by PC, EFM, or child |
| Daily or near daily | The child and other EFMs spend time together daily or almost daily; may be discussed by PC, EFM, or child |

| | |
|---|---|
| Primarily during weekends | The child and other EFMs primarily spend time together on the weekends; may be discussed by PC, EFM, or child |
| Occasionally or as needed | The child and other EFMs only spend time together occasionally or as needed; may be discussed by PC, EFM, or child |
| *Time spent together in presence of PC* | The child and other EFMs spending time together while the PC is present; may be discussed by PC, EFM, or child |
| *Time spent together in absence of PC* | The child and other EFMs spending time together while the PC is not present; may be discussed by PC, EFM, or child |

## B.3 SAMPLE OF CODED TRANSCRIPTS

### B.3.1 Sample Primary Caregiver-Extended Family Member Interview Transcript

This is a sample of the coded transcript for the interview conducted with the mother and grandmother of eleven-year-old Brandon. Here, Marie is identified as Cherie, and Jeanne is listed as Linda. These are all pseudonyms and do not represent the actual names of the participants.

158 **Natasha:** That's good. Because usually they just send the kids off and the parents just have to go do something else and come pick them up. But it's good that they have all <inaudible>.

159 **Linda:** A parent might not go every week, but that parent has some mandatory-- if it's mandatory speakers, they have to be there.

160 **Cherie:** Right.

161 **Natasha:** That's good though. So when it comes to-- it sounds like your family, family is a big part of what you guys do. How much would you say your family impacts what you guys eat, like from day or day, or what you eat on a special occasion? Or I guess I should also ask, when it comes to those special occasions-- Mother's Day, Fourth of July, all those special birthdays and cookouts-- are you guys eating things that are different than what you might eat on a regular day?

162 **Linda:** Yeah, a cookout-- we're going to eat.

163 **Cherie:** We might have-- we ain't going to eat ribs every day. We might have ribs, hot dogs, hamburgers, something

Cookouts
Extended family activities
Family culture
Special foods
Diet & Meals

like that.

164 **Linda:** <inaudible> ribs though.

165 **Cherie:** Potato salad or something like that. It's a little different.

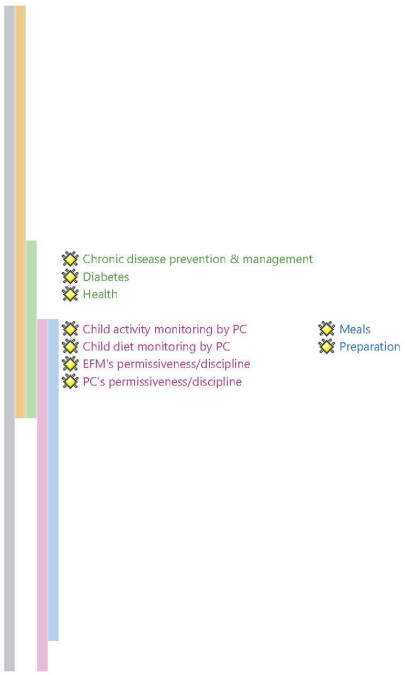
166 **Linda:** Yeah. Hamburgers, corn on the cob, squash-- all that.

167 **Natasha:** So those are special foods for you guys. You don't eat them on a regular basis.

168 **Linda:** Oh, no. But now by me being a diabetic, it's certain things that I don't really eat that they eat. So I may grab a sandwich sometime and cook dinner for them.

169 **Natasha:** So you're not making them eat what you eat.

170 **Linda:** No, because they'll tell you in a minute, "I don't want that." They probably have ate so much of certain things that they don't want it now. Just like yesterday I had-- I did. I gave them fried chicken for them and macaroni and cheese and broccoli. And the baby goes, "I don't want the chicken. I just want the broccoli and the macaroni."



171 **Cherie:** Right. And I had to force him--

172 **Natasha:** To eat the chicken.

173 **Cherie:** --because he needs protein. So, but today he ate some chicken.

174 **Linda:** Well, he get protein, because he loves peanut butter.

175 **Natasha:** Yeah, that's a good source of protein. So going back to what I was saying before, how much do you think your family impacts what you eat on a regular basis?

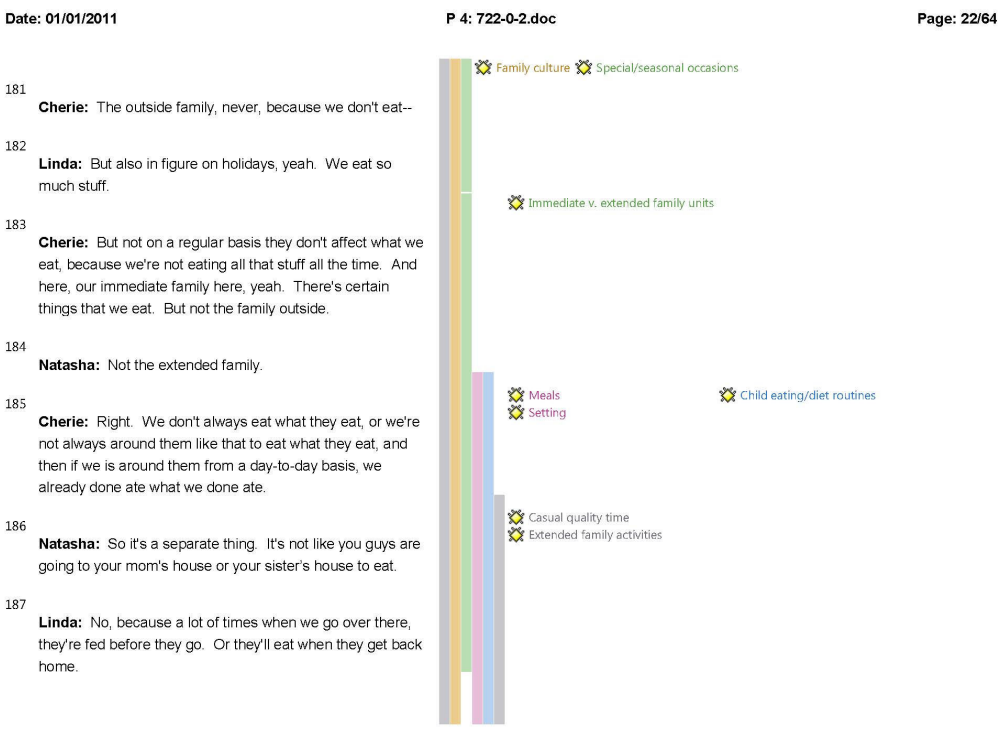
176 **Cherie:** Ninety percent.

177 **Natasha:** How so?

178 **Linda:** Yes, because everything that-- what we eat in here, everybody's eating the same thing.

179 **Cherie:** Are you talking about the outside family?

180 **Natasha:** Both. You can talk about both.




## B.3.2 Sample Child Interview Transcript

This is a sample of the coded transcript for the interview conducted with eleven-year-old Brandon. Here, Brandon is identified as Nick. Neither is the participant's actual name.

297 **Sandy:** Ms. Lewis?

298 **Nick:** Yes.

299 **Sandy:** Is Ms. Lewis your teacher?

300 **Nick:** No.

301 **Sandy:** Who's that?

302 **Nick:** When my teacher left, she had to teach us for that day. She's a teacher, but of some of the other class.

303 **Sandy:** Okay. When you're with your aunts and uncles, do you ever like do indoor activities there? You say you see them a lot. Do you hang out at their house a lot?

304 **Nick:** Yes.

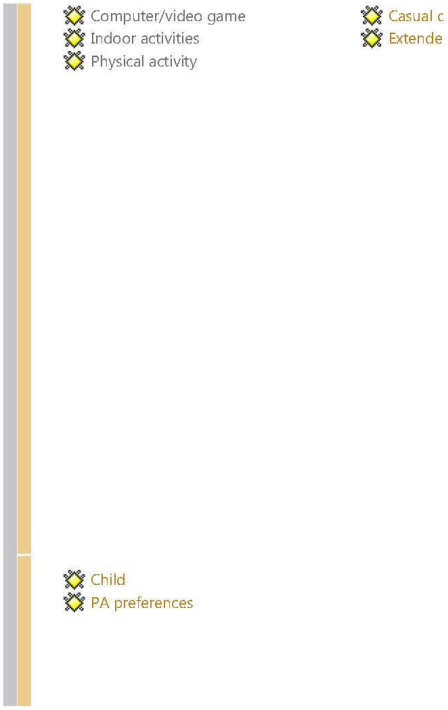
305 **Sandy:** What do you do there in the house?

306 **Nick:** We play. We play the games. We like play with toys and we like to watch TV.

307 **Sandy:** You watch the TV there.

308 **Nick:** Yes.

309 **Sandy:** So, I saw that you guys have an X-Box and a bunch of video games. How often do you play video games?



310 **Nick:** I don't play that much anymore.

311 **Sandy:** That's good.

312 **Nick:** I like to play with my PSP2.

313 **Sandy:** What games do you like?

314 **Nick:** I like Assassins, _____, God of War and Dragonball-Z.

315 **Sandy:** And your mom and your grandmother let you play like Assassins, Creed, God of War?

316 **Nick:** Yes. Well, it's not really a violent one with PSP2, but God of War and Creed.

317 **Sandy:** My friends have Assassins and Creed and they wanted to like pretend that they could climb buildings.

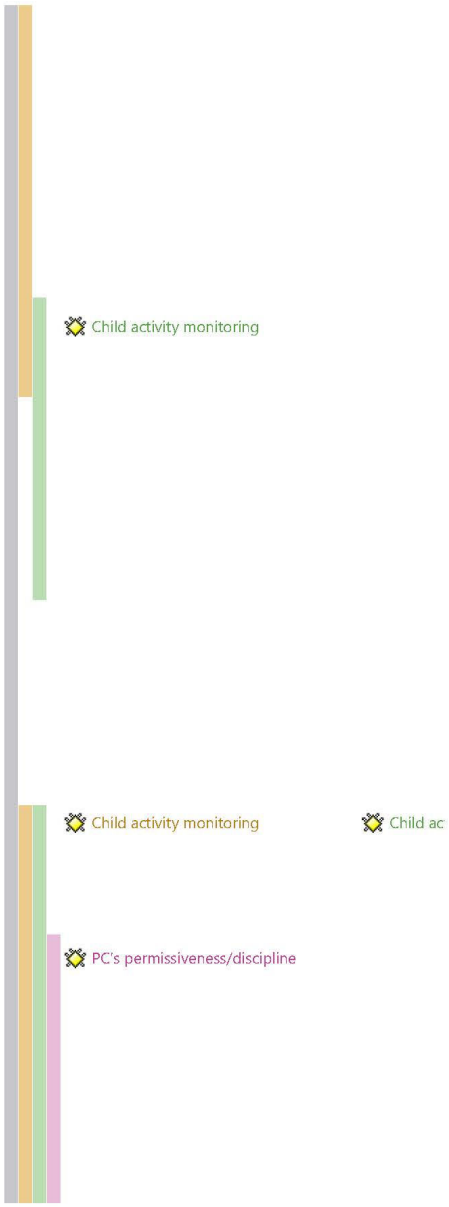
318 **Nick:** That's pretty good.

319 **Sandy:** Yeah, they're kind of crazy. So, like how many hours a day do you spend playing video games?

320 **Nick:** My mother lets us get on for 30 minutes

321 **Sandy:** Okay.

322 **Nick:** Well, with the PSP she don't mind that much because it's a good game.



323 **Sandy:** Who doesn't mind?

324 **Nick:** My mom.

325 **Sandy:** Your mom?

326 **Nick:** Well, when we're on the Wii and stuff, she would mind, but when we're on the PSP she don't.

327 **Sandy:** Okay. So, she minds with the Wii but she doesn't mind PSP.

328 **Nick:** Yeah.

329 **Sandy:** Why is that?

330 **Nick:** I don't know. I guess because it _____.

331 **Sandy:** Oh, okay.

332 **Nick:** Plus, we like to play the Wii a lot.

Differences in activities with PC & EFM Child ac

333 **Sandy:** Oh. So, does your mom then tell you to stop playing video games more?

334 **Nick:** No, my grandma.

335 **Sandy:** Your grandma? So, it seems like your grandma tells you to stop doing a lot of things.

336 **Nick:** Yes.

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**CURRICULUM VITAE**


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## EDUCATION

May 2011 — **Doctor of Philosophy**, **Social and Behavioral Sciences**
*Johns Hopkins University, Bloomberg School of Public Health, Department of Health, Behavior, and Society,* Baltimore, MD
**Dissertation:** A qualitative exploration of the influences of culture and extended family networks on the weight-related behaviors of urban African American children (Advisor: Katherine Clegg Smith, PhD)

April 2007 — **Master of Public Health, Behavioral and Community Health Sciences**
*University of Pittsburgh, Graduate School of Public Health, Department of Behavioral and Community Health Sciences,* Pittsburgh, PA
**Thesis:** Project HEAL (Healthy Eating and Activity for Life): Proposing a Faith-Based Health Education and Lifestyle Intervention for Rural African Americans (Advisor: Kenneth Jaros, PhD)

April 2007 — **Graduate Certificate, Evaluation of Public Health Promotion and Health Education Programs**
*University of Pittsburgh, Graduate School of Public Health, Department of Behavioral and Community Health Sciences,* Pittsburgh, PA

May 2005 **Bachelor of Science (Cum Laude), Nutritional Sciences**
*Howard University*, Washington, DC
Concentration: Community Nutrition; Minor: Chemistry

## FELLOWSHIPS

**Predoctoral Fellow** **July 2010 – Present**
*Research Training Grant in Behavioral and Preventive Aspects of Heart and Vascular Disease*
Johns Hopkins University, School of Medicine, Baltimore, MD (PI: David Levine, MD, ScD, MPH; NHLBI Project No. 5T32HL007180-35)

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*Johns Hopkins Bloomberg School of Public Health Diversity and Health Disparities Fellowship*
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*University of Pittsburgh Graduate School of Public Health Research and Teaching Assistantship*
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## RESEARCH EXPERIENCE

**Research Assistant** **June 2008 – Present**
*Johns Hopkins Bloomberg School of Public Health, Department of Health, Behavior & Society,* Baltimore, MD
**Project Title:** Roles of the News Media in Knowledge Dissemination around Nutritious Diet (PI: Katherine Clegg Smith, PhD; CDC NCCDPHP Project No. 5K01DP001129-03)

- Assisted in conducting a qualitative study designed to understand women's perceptions of nutrition information presented in news media and how these perceptions influence their diet-related decisions for themselves and their families.
- Participated in collaborative meetings with community partners to determine culturally appropriate methods for collecting data and recruiting and compensating participants.
- Assisted in conducting and summarizing focus group interviews with participants.
- Conducted searches using Google Scholar, PubMed, PsycInfo and similar databases to compile literature reviews on relevant topics.
- Currently leading the development of thematic codes and the analysis of focus group transcripts, using ATLAS.ti qualitative data analysis software, in preparation for interpreting results and drafting manuscripts and conference abstracts.

**Research Coordinator** **June 2009 – March 2011**
*Research and Evaluation Solutions, Inc. (REESSI)*, Alexandria, VA

- Served as a liaison between project officers and grantees to design and conduct evaluations of federally funded public health programs focused on communities of color and provide evaluation technical assistance to grantees.
- Lead the evaluation of a community-based intervention for racial/ethnic minority adolescent females with multiple social threats; represent the program as part of the national evaluation of the Office on Women's Health HIV Prevention for Female Adolescents/Youth at Greater Risk for Juvenile Delinquency Project.
- Co-lead the national evaluation of the Office on Women's Health Women of Faith Advocacy Initiative, which focuses on addressing domestic violence through interventions involving faith-based organizations.
- Assisted in the national evaluation of the Indian Health Service Health Promotion and Disease Prevention Project by conducting interviews with grantees and contributing to the final report by summarizing grantee interviews and providing recommendations for future projects.
- Designed quantitative and qualitative evaluation instruments and facilitate data collection for federal and private evaluation contract clients.
- Composed intermediate and comprehensive reports to disseminate evaluation findings to clients and relevant audiences.
- Provided input on concepts for future research and evaluation grants and contracts.
- Assisted in identifying new research team members, consultants, and interns for future projects and actively participate in the applicant review and interview process.

**Research Assistant** **June 2008 – June 2009**
*Johns Hopkins Bayview Medical Center, Department of Pediatrics, Center for Child and Community Health,* Baltimore, MD

**Project Title:** Understanding Contextual Influences on Children's Overweight and Obesity Risk (PIs: Jonathan Ellen, MD and Rachel Johnson Thornton, MD, PhD)

- Assisted in conducting a qualitative study designed to learn more about how household and neighborhood environments may be linked to obesity and related health disparities among Baltimore City children.
- Conducted home-based, in-depth interviews with children and their caregivers to gather information on family physical activity and dietary habits.
- Assisted in the development of thematic codes and the analysis of the interview transcripts using ATLAS.ti qualitative data analysis software.
- Drafted a brief summary of the study's initial findings to disseminate to study participants.
- Conducted searches using Google Scholar, PubMed, PsycInfo, and similar databases to compile literature reviews on relevant topics.
- Participated in weekly research team meetings and provided logistic/administrative support for research activities.

**Graduate Intern** **November 2007 – May 2008**

*Maryland Department of Health and Mental Hygiene, Family Health Administration, Office of Chronic Disease Prevention; JHSPH Public Health Applications for Student Experience Program,* Baltimore, MD

**Project Title:** A Qualitative Evaluation of the Maryland Works Worksite Wellness Program – Washington and Kent Counties, Maryland (Mentors: Ann Walsh, MHS and Michel Ibrahim, PhD)

- Provided technical assistance in the design and implementation of qualitative evaluations of worksite wellness programs being conducted by local health departments.
- Developed open-ended, self-administered surveys for key informants and worksite employees based on interviews with state and local health department staff and knowledge of program goals and activities.
- Analyzed and interpreted survey responses to write a report that included suggestions for future state-funded worksite wellness programs.

**Graduate Intern** **May 2006 – August 2006**

*Uniformed Services University of the Health Sciences, Center for Health Disparities, Summer Graduate Research Internship Program*, Bethesda, MD

**Project Title:** Evaluation of the "Glorifying Our Spiritual and Physical Existence for Life" (GOSPEL) Cares Surveys, 2004-2005 (Mentor: Tracy Sbrocco, PhD)

- Conducted a primary analysis, using SPSS software, of needs assessment and program evaluation data collected for the GOSPEL program, a health promotion and disease prevention program serving African American churches in Montgomery County, MD.
- Attended community outreach worker meetings to discuss primary needs and interests for data analysis and culturally appropriate methods for presenting data to congregants and other community partners.
- Developed 3 brochures to effectively disseminate data and orally presented findings to program staff and community members.
- Provided mentorship for high school and undergraduate research interns by leading seminars and providing feedback on research papers, presentations, and posters.

**Research Assistant** **August 2005 – April 2006**

*University of Pittsburgh Medical Center and Graduate School of Public Health, Departments of Family Medicine and Behavioral and Community Health Sciences,* Pittsburgh, PA

**Project Title:** Office Barriers and Facilitators to Overcoming Disparities in Elderly Vaccinations (PI: Richard K. Zimmerman, PhD; Funded by CDC/Association for Prevention Research and Teaching)

- Assisted anthropology team in conducting observations and timing studies at clinical sites.
- Provided detailed reports on physical characteristics, history, and culture of clinical sites, as well as interactions between medical providers, staff, and patients.

- Assisted in interpreting data and organizing findings for presentations and meetings.
- Attended research team meetings as necessary.

**Research Intern** **May 2004 – July 2004**
*University of North Carolina at Chapel Hill, Carolina Population Center, Summer Pre-Graduate Research Experience Program,* Chapel Hill, NC

**Project Title:** The Influence of Breastfeeding on Postpartum Weight Retention (Mentor: Anna Maria Siega-Riz, PhD)

- Conducted a primary analysis, using SAS statistical software, of data collected for the "PregJeanne, Infection and Nutrition (PIN) Postpartum Study" to assess the influence of breastfeeding on weight retention at three months postpartum, as well as racial/ethnic disparities in breastfeeding practices and weight status.
- Presented findings at SPGRE Research Symposium (July 2004).
- Assembled breast milk collection kits to be mailed to study participants.
- Inventoried saliva, blood, and BV samples collected from sample participants.
- Observed clinical and home visits with study participants and provided feedback to study staff.
- Attended weekly meetings held by the umbrella study's principle investigators.

**Research Program Scholar** **January 2004 – June 2004**
*Howard University, Ronald E. McNair Postbaccalaureate Achievement Program*, Washington, DC

**Project Title:** 1999-2000 NHANES: Cardiovascular Disease Risk Factors in Young African-American Adults (Mentor: Enid Knight, PhD)

- Utilized data from the 1999-2000 National Health and Nutrition Examination Survey to examine cardiovascular disease risk factors, including body mass index, blood pressure, and blood cholesterol levels, among young African-American adults.
- Analyzed data using SPSS statistical software and presented findings at 2 research symposia.

**Research Program Scholar** **February 2003 – June 2003**
*Howard University, Ronald E. McNair Postbaccalaureate Achievement Program,* Washington, DC

**Project Title:** A Comparison of Type 2 Diabetes in Black and White Adult Males: Evidence from the Third National Health and Nutrition Examination Survey (Mentor: Allan Johnson, PhD)

- Utilized data collected in the Third National Health and Nutrition Examination Survey to highlight disparities in risk factors, age of onset, self-management, and health outcomes among Black and White men who were diagnosed with type 2 diabetes.
- Analyzed data using SPSS statistical software and presented findings at 4 research symposia.

## OTHER PROFESSIONAL EXPERIENCE

**Classroom Observer** **October 2010 & May 2010**
*DC Early Success – Early Reading First, Student Support Center*, Washington, DC

- Observed and evaluated pre-kindergarten teachers in Washington, DC charter schools based on the *Early Language & Literacy Classroom Observation Pre-K Tool*.
- Participated in two-day training with other classroom observers.
- For each observed instructor, provided detailed reports and ratings based on the observation tool.
- Provided company staff with formal and informal feedback on the observation and reporting procedures.

**Health Education Consultant** **July 2010**
*American Heart Association, Mid-Atlantic Affiliate, Greater Washington Region*, Arlington, VA

- Utilized culturally appropriate strategies to implement the three-part *Search Your Heart* educational program focusing on heart disease and stroke, nutrition, and physical activity in community-based organizations serving high-risk audiences (i.e., African Americans and Hispanics/Latinos) in the Washington, DC Metropolitan Area.
- Assisted the site coordinator in recruiting sites and scheduling sessions for each site.
- Developed unique identifiers for each site participant, administered pre and post assessments to site participants, and submitted completed assessments to the site coordinator.

**Association of Schools of Public Health Intern** **June 2007 – August 2007**
*U.S. Department of Health and Human Services, Health Resources and Services Administration, HIV/AIDS Bureau, Division of Training and Technical Assistance, HIV Education Branch,* Rockville, MD

- Conducted needs assessment sessions with HIV Education Branch staff in preparation for revising the 11 Regional AIDS Education and Training Centers (AETC) 2005-2006 Annual Reports.
- Streamlined previous versions of the reports to reflect comparisons to National AETC data and to facilitate more effective program management between branch and AETC staff.
- Assisted in the development of technical assistance guidelines for an online national AETC/Minority AIDS Initiative data repository.
- Drafted agenda for 3-day, annual AETC meeting.
- Attended bureau training sessions in cultural competency and participated in meetings and teleconferences with grantees and Regional AETC staff.

**Teaching Assistant** **January 2006 – April 2007**
*University of Pittsburgh Graduate School of Public Health, Department of Behavioral and Community Health Sciences (Course: Social and Behavioral Aspects of Public Health Practice)*, Pittsburgh, PA

- Utilized Association of Schools of Public Health core competencies to assist in the redesign of a core course for non-departmental graduate students.
- Assisted in preparing lectures, assignments, and online learning environments to facilitate the hybrid (i.e., combined distance learning and traditional) course design.
- Provided feedback on student assignments.
- Facilitated communication between instructors and students.
- Developed and disseminated electronic survey to conduct a process and impact evaluation to measure the course's impact and performance during its first semester after the redesign.

**Information Specialist** **October 2002 – August 2005**
*U.S. Department of Agriculture, Agricultural Research Service, National Agricultural Library, Food Safety Information Center, Food Safety Research Information Office,* Beltsville, MD

- Assisted in content reviews of online resources for the 2004 redesign and re-launch of the federal nutrition and food safety websites, including Nutrition.Gov and the Food Safety Research Information Office website.
- Developed training documents for staff.
- Authored fact sheet on Escherichia coli O157:H7 to provide at-a-glance information for site visitors and to serve as a handout at conferences and meetings.
- Conducted extensive food safety literature searches to create online information websites on food safety topics to provide comprehensive resource lists for website visitors.
- To satisfy undergraduate program practicum experience:
    - **Project Title:** Assessment of Escherichia coli O157:H7 Research Conducted at the Food and Drug Administration (Mentors: Yvette Alonso and Enid Knight, PhD)
    - Examined food safety research projects found in the Food Safety Research Information Office's searchable database on "Escherichia coli O157:H7" to identify gaps and/or overlaps in the research submitted by the Food and Drug Administration.
    - Composed technical report to disseminate findings via the Office's website and presented the findings at a research symposium.

## PUBLICATIONS

### Peer-reviewed Journal Articles

**Brown, N.A.**, Hulsey, E., Wing, Y.M., Hall, A.T., Ramachandran, S., DeLuca, M.E., Butler, J., & Burke, J.G. (2010). Perspectives on a community-based course for public health students. *Health Promotion Practice, 11*(2), 235-243.

### Non-peer-reviewed Journal Articles

**Brown, N. A.**, & Knight, E. M. (2004). 1999-2000 NHANES: Cardiovascular Risk Factors in Young African-American Adults. *Howard University Ronald E. McNair Postbaccalaureate Achievement Program Journal of Research, 8,* 29-32.

**Brown, N. A**., & Johnson, A. A. (2003). A Comparison of Type 2 Diabetes in Black and White Adult Males: Evidence from the Third National Health and Nutrition Examination Survey. *Howard University Ronald E. McNair Postbaccalaureate Achievement Program Journal of Research, 9*, 22-27.

### Other Publications

**Brown, N. A.**, Sbrocco, T., Hsiao, J., & Hill, L. (2006). G.O.S.P.E.L. Cares I and II: Results of the 2004 and 2005 Health Surveys. [Brochure]. Bethesda, MD: Uniformed Services University Center for Health Disparities.

**Brown, N. A.**, Sbrocco, T., Hsiao, J., & Hill, L. (2006). G.O.S.P.E.L. Cares I: Results of the 2004 Health Survey. [Brochure]. Bethesda, MD: Uniformed Services University Center for Health Disparities

**Brown, N. A.**, Sbrocco, T., Hsiao, J., & Hill, L. (2006). G.O.S.P.E.L. Cares II: Results of the 2005 Health Survey. [Brochure]. Bethesda, MD: Uniformed Services University Center for Health Disparities.

**Brown, N.A.** (2003). Food Safety Research: A Focus on E. coli O157:H7. [Fact sheet]. Beltsville, MD: National Agricultural Library.

**Brown, N. A.**, Alonso, Y., & Knight, E. M. (2003). Assessment of Escherichia coli O157:H7 Research Conducted at the FDA. [In-house Report]. Beltsville, MD: National Agricultural Library.

## PRESENTATIONS

### Oral Presentations

**Brown, N.A.**, Johnson, R.J., Smith, K.C., & Ellen, J.M. (2011, March 8). "It's only when grandma's here.": Exploring differences in how parents and extended family members socialize children to adopt weight-related behaviors. Presented at the 22nd Annual National Youth at Risk Conference, Savannah, GA.

**Brown, N.A.**, Johnson, R.J., Smith, K.C., & Ellen, J.M. (2010, October 29). "Don't tell, but my grandmother lets me cook.": Exploring differences in how urban parents and extended family members socialize children to adopt cultural dietary and physical activity norms. Presented at the 9th International Conference on Urban Health, New York, NY.

**Brown, N.A.**, Houston, S., Peebles, A.C., Whiten, Y. & Langhorne, A. (2010, October 29). "Agencies have the services, and churches have the audience.": How do we maximize the intersection of health service agencies and churches to address domestic violence and related social policies? Presented at the 9th International Conference on Urban Health, New York, NY.

**Brown, N.A.,** (2008, May 9). A Qualitative Evaluation of the Maryland Works Worksite Wellness Program – Washington and Kent Counties, Maryland. Presented at the 2008 PHASE Research Symposium, Baltimore, MD.

**Brown, N. A**., Hulsey, E., Wing, Y.M., Hall, A.T., Ramachandran, S., DeLuca, M.E., Butler, J., & Burke, J.G. (2007, April 12). Agency-based courses for students in public health: Stepping stones to university-community partnerships. Presented at the Campus-Community Partnerships for Health 10th Anniversary Conference, Toronto, Ontario, Canada.

**Brown, N. A**., Sbrocco, T., Hsiao, J., & Hill, L. (2006, July 25). Two Years of Health Education Program Needs Assessment in African American Churches: G.O.S.P.E.L. Cares 2004-2005. Presented at the G.O.S.P.E.L. Community Outreach Worker Training, Silver Spring, MD.

**Brown, N. A**. (2006, July 16). Improving Minority Health and Eliminating Health Disparities. Presented at the Pennsylvania Governor's School for Health Care, Pittsburgh, PA.

**Brown, N. A.**, & Knight, E. M. (2004, August 12-15). 1999-2000 NHANES: Cardiovascular Risk Factors in Young African-American Adults. Paper presented at the University of California at Berkeley National McNair Research Symposium, Berkeley, CA.

**Brown, N. A.**, & Knight, E. M. (2004, June 4). 1999-2000 NHANES: Cardiovascular Risk Factors in Young African-American Adults. Paper presented at the Howard University McNair Ninth Summer Research Symposium, Washington, DC.

**Brown, N. A.**, & Johnson, A. A. (2004, April). A Comparison of Type 2 Diabetes in Black and White Adult Males: Evidence from the Third National Health and Nutrition Examination Survey. Paper presented at the Howard University Graduate School Research Symposium, Washington, DC.

**Brown, N. A.**, & Johnson, A. A. (2003, September 6). A Comparison of Type 2 Diabetes in Black and White Adult Males: Evidence from the Third National Health and Nutrition Examination Survey. Paper presented at the 11th Annual University of Maryland-Baltimore County McNair Scholars Research Conference, Baltimore, Maryland.

**Brown, N. A.**, & Johnson, A. A. (2003, June). A Comparison of Type 2 Diabetes in Black and White Adult Males: Evidence from the Third National Health and Nutrition Examination Survey. Paper presented at the Howard University McNair 8th Summer Research Symposium, Washington, DC.

**Poster Presentations**

**Brown, N. A.**, Sbrocco, T., Hsiao, J., & Hill, L. (2007, March 22). Two Years of Health Education Program Needs Assessment in African American Churches: G.O.S.P.E.L. Cares 2004-2005. Presented at the Society of Behavioral Medicine 28th Annual Meeting, Washington, DC.

Terry, M.A., Thomas, T., Jewell, I.K., & **Brown, N.A.** (2006, November 4-8). Addressing Immunization Disparities: A Practice-Level Observation Study. Paper presented at the American Public Health Association 134th Annual Meeting, Boston, MA.

**Brown, N. A.**, & Siega-Riz, A. M. (2004, July 28). The Influence of Breastfeeding on Postpartum Weight Retention. Paper presented at the University of North Carolina at Chapel Hill Summer Pre-Graduate Research Experience 11th Annual Poster Session, Chapel Hill, NC.

**Brown, N. A.**, & Johnson, A. A. (2003, October). A Comparison of Type 2 Diabetes in Black and White Adult Males: Evidence from the Third National Health and Nutrition Examination Survey. Paper presented at the University of Delaware National McNair Scholars Research Conference, Dover, DE.

## SPECIAL SKILLS

Proficient in conducting one-on-one interviews with adults and children
Proficient in conducting focus group interviews with adults
Proficient in conducting participant and non-participant observations
Proficient in using ATLAS.ti software to facilitate qualitative data organization and analysis
Familiar with SPSS, SAS, and STATA quantitative data analysis programs

## HONORS AND AWARDS

Johns Hopkins Bloomberg School of Public Health Department of Health, Behavior, and Society Doctoral Distinguished Research Award Recipient, 2009-2010 Academic Term

Johns Hopkins Bloomberg School of Public Health Minority Health Award Recipient, April 2009

Delta Omega Public Health Honor Society, Omicron Chapter (University of Pittsburgh), Inducted 2007

Who's Who Among Students in American Universities and Colleges Award Recipient, November 2004

Howard University Division of Allied Health Sciences Honor Society, Inducted November 2004

National Epsilon Tau Sigma Honor Society, Inducted November 2004

Howard University College of Pharmacy, Nursing and Allied Health Sciences Trustee Scholarship Recipient, 2004-2005 Academic Term

Golden Key International Honor Society, Inducted Spring 2003

National Scholars Honor Society, Inducted Spring 2003

Howard University Division of Allied Health Sciences Dean's List, 2001-2005

Howard University Laureate Scholarship Recipient, 2000-2004

## PROFESSIONAL ACTIVITIES

### Editorial Activities

**Peer Reviewer** **2007 – Present**
*Health Promotion Practice*

**Editor-in-Chief** **May 2009 – May 2010**
*Context Journal: The Journal Recognizing Student Health Professionals Engaged in Their Communities*

**Associate Editor-in-Chief** **June 2008 – May 2009**
*Context Journal: The Journal Recognizing Student Health Professionals Engaged in Their Communities*

### Grant Reviewing Activities

**Grant Reviewer** **December 2010**
*Prince George's County Health Department, Office of the Health Officer*, *Suburban Maryland Ryan White Part A Administrative Agency*, Suburban Maryland Ryan White Part A FY 2011 Competitive Grant, Largo, MD

**Grant Reviewer** **August 2010**
*U.S. Department of Health and Human Services, Office on Women's Health,* Project HOPE: Helping Organizations Provide Effective HIV/AIDS Prevention for Women and Girls: A Capacity Building and Technical Assistance Cooperative Agreement, Washington, DC

**Grant Reviewer** **July 2010 – August 2010**
*U.S. Department of Health and Human Services, Office on Women's Health,* Young Women's HIV/STD Mobilization Project: Moving Beyond the Message, Washington, DC

### Academic Activities

**Judge** **April 2010**
*17th Annual Undergraduate and Graduate Science Research Symposium* held during the *5th National Minority Serving Institutions Research Partnership Consortium Conference (April 14-17, 2010)*, *Morgan State University,* Baltimore, MD

**Student Ambassador** **Spring 2009 – August 2010**
*Johns Hopkins Bloomberg School of Public Health, Student Diversity Office, Student Diversity Ambassadors Network*, Baltimore, MD

**President** **May 2008 – May 2010**
*Johns Hopkins Bloomberg School of Public Health, Black Graduate Student Association*, Baltimore, MD

**Student Representative** **August 2008 – May 2010**
*Johns Hopkins Bloomberg School of Public Health, Committee on Equity, Diversity, and Civility*, Baltimore, MD

**Student Representative** **August 2008 – May 2010**
*Johns Hopkins Institutions, Diversity Leadership Council*, Baltimore, MD

**Secretary** **August 2007 – May 2008**
*Johns Hopkins Bloomberg School of Public Health, Black Graduate Student Association*, Baltimore, MD

**Conference Coordination Assistant** **Fall 2006**
*University of Pittsburgh, Graduate School of Public Health, "Global Problems, Global Solutions: Health, Dignity, and Human Rights" Conference (October 6-7, 2008)*, Pittsburgh PA

**Public Relations Officer** **August 2006 – April 2007**
University of Pittsburgh, Graduate School of Public Health, Minority Student Organization, Pittsburgh, PA