Obesity in early adolescents is a significant public health problem that has adverse health consequences, to include increasing the risk of developing type two diabetes and hypertension. Factors such as the environment, nutrition, and physical activity contribute to obesity in early adolescents. The purpose of this ethnographic study was to explore the physical activity and nutrition beliefs and behaviors of early adolescents in an urban cluster in the southeastern part of the United States. The researcher recruited early adolescents at a community organization and collected data using three ethnographic methods: semi-structured interviewing, participant observation, and collection of artifacts. Data were analyzed using constant comparative analysis to shed light on the meaning of early adolescents’ communications about their physical activity and nutrition beliefs and behaviors.

Themes that emerged from data analysis included recognizing benefits of physical activity and healthy eating, family influences, connecting with the community, peer influences, electronic media influences, and developing a sense of self. This study contributes to nursing science in three ways. First, all early adolescents recognized both physical activity and healthy eating as beneficial for promoting their health and improving the quality of their lives. Second, early adolescents described their mothers as the most influential family member for both their physical activity and healthy eating behaviors. Third, the community organization was identified as the main facilitator of early adolescents’ physical activities within their immediate environment outside their home. These findings explain three different points of entry that the nursing community can use, separately or together, for their health promotion strategies to encourage physical activity and healthy eating among early adolescents.

INDEX WORDS: Early adolescents, physical activity, nutrition, healthy eating
EARLY ADOLESCENTS’ PHYSICAL ACTIVITY AND NUTRITION BELIEFS AND BEHAVIORS IN AN URBAN CLUSTER IN THE SOUTHEASTERN UNITED STATES

By

Miranda R. Hawks

Submitted to the Faculty of The Graduate School of Augusta University in partial fulfillment of the Requirements for the Degree of Doctor of Philosophy

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EARLY ADOLESCENTS’ PHYSICAL ACTIVITY AND NUTRITION BELIEFS AND BEHAVIORS IN AN URBAN CLUSTER IN THE SOUTHEASTERN UNITED STATES

This dissertation is submitted by Miranda R. Hawks and has been examined and approved by an appointed committee of the faculty of The Graduate School at Augusta University.

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Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>xii</td>
</tr>
<tr>
<td>CHAPTER 1: INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem and Purpose</td>
<td>2</td>
</tr>
<tr>
<td>Significance</td>
<td>3</td>
</tr>
<tr>
<td>Research Questions</td>
<td>4</td>
</tr>
<tr>
<td>Interpretivism as a Philosophical Foundation</td>
<td>5</td>
</tr>
<tr>
<td>Ontological Assumption</td>
<td>5</td>
</tr>
<tr>
<td>Epistemological Assumption</td>
<td>6</td>
</tr>
<tr>
<td>Methodological Assumptions</td>
<td>6</td>
</tr>
<tr>
<td>Axiological Assumption</td>
<td>7</td>
</tr>
<tr>
<td>Conceptual Framework</td>
<td>8</td>
</tr>
<tr>
<td>Individual</td>
<td>9</td>
</tr>
<tr>
<td>Environment</td>
<td>10</td>
</tr>
<tr>
<td>Relationship between the Individual and the Environment</td>
<td>10</td>
</tr>
<tr>
<td>Definitions of Key Concepts and Terms</td>
<td>11</td>
</tr>
<tr>
<td>Bronfenbrenner's Model</td>
<td>11</td>
</tr>
<tr>
<td>Concepts Related to Methodological Rigor</td>
<td>13</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>Other Concepts Used in the Study</td>
<td>13</td>
</tr>
</tbody>
</table>

CHAPTER 2: PHYSICAL ACTIVITY AND NUTRITION LITERATURE REVIEW... 17

Adolescent Physical Activity Standards 17

U.S. Department of Health and Human Services 18

American Academy of Pediatrics 18

Strength-Training Recommendations 18

Organized Sports Recommendations 19

World Health Organization 19

Institute of Medicine 20

Physical Activity Guideline Adherence 20

DHHS Guideline Adherence 20

Fitnessgram® 20

Adolescent Nutrition Standards 21

Dietary Guidelines for Americans 2010 21

National School Standards 22

Qualitative Research on Adolescent Physical Activity and Nutrition 23

Adolescent Physical Activity Beliefs and Behaviors 24

Recognition of Health Benefits 25

Perceived Barriers 25

Safety 25

Cost and Time 26

Community Support 26

Sex 26

Chronic Illness 27
Obesity Status................................................................................................. 27
Culture........................................................................................................ 28
Geographic Location.................................................................................... 28
After-school Responsibilities......................................................................... 29
Adolescent Nutrition Beliefs and Behaviors................................................ 29
Recognition of Health Benefits of Good Nutrition....................................... 30
Perceived Barriers of Good Nutrition.......................................................... 31
Aesthetics of Fruits and Vegetables............................................................... 31
Cost and Time.............................................................................................. 31
Sex................................................................................................................. 31
Peer Influence ............................................................................................ 32
Home........................................................................................................... 32
School.......................................................................................................... 33
Summary...................................................................................................... 34

CHAPTER 3: METHODS .................................................................................. 36
Setting.......................................................................................................... 36
Community................................................................................................... 36
Community Organization............................................................................... 39
Participants................................................................................................. 42
Rationale for Participant Selection............................................................... 42
Participant Sampling Technique................................................................. 42
Participant Recruitment and Enrollment.................................................. 44
Sample Characteristics............................................................................... 46
Early Adolescents as Participants................................................................. 47
Data Collection............................................................................................ 49
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant Observation</td>
<td>50</td>
</tr>
<tr>
<td>Participant Observation Overview</td>
<td>50</td>
</tr>
<tr>
<td>Participant Observation Implementation</td>
<td>52</td>
</tr>
<tr>
<td>Field Notes</td>
<td>53</td>
</tr>
<tr>
<td>Artifact Collection</td>
<td>55</td>
</tr>
<tr>
<td>Semi-Structured Interviews</td>
<td>56</td>
</tr>
<tr>
<td>Interview Guide Composition</td>
<td>57</td>
</tr>
<tr>
<td>Interview Implementation</td>
<td>58</td>
</tr>
<tr>
<td>Interviewing Techniques</td>
<td>58</td>
</tr>
<tr>
<td>Artifacts</td>
<td>58</td>
</tr>
<tr>
<td>Mapping Activity</td>
<td>58</td>
</tr>
<tr>
<td>Interview Transcription</td>
<td>59</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>59</td>
</tr>
<tr>
<td>Methodological Rigor</td>
<td>61</td>
</tr>
<tr>
<td>Credibility</td>
<td>62</td>
</tr>
<tr>
<td>Transferability</td>
<td>65</td>
</tr>
<tr>
<td>Dependability and Confirmability</td>
<td>66</td>
</tr>
<tr>
<td>Summary</td>
<td>67</td>
</tr>
<tr>
<td>CHAPTER 4: PRESENTATION OF THE FINDINGS</td>
<td>69</td>
</tr>
<tr>
<td>Recognizing Benefits of Physical Activity and Healthy Eating</td>
<td>70</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>71</td>
</tr>
<tr>
<td>Healthy Eating</td>
<td>73</td>
</tr>
<tr>
<td>Family Influences</td>
<td>74</td>
</tr>
<tr>
<td>Influences of Mothers, Aunts, and Grandmothers</td>
<td>75</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>75</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Healthy Eating</td>
<td>77</td>
</tr>
<tr>
<td>Influences of Fathers, Uncles, and Male Cousins</td>
<td>79</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>79</td>
</tr>
<tr>
<td>Healthy Eating</td>
<td>80</td>
</tr>
<tr>
<td>Influences of Family Practices</td>
<td>80</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>80</td>
</tr>
<tr>
<td>Positive Influences</td>
<td>81</td>
</tr>
<tr>
<td>Responsibilities</td>
<td>82</td>
</tr>
<tr>
<td>Healthy Eating</td>
<td>83</td>
</tr>
<tr>
<td>Positive Influences</td>
<td>84</td>
</tr>
<tr>
<td>Family Meals</td>
<td>84</td>
</tr>
<tr>
<td>Junk Food</td>
<td>85</td>
</tr>
<tr>
<td>Healthy Alternatives</td>
<td>86</td>
</tr>
<tr>
<td>Weekends</td>
<td>86</td>
</tr>
<tr>
<td>Grandmother's house</td>
<td>87</td>
</tr>
<tr>
<td>Influences of Organized Sports</td>
<td>88</td>
</tr>
<tr>
<td>Connecting Within the Community</td>
<td>89</td>
</tr>
<tr>
<td>Connecting at School</td>
<td>90</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>90</td>
</tr>
<tr>
<td>Healthy Eating</td>
<td>92</td>
</tr>
<tr>
<td>Connecting with the Community Organization</td>
<td>93</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>93</td>
</tr>
<tr>
<td>Healthy Eating</td>
<td>96</td>
</tr>
<tr>
<td>Connecting Within the Community</td>
<td>98</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>98</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Connecting Within the Community</td>
<td>127</td>
</tr>
<tr>
<td>Peer Influences</td>
<td>129</td>
</tr>
<tr>
<td>Electronic Media Influences</td>
<td>131</td>
</tr>
<tr>
<td>Developing a Sense of Self</td>
<td>132</td>
</tr>
<tr>
<td>Strengths of the Study</td>
<td>133</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>134</td>
</tr>
<tr>
<td>Implications for Nursing Theory</td>
<td>135</td>
</tr>
<tr>
<td>Implications for Nursing Practice</td>
<td>137</td>
</tr>
<tr>
<td>Implications for Public Health Policy</td>
<td>138</td>
</tr>
<tr>
<td>Implications for Future Research</td>
<td>141</td>
</tr>
<tr>
<td>Conclusions</td>
<td>142</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>144</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>160</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Figure</th>
<th>Figure Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Conceptual Framework of the Individual and Environment……...</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Early Adolescents by Age and Gender...................................</td>
<td>47</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Table Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sample Characteristics</td>
<td>47</td>
</tr>
</tbody>
</table>
## LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Appendix Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>IRB Approval Letters</td>
<td>160</td>
</tr>
<tr>
<td>B</td>
<td>Parent Permission Form</td>
<td>166</td>
</tr>
<tr>
<td>C</td>
<td>Assent Form</td>
<td>170</td>
</tr>
<tr>
<td>D</td>
<td>Parent Permission Meeting Flyer</td>
<td>173</td>
</tr>
<tr>
<td>E</td>
<td>Interview Schedule</td>
<td>175</td>
</tr>
<tr>
<td>F</td>
<td>Code Definitions</td>
<td>185</td>
</tr>
<tr>
<td>G</td>
<td>Theme Definitions</td>
<td>190</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

Background

Obesity in early adolescents is a significant public health problem that has a number of adverse consequences such as increasing the risk of developing type two diabetes and hypertension (Dabelea et al., 2014; National Research Council, 1999; Wang et al., 2013; Waters et al., 2013). Studies have shown that the interaction of factors such as the environment, nutrition, and physical activity contribute to obesity in early adolescents (Armstrong, Cote, Devlin, & Harris, 2014; Brio & Wien, 2010). Maintaining healthy physical activity and nutrition practices is essential for preventing obesity in early adolescents (WHO, 2014).

The prevalence of obesity in children and adolescents 6 to 11 years of age has increased from 6.5% in 1980 to 18% in 2012 (NCHS, 2012; Ogden, Carroll, Kit, & Flegal, 2014). During the same time period, the prevalence of obesity in adolescents 12 to 19 years of age increased from 5% to 18.4% (NCHS, 2012; Ogden et al., 2014). In 2011-2012, the National Health and Nutrition Examination Survey (NHANES) found that 16.9% of children and adolescents 2 to 19 years of age were obese (Ogden et al., 2014). Excess weight acquired in the early years often tracks into adulthood. That is, adolescent obesity is associated with an increased risk of severe obesity in adulthood as defined by a Body Mass Index (BMI) of greater than 40 kg/m$^2$ (Suchindran, North, Popkin, & Gordon-Larsen, 2010).
Adolescence is a critical developmental phase in which beliefs and behaviors related to health begin to form (Riekert, Ockene, & Pbert, 2013). During adolescence, cognitive functioning becomes well established and begins to reorganize and evolve into a socially adaptive system aimed at synthesizing experiences (Riekert et al., 2013). As cognitive functioning matures, it leads to the formation of more established health beliefs and behaviors. Nursing’s goal of intervening during this period of development is for adolescents to form early health-promoting behaviors that they can continue throughout their lifetime to prevent obesity and obesity-related illnesses.

**Statement of the Problem and Purpose**

A recent shift has occurred in research strategies addressing adolescent obesity. Although numerous interventions targeted at the individual and organizational levels have been implemented, new research indicates that studies of the environment in which child and adolescent obesity is situated are needed (Waters et al., 2013). Studies should be designed to investigate environmental and social factors that are key contributors to obesity in adolescents (Waters et al., 2013). For example, qualitative studies of the environment, including schools and homes, are needed to explore factors in the adolescent’s life related to both a healthy body weight and obesity.

The purpose of this ethnographic study is to explore the physical activity and nutrition beliefs and behaviors of early adolescents in an urban cluster in the southeastern part of the United States. The philosophical tenets of interpretivism and the conceptual framework of the individual and environment were used to develop the study’s purpose and research questions. This study used ethnography as a qualitative research approach and was conducted in one community organization in an urban cluster. The findings provide an understanding of early adolescents’ culturally-situated beliefs and behaviors using semi-structured interviews, participant observation, discussions of artifacts, and a mapping activity.
Significance

Early adolescence, which includes adolescents 10 to 14 years of age, is the first developmental stage in adolescence and is marked by the onset of puberty and increased growth (AAP, 2014). Consideration of the setting in which early adolescents' beliefs and behaviors are constructed is important to understanding their development. Social adaptation and development in early adolescents occur in the middle school, at home, and in community organizations. These are important settings in which health beliefs and behaviors are formed. This study of early adolescents as they function in these settings on a daily basis can facilitate a better understanding of the beliefs and behaviors that initiate, facilitate, and inhibit healthy physical activity and nutrition practices.

It has become increasingly more challenging for early adolescents to adopt and maintain health-promoting physical activity and nutrition practices. Many of the barriers to their healthy physical activity and nutrition practices are related to challenges in the environment, such as economic and academic challenges (Briggs, 2010). For example, the number of physical education and nutrition-related courses have been reduced or eliminated from school curricula for students 12-18 years of age due to decreased funding and the need to prioritize funding for math and science courses (Durant et al., 2009). In the home setting, early adolescents are faced with additional challenges that impede their physical activity and nutrition practices, such as the hectic nature of personal and parental school and work schedules (Story, Neumark-Sztainer, & French, 2002). Increases in early adolescents' homework may limit their outdoor playtime or other recreational forms of physical activity (Anderson & Butcher, 2006). Additionally, early adolescents are spending their time outside of school playing video games and watching television or movies (Anderson & Butcher, 2006; Tremblay et al., 2011). The majority of early adolescents are accessing social media, such as Facebook and
Instagram, at least once per day, and 22% of early adolescents report accessing social media constantly throughout their day (The Pew Charitable Trust, 2015).

The foregoing challenges highlight the need for qualitative research that investigates both physical activity and nutrition beliefs and behaviors in the cultural context of early adolescents’ environment. Culture can be defined as the “learned, shared, and transmitted values, beliefs, norms, and life ways of an individual or group that guide their thinking, decisions, actions, and patterned ways of living” (Sitzman & Eichelberger, 2010, p. 101). Qualitative studies are well suited for gaining insight into early adolescents’ emerging beliefs and behaviors regarding physical activity and nutrition and exploring how these beliefs and behaviors relate to factors in early adolescents’ environment. Community health nurses can use the study’s findings about early adolescents’ patterns of physical activity and nutrition beliefs and behaviors to inform their health promotion strategies for this age group.

Research Questions

The philosophy of interpretivism and the conceptual framework used in this study guided the development of one central research question and two research sub-questions. The researcher explored the cultural context of physical activity and nutrition beliefs and behaviors of early adolescents. Using ethnography in an urban cluster in the southeastern part of the United States, this study addressed the following central research question: What are the physical activity and nutrition beliefs and behaviors of early adolescents in an urban cluster in the southeastern part of the United States? In addition, the study addressed the following two research sub-questions: (1) What are the facilitators of physical activity and healthy eating for early adolescents in an urban cluster in the southeastern part of the United States; and (2) What are the barriers to physical activity and healthy eating for early adolescents in an urban cluster in the southeastern part of the United States?
Interpretivism as a Philosophical Foundation

The qualitative research approach used for this study is ethnography, which is the study of the cultural context of human interactions, experiences, and beliefs guided by the philosophy of interpretivism (Creswell & Creswell, 2013; Lincoln, Lynham, & Guba, 2011; Wolcott, 2008). Ethnography is focused on understanding the stories of human experience as a whole (Lincoln, Lynham, & Guba, 2011). Participants’ stories are contextualized using ethnography to gain an understanding of their complex feelings and thoughts, which are believed to represent their personal realities and truths (Guba & Lincoln, 1985). Using discussion, mutual understanding, and confirmation with early adolescents, a researcher can develop insights about how early adolescents understand their reality.

Ontological Assumption

An ontological assumption refers to the nature of reality (Lincoln, Lynham, & Guba, 2011). The primary ontological assumption of interpretivism is that individuals construct their own version of reality based on their continuous interactions and experiences in their environment over time. Early adolescents construct their own system of beliefs regarding physical activity and nutrition through their interactions and experiences in their world. An early adolescent’s specific beliefs and behaviors related to physical activity and nutrition are based on their unique system of interactions and experiences within their environment. For example, a parent informs an early adolescent that turnip greens are healthy and that increased consumption of turnip greens promotes higher exam scores. The early adolescent hears the information repeated during interactions with extended family members at family reunions. The early adolescent notices improvement in exam scores after consuming turnip greens, which solidifies the belief that the consumption of turnip greens is healthy and increases exam scores. In
this way, early adolescents construct their own beliefs regarding both physical activity and nutrition.

**Epistemological Assumption**

An epistemological assumption refers to the nature of knowledge (Lincoln, Lynham, & Guba, 2011). The primary epistemological assumption of interpretivism is that knowledge is inseparable from the individual. The idea that knowledge requires a subject is sometimes expressed in the literature as subjectivism, which directs us to the manner in which knowledge is acquired differently by each individual due to their unique perspective of reality that evolves from their interactions and experiences in the world (Lincoln, Lynham, & Guba, 2011). For example, an early adolescent’s knowledge of the nutritional value of an apple is generated from interactions with parents and teachers who educated the early adolescent regarding the nutritional value of the apple.

Ethnographic research findings are generated from a fluid process that melds the experiences occurring between the researcher and participants into meaning.

From the perspective of subjectivism, a researcher’s interpretation of the unique realities constructed by the participants also constitutes knowledge. A researcher applying interpretivism to their research is not able to completely describe the entire reality of their participants related to their interactions and experiences as viewed from the participants’ exact perspectives. Researchers always contribute their own unique version of reality in their interpretations and are only able to capture a snapshot of their participants’ realities.

**Methodological Assumptions**

There are two key methodological assumptions of interpretivism. The first is that individuals use communication, such as body gestures and speaking, to convey their experiences and understanding of the world (Lincoln, Lynham, & Guba, 2011). This communication provides the foundation for understanding the individual’s construction of
reality (Lincoln, Lynham, & Guba, 2011). The second methodological assumption is that differences in communication regarding the meaning of these experiences and understandings of the world can be addressed through discussion and negotiation between the researcher and participant. The first assumption is based on hermeneutics; the second is based on dialectics (Lincoln, Lynham, & Guba, 2011).

Hermeneutics is the process of looking at what individuals are saying while figuring out why they are saying it (Lincoln, Lynham, & Guba, 2011). A researcher can focus on understanding how the early adolescent communicates by examining their unique worldview. Dialectics is the process of the researcher discussing the discrepancies in communication identified using hermeneutics with participants until an agreement is reached regarding the meaning of ambiguous conversation (Lincoln, Lynham, & Guba, 2011). It is the researcher’s responsibility to clarify the meaning of ambiguous references in communication to ensure the findings are representative of each participant’s individual worldview.

**Axiological Assumption**

Axiological assumptions of interpretivism refer to the appraisal of the value of the research process and the researcher’s ability to conduct the research (Lincoln, Lynham, & Guba, 2011). The primary axiological assumption of interpretivism is that personal values and beliefs are present in the research and acknowledged by the researcher. For example, a researcher acknowledges personal beliefs and behaviors during research anchored in interpretivism. A researcher acknowledges and reflects on the fact that their beliefs and behaviors are not the same as participants’ beliefs and behaviors. Both the participant and the researcher contribute personal values and beliefs to the research process. Generating research while acknowledging the collaborative contribution of personal values and beliefs creates a strong connection between the participant and researcher. During interpretive research, participants convey in-depth personal data to
the researcher regarding their beliefs and behaviors. Although researchers do not convey similar data to participants, they need to be cognizant and respectful of the participants’ information. This strengthens trust and rapport between the researcher and participant.

Ethnography is guided by strong connections between a researcher and each participant and requires criteria for judging the value of the research. The value of this ethnographic study was assessed by examining the trustworthiness of the research findings (Denzin & Lincoln, 2011). The trustworthiness of ethnography is comprised of four components: truth-value, applicability, consistency, and neutrality. These components are assessed using credibility, transferability, dependability, and confirmability, respectively (Denzin & Lincoln, 2011). The trustworthiness of the research findings will be discussed in detail in Chapter 3.

**Conceptual Framework**

The conceptual framework (see Figure 1) used in this research is based on components of Bronfenbrenner’s ecology model (Bronfenbrenner, 1994). The conceptual framework is comprised of two major concepts – the individual and environment. The concepts of the individual and the environment are derived from the first and second principles of Bronfenbrenner’s model, respectively. The researcher used the concept of the individual to focus on early adolescents’ roles, activities, and relationships for understanding their beliefs and behaviors, including their experiences and interactions related to physical activity and nutrition. The researcher applied the concept of the environment to contextualize early adolescents’ roles, activities, and relationships as they occurred within their immediate environment in the community organization.
Individual

The first principle of the ecology model states that human development is based on behavior occurring through human interactions with living and non-living matter - i.e., person, objects, and symbols (Bronfenbrenner, 1994). Bronfenbrenner (1994) refers to the specific type of interaction that impacts human development as a proximal process, to include parent-to-child and child-to-child activity patterns, group or individual play, or athletic activities. A proximal process is a sustained human interaction that significantly impacts development.

In the conceptual framework used in this study, the concept of the individual is the set of adolescents’ beliefs and behaviors that are founded in their interactions with other early adolescents, parents, teachers, objects (e.g., food items, physical activity
equipment), and symbols (e.g., food associated branding logos). The concept of the individual was used to examine the proximal processes related to physical activity and nutrition that occur among early adolescents. Once these sustained interactions were identified, they were further examined using the concept of the environment to provide an understanding of beliefs and behaviors established over time within the immediate environment.

**Environment**

The second principle of Bronfenbrenner’s (1994) ecology model states that the form, power, content, and direction of proximal processes differ based on characteristics of the environment. Bronfenbrenner (1994) describes the environmental characteristics as nested ecological structures in which each layer builds upon the last, and he proposes five ecological systems in which human development is positioned. One of the five ecologically positioned systems is the microsystem, which describes the immediate environment.

The concept of the environment in the conceptual framework is defined as early adolescents’ environment in which they function on a daily basis, to include their home, school, and community organization. Components of the environment include the objects, circumstances, and individuals with which the early adolescents interact routinely. Components of the immediate setting were examined to provide a better understanding of how early adolescents’ beliefs and behaviors were connected with the community organization as well as other components of their community, such as their home and school.

**Relationships Between the Individual and Environment**

The concept of the individual is nested within the concept of the environment. Consideration of the concept of the environment contextualizes the concept of the individual. To provide reliable conclusions, the essential meaning of human action
should be examined in the context of the social structure (i.e., immediate environment) in which it is generated (Bronfenbrenner, 1994).

Early adolescents’ interactions and relationships with other individuals (e.g., other early adolescents, parents, and teachers), objects (e.g., food items, physical activity equipment), and symbols (e.g., food-associated branding logos) were more easily understood and organized using a conceptual framework. Initially, the researcher focused her observations on early adolescents’ recreational activities, relationships with peers, and roles at home, school, and within the community to understand their behaviors regarding physical activity and nutrition. The researcher examined the other people, objects, and circumstances that influenced early adolescents’ interactions and behaviors as they occurred within their immediate environment in the community organization. The researcher compared her examination of the factors that influenced their behavior with their stated beliefs regarding physical activity and nutrition to provide a more comprehensive understanding of their roles, activities, and relationships related to physical activity and nutrition. Early adolescents’ physical activity and nutrition beliefs and behaviors were better understood by examining the researcher’s observations of their interactions and behaviors in their environment together with their beliefs and experiences described during their interviews and other discussions.

Definitions of Key Concepts and Terms

Following are definitions of key concepts and terms used in the study:

**Bronfenbrenner’s Model**

**Bronfenbrenner’s ecology model**: A social behavioral model based on two principles. The first principle of the ecology model states that “human development is based on behavior occurring through human interactions with living and non-living matter - i.e., person, objects, and symbols” (Bronfenbrenner, 1994, p. 37). The second principle
states that “the form, power, content, and direction of proximal processes differ based on characteristics of the environment” (Bronfenbrenner, 1994, p. 37).

**Concept of the environment:** “The early adolescent’s environment in which they function, including the objects, circumstances, and individuals that the early adolescent interacts with on a daily basis” (Bronfenbrenner, 1994, p. 37).

**Concept of the individual:** “The set of early adolescents’ beliefs and behaviors that are present in their interactions with other individuals, objects, and symbols” (Bronfenbrenner, 1994, p. 37).

**Chronosystem:** “Encompasses change or consistency over time not only in the characteristics of the person but also of the environment in which that person lives” (Bronfenbrenner, 1994, p. 40).

**Exosystem:** “Comprises the linkages and processes taking place between two or more settings, at least one of which does not contain the developing person but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives” (Bronfenbrenner, 1994, p. 40).

**Macrosystem:** “The overarching pattern of micro, meso, and exosystems characteristic of a given culture or subculture, with particular reference to the belief systems, bodies of knowledge, material resources, customs, life-styles, opportunity structures, hazards, and life course options that are embedded in the micro, meso, and exosystems” (Bronfenbrenner, 1994, p. 40).

**Mesosystem:** “The linkages and processes taking place between two or more settings containing the developing person” (Bronfenbrenner, 1994, p. 40).

**Microsystem:** “A pattern of activities, social roles, and interpersonal relations experienced by the developing person in a given face-to-face setting with particular physical, social, and symbolic features that invite, permit, or inhibit engagement in
sustained, progressively more complex interaction with, and activity in, the immediate environment” (Bronfenbrenner, 1994, p. 39).

Concepts Related to Methodological Rigor

**Dependability:** The degree to which findings are consistent with the data, which determines if the study would have similar findings if repeated in the same setting (Guba & Lincoln, 1985).

**External validity:** How well the outcomes of a study can be generalized to other populations (Shadish, Cook, & Campbell, 2002).

**Inquiry auditor:** A dissertation committee member with experience conducting qualitative research who specifically evaluated the overall data collection and analysis process to determine whether the collected data itself sufficiently supported the findings (Guba & Lincoln, 1985).

**Internal validity:** The degree to which a study’s conclusion(s) are justified based on the reduction or elimination of systematic error and bias, which is assessed by the credibility of research (Polit & Beck, 2008).

**Reliability:** The degree to which the study can be replicated and remain consistent in producing the same outcomes, which is assessed using dependability (Shadish, Cook, & Campbell, 2002).

**Trustworthiness:** Trustworthiness is comprised of four components: truth-value, applicability, consistency, and neutrality. These components are assessed using credibility, transferability, dependability, and confirmability, respectively (Denzin & Lincoln, 2011).

Other Concepts Used in the Study

**Artifact:** A tangible object, such as a newspaper article or photograph, which has significant meaning to an individual regarding their culture (LeCompte & Schensul, 2010).
**Behavior:** What the researcher actually observes early adolescents doing in their environment based on their understanding and meaning of the world, as opposed to what early adolescents verbalize they do (LeCompte & Schensul, 2010).

**Belief:** An early adolescent’s explanation of the concepts, experiences, interactions, and objects that constitute the nature of their society, which evolved from their intellectual desire to explain the natural world (Hicks, 2002).

**Childhood obesity:** Body Mass Index for age ≥95th percentile by gender, developed for children aged 18 years or less (CDC, 2012).

**Constant comparative analysis:** The process of analyzing data that involves looking at the data from specific and broad viewpoints to develop codes and themes (Guba & Lincoln, 1985; LeCompte & Schensul, 2013).

**Culture:** “Learned, shared, and transmitted values, beliefs, norms, and life ways of an individual or group that guide their thinking, decisions, actions, and patterned ways of living” (Sitzman, & Eichelberger, 2010, p. 101).

**Early adolescence:** “The first developmental stage in adolescence, occurring between 10 and 14 years of age and marked by the onset of puberty and increased growth” (AAP, 2014).

**Field notes:** Documentation during and after fieldwork that included jottings, the researcher’s journal, and official field notes. Jottings were shorthand notes that the researcher wrote during participant observation that reminded the researcher to write an official field note regarding the jotting’s content later. The researcher’s journal was the researcher’s personal journal in which her reflections about observations and interactions were recorded. Official field notes were detailed notes of the individuals, interactions, objects, and situations that the researcher experienced during participant observation. (Bernard, 2006)
Healthy body weight: For adolescents, BMI for age <85th but ≥5th percentile by gender (CDC, 2012).

Healthy eating barrier: A person, situation, or object that makes starting, continuing, or reinitiating healthy eating habits difficult or impossible for the early adolescent.

Healthy eating facilitator: A person, situation, or object that makes starting, continuing, or reinitiating healthy eating habits easier for the early adolescent.

Healthy eating: A diet that “is high in fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products; incorporates lean meats, poultry, fish, beans, eggs, and nuts; includes minimal amounts of saturated fats, trans fats, cholesterol, sodium, and sugars; and is within an early adolescent’s daily caloric requirements” (Health, 2010, pp. x-xi).

Mapping activity: A strategy used to enhance communication during the interviews that involved the early adolescents labeling places on a map of the community where they were physically active or ate healthy and unhealthy foods.

Informal member checking: The process of confirming the information provided by adolescents at the time that it is collected (Guba & Lincoln, 1985; LeCompte & Schensul, 2010).

Nutrition: “The consumption of sustenance to sustain the body’s dietary needs” (WHO, 2014).

Physical activity barrier: A person, situation, or object that makes starting, continuing, or reinitiating physical activities difficult or impossible for the early adolescent.

Physical activity facilitator: A person, situation, or object that makes starting, continuing, or reinitiating physical activities easier for the early adolescent.
Physical activity: “Any movement by the body that uses energy and is generated by the skeletal muscles” (WHO, 2014).

Urban cluster: A city having at least 2,500 and less than 50,000 people (U.S. Census Bureau, 2013)
CHAPTER 2
PHYSICAL ACTIVITY AND NUTRITION LITERATURE REVIEW

In this chapter, a review of physical activity and nutrition standards for adolescents is presented. This includes standards for physical activity in adolescents developed by the U.S. Department of Health and Human Services (DHHS), American Academy of Pediatrics (AAP), World Health Organization (WHO), and Institute of Medicine (IOM). Adherence of adolescents to the DHHS physical activity standard also is discussed. Additionally, the DHHS and U.S. Department of Agriculture (USDA) standard for adolescent nutrition and the USDA federal mandate developed to ensure that schools uphold the nutrition standard are discussed.

Additionally, a review of recent studies on adolescent physical activity and nutrition beliefs and behaviors is provided. Because none of the reviewed studies focused their investigation only on early adolescents, all studies that included early adolescents as part of their research sample were reviewed. Thus, the reviewed studies include participants from 8 through 18 years of age. Physical activity and nutrition studies are reviewed separately because few studies explored adolescents’ beliefs and behaviors regarding both of these concepts. No studies were found that explored both physical activity and also nutrition beliefs and behaviors of early adolescents in an urban cluster using ethnography.

Adolescent Physical Activity Standards

The following organizations have developed physical activity standards: DHHS, AAP, WHO, and IOM. National evaluations are currently underway to determine the
adherence of adolescents to DHHS guidelines. These evaluations are occurring in state public health departments, school systems (e.g., Fitnessgram® implementation), and the Centers for Disease Control and Prevention (CDC; e.g., population survey studies).

**U.S. Department of Health and Human Services**

In 2008, DHHS issued the first government-generated, comprehensive physical activity guideline. The guideline states that adolescents should integrate at least one hour of physical activity into their daily routine, with the majority of this time spent in moderate to vigorous aerobic activities (DHHS, 2008). The three types of physical activities outlined in the DHHS guideline are aerobic, muscle-strengthening, and bone-strengthening activities (DHHS, 2008). Aerobic activity increases cardiovascular and respiratory health through the synchronous movement of large muscle groups such as the quadriceps and deltoids. Examples of aerobic activities include running, hopping, skipping, jumping rope, swimming, dancing, and bicycling. Muscle-strengthening activity is generated when muscles are exerted beyond their normal levels in daily structured and unstructured activities. Unstructured muscle-strengthening activity (e.g., tree climbing and tug-of-war) in adolescents occurs when muscles are exerted during play. Structured muscle-strengthening activity (e.g., weight lifting and using resistance bands) occurs with the use of muscle strength-training equipment. Bone-strengthening activity, such as running, jumping rope, and playing basketball, occurs when force is exerted on bones in such a way that bone density and growth are increased.

**American Academy of Pediatrics**

**Strength-training recommendations.** The AAP provides three adolescent strength-training recommendations (AAP, 2001b). The first and second recommendations are that the development of strength-training programs should be focused on safety and proper technique and also should require pediatric healthcare provider evaluation. The third recommendation is that competitive weight and power
lifting should be discouraged until a healthcare provider establishes that the adolescent has achieved muscular and skeletal maturation.

**Organized sports recommendations.** The AAP provides five specific recommendations for adolescents regarding healthy participation in organized sports (AAP, 2001a). The first and second recommendations are that organized sports participation should be assessed and monitored by pediatric healthcare professionals and should not serve as the primary source of physical activity. The third recommendation is that provider assessment should be based on physical and developmental readiness including cognitive and social maturation. The fourth and fifth recommendations are that pediatric healthcare providers should collaborate with coaches to provide guidance regarding the safety and appropriateness of organized sports participation and should continue this evaluation throughout the adolescent’s development.

**World Health Organization**

In 2010, the WHO issued global physical activity guidelines that include specific recommendations for adolescents (WHO, 2010). Four guidelines outline recommendations for increasing physical activity at the population, school, and individual levels. In the first guideline, the WHO reiterates the DHHS adolescent physical activity guideline. The second guideline is that policy-makers should incorporate the DHHS guideline when producing new or modifying existing health care policy at the local, state, and national or federal levels. To address legislation regarding adolescent physical inactivity in the third guideline, the WHO advocates that new policy should consider the potential impact of sex and race/ethnicity. The fourth guideline is that local leadership and community members should be incorporated in the policy planning and implementation process to address potential barriers hindering policy adoption.
Institute of Medicine

The IOM issued six recommendations for schools to address physical inactivity in youth (IOM, 2013). The first and second recommendations are that at least 30 minutes of DHHS recommended physical activity should be conducted within school hours and that school administrators, teachers, and parents should emphasize its cognitive benefits as a promotion strategy. The third IOM recommendation is that the US Department of Education should consider physical education as a core subject within the standard curriculum. The fourth and fifth recommendations are that ongoing and comprehensive assessment of school-based physical activity levels should be conducted and that universities, colleges, and continuing education programs should actively participate in the instruction and advocacy processes. The sixth IOM recommendation is that each youth should have equal access to quality physical activity opportunities regardless of the school’s socioeconomic standing to address existing socioeconomic disparities.

Physical Activity Guideline Adherence

DHHS guideline adherence. The CDC has initiated a system for monitoring adherence to the DHHS guideline at the population level. According to the CDC, from 1999 to 2006, only 16.3% of adolescents 12 to 17 years of age met both the aerobic and muscle-strengthening recommendations, and 47.8% met neither recommendation (Song, Carroll, & Fulton, 2013). During the same time period, only 14.7% of adolescents met the aerobic activity recommendation, and 21.3% of adolescents met the muscle strengthening recommendation (Song et al., 2013).

Fitnessgram®. All states in the U.S. are in the process of initiating an evaluation of national guideline adherence. In 2012, the Georgia public health department implemented the Fitnessgram® in schools as a statewide assessment measure of adolescent physical activity levels (Welk, 2008). The Fitnessgram® is a method of physical activity evaluation and assessment specifically designed for school systems.
Cardiovascular fitness, body composition, muscle strength and endurance, and flexibility are assessed through a series of physical fitness tests with the Fitnessgram.® Data from the Fitnessgram® in Georgia showed increased body composition in fourth through twelfth grade students from 2012 to 2014 (Georgia Shape, 2014).

**Adolescent Nutrition Standards**

**Dietary Guidelines for Americans 2010**

In 2010, the DHHS and USDA collaborated to release the Dietary Guidelines for Americans (Health, 2010). These guidelines provide general nutrition recommendations for individuals over two years of age. The two main concepts in these guidelines are sustaining healthy weight by balancing caloric intake with energy expenditure and consuming nutrient-rich foods and beverages.

There are four major recommendations in the Dietary Guidelines for Americans. The first recommendation is that calories should be balanced with energy expenditure (i.e., physical activity) to maintain a healthy body weight. The consumption and energy expenditure balance should be achieved throughout each developmental stage of life, including adolescence. For overweight and obese adolescents, this component of the guidelines specifically recommends controlling total caloric intake by reducing calories in foods and beverages.

The second recommendation focuses on the reduction of specific foods and ingredients, such as reducing sodium intake to less than 2,300 milligrams (mg) per day. If the adolescent is African American or has hypertension, diabetes, or chronic kidney disease, sodium intake should be further restricted to 1,500 mg per day. The recommendation also calls for a reduction of calories from saturated fats to less than ten percent, the consumption of less than 300 mg of cholesterol per day, lowering or eliminating trans fatty acids (e.g., partially hydrogenated oils), and limiting intake of refined grains, solid fats, and added sugars.
The third recommendation focuses on increasing specific foods and nutrients, to include increasing consumption of fruits and vegetables, whole grains, fat-free or low-fat milk, other milk products (e.g., milk, yogurt, cheese, and soy), and seafood (Health, 2010). Half of the adolescent's grain consumption should be comprised of whole grains. The consumption of foods that are high in protein should be diversified to include seafood, lean meat and poultry, eggs, beans and peas, soy, and unsalted nuts and seeds. Overall, foods that are high in potassium, dietary fiber, calcium, and vitamin D should be increased in early adolescents because these important nutrients are generally lacking in the American diet.

Focused on building healthy eating patterns, the fourth recommendation states that early adolescents should regulate eating regimens based on sustaining nutrients and caloric intake over time and should document food and beverage intake to assess their eating patterns. Parents and guardians should provide food safety instruction for adolescents learning to prepare and store their own foods.

**National School Standards**

In 2012, the USDA released a final ruling to better align the National School Lunch and School Breakfast Programs with the Dietary Guidelines for Americans (Eps, 2012). The ruling mandates that direct changes requiring adherence to the four major recommendations outlined in the Dietary Guidelines for Americans should be made to the school breakfast and lunch programs. Emphasizing the second Dietary Guidelines recommendation, the ruling calls for the reduction of sodium, saturated fats, and trans fats in school-provided foods. In accordance with the third Dietary Guidelines recommendation, the ruling states that school meals should be high in fruits, vegetables, whole grains, and fat-free or low-fat milk.
Qualitative Research on Adolescent Physical Activity and Nutrition

A literature review of qualitative studies on adolescent physical activity and nutrition beliefs and behaviors was conducted for studies published between January 2008 and March 2016. A total of 30 studies were reviewed. Seventeen focused on physical activity, ten focused on nutrition, and three focused on both physical activity and nutrition. Prior to conducting the study, the purpose of the literature review was to assist with planning the study and formulating research questions by learning more about the details of previous studies in this area of research. The researcher updated the literature review when analyzing the data and interpreting the findings.

The researcher limited the review of literature to the past eight years to minimize the likelihood of misinterpretation of data that were collected in the current study. A detailed review of the literature could cause a misinterpretation of data being collected by increasing the likelihood that the researcher would translate the findings of other studies to the study at hand. The review included studies of children and adolescents ranging from 8 through 18 years of age because the studies reviewed focused on a wider age range than just early adolescents.

Studies were included if they investigated early adolescents’ beliefs or behaviors related to physical activity or nutrition in any setting using a qualitative or mixed-methods design. Studies were not excluded based on the participants’ health or obesity status. Qualitative studies that did not specifically investigate the beliefs or behaviors of early adolescents regarding physical activity or nutrition were excluded. Additionally, studies not published in English were excluded.

Specifically, research studies published in English were searched using MEDLINE via PubMed (1946-present). Other databases searched include ProQuest Public Health (1963-present), CINAHL Plus with Full Text via EBSCOhost (1931-present), and Web of Science (1900–present). The researcher filtered results of the
database searches by age. Additionally, research studies were searched using various combinations of keywords. The following keywords were used to search for studies of physical activity beliefs and behaviors: (1) beliefs, (2) practices, (3) behaviors, (4) physical activity, (5) physical development, (6) exercise, (7) motor activity, (8) physical fitness, (9) physical endurance, (10) exercise tolerance, (11) health promotion, (12) perception, (13) awareness, (14) health knowledge, (15) attitudes, (16) attitude to health, (17) public opinion, (18) wellness, and (19) qualitative research. The following keywords were used to search for studies of nutrition beliefs and behaviors: (1) beliefs, (2) practices, (3) behaviors, (4) nutrition, (5) healthy eating, (6) diet, (7) dietary consumption, (8) energy consumption, (9) health promotion, (10) perception, (11) awareness, (12) health knowledge, (13) attitudes, (14) practice, (15) attitude to health, (16) public opinion, (17) wellness, and (18) qualitative research.

**Adolescent Physical Activity Beliefs and Behaviors**

The initial search of the electronic databases for studies about adolescent physical activity beliefs and behaviors yielded 655 publications. Abstracts of these publications were reviewed. Of the 655 initial abstracts reviewed, only 20 qualitative studies related to physical activity beliefs and behaviors of adolescents were identified. The 635 studies that did not include a qualitative or mixed-methods design, relate to physical activity beliefs or behaviors, or include early adolescents were excluded.

Fourteen of the 20 studies focused on adolescent beliefs about physical activity as opposed to perceptions of their physical activity behaviors. None of the studies investigated only behaviors, and six studies investigated both beliefs and behaviors. In the 20 studies, early adolescents acknowledged the health benefits associated with their participation in physical activities and described their beliefs about barriers to their physical activities. These beliefs were related to safety, cost and time, community
support, sex, chronic illness, obesity status, culture, geographic location, and after-school responsibilities.

**Recognition of Health Benefits**

Adolescents in this body of research identified their beliefs about the physical and psychological health benefits of physical activity in six studies. Adolescents in studies by Riggs (2013) and Tuagalu (2011) reported believing that physical activity is a key contributing factor improving fitness levels as well as health. Adolescents in three studies reported the belief that participation in physical activity improved the overall status of their mental health (e.g., increased confidence levels), stimulated positive changes in attitude, increased attention span, and motivated self-development (Aldinger et al., 2008; Ketteridge & Boshoff, 2008; Stych & Parfitt, 2011). Obese adolescents in another study identified similar beliefs regarding the positive psychological effects of physical activity, including relaxation, fostering friendship, building skills, and preventing poor mental health status (Lee et al., 2009). Obese adolescents in the study conducted by Lee et al. (2009) reported the belief that physical activity prevents health decline, which eventually leads to high cholesterol and stroke. None of the adolescents in the 20 studies reported the belief that physical activity does not have any benefits.

**Perceived Barriers to Physical Activity**

**Safety.** Regarding the barrier of outdoor safety, adolescents in four studies referenced safety as a primary concern in neighborhoods, schools, and communities (Hannay et al., 2013; Ketteridge & Boshoff, 2008; Rawlins et al, 2013; Tuagalu, 2011). The following specific environmental barriers impeding physical activity practice were referenced: unclean neighborhoods, gang activity, animal attacks, the fear of “stranger danger,” road safety, and the inability to access well-maintained walking pathways (e.g., sidewalks). None of the participants in the two studies conducted in rural settings referenced safety as a barrier to physical activity.
**Cost and time.** Adolescents in two studies reported lack of money and time as barriers to their physical activities (Hannay et al., 2013; Stankov et al., 2012). They reported that their parents did not have enough money to purchase a gym membership. Furthermore, adolescents in these two studies reported that the demands of their parents’ jobs decreased the time that their families were able to participate in physical activities together.

**Community support.** Adolescents in two studies reported the belief that a general lack of community support was an impedance to the adoption of physical activity (Ketteridge & Boshoff, 2008; Tuagalu, 2011). Adolescents in the studies conducted by Ketteridge and Boshoff (2008) and Tuagalu (2011) identified that support from community members, including school and church associates and healthcare affiliates, could be a major factor encouraging physical activities, but that this support was lacking in their communities. They also reported the belief that support from family and friends to promote long term increases in physical activity was important. Peer support from friends at school was considered to encourage physical activity in adolescents in the study by Tuagalu (2011). Participants in the study by Ketteridge & Boshoff (2008) referenced the future potential benefits of support from friends and family, but did not identify if they were presently receiving it.

**Sex.** Latino female adolescents in one study conveyed feelings of insecurity regarding changing clothes in front of other individuals in public locker rooms (Hannay et al., 2013). In this study, adolescents reported being reluctant to attend physical education classes conducted during school hours due to not wanting to change attire, having issues with exercising in the presence of the opposite sex, and having appearance-related issues with exercise (e.g., sweat accumulation). However, the Latino female adolescents’ beliefs that physical activity reduces attractiveness and increases the persona of masculinity were not reported by participants of other ethnicities (i.e.,
White, African American, Chinese, Swiss, Australian, German, Taiwanese, Scottish, and Somalian adolescents) in the other studies reviewed.

**Chronic illness.** Chronically ill adolescents, to include adolescents with asthma, type 1 diabetes, and cystic fibrosis, in one study reported the belief that their disease was not preventing them from participating in physical activity, but caused certain activity restrictions. These restrictions included having to stop for rest and take medications during activity - e.g., inhaler administration (Fereday et al., 2009). Chronically ill adolescents in another study identified environmental constraints related to the weather (e.g., hot and cold or dry and damp conditions related to air pollution and air quality levels that trigger asthma) as additional barriers (Williams et al., 2010).

Asthmatic adolescents in one study were less likely to practice physical activity due to feelings of overexertion related to the intensity and duration of exercise (Williams et al., 2010). Asthmatic adolescents in the study conducted by Williams et al. (2010) reported the belief that psychological factors, such as nervousness and stress, stimulated by physical activity were internal triggers for their condition. Furthermore, they reported the belief that an infection, to include colds or viruses, may be contracted while participating in physical activity.

**Obesity status.** Obese and overweight adolescents in four studies identified deficiencies in physical activity resources and safety features as impeding their physical activities (Bucher Della Torre, Akre, & Suris, 2010; Martinez-Aguilar et al., 2010; Stankov et al., 2012; Thomas & Irwin, 2009). These adolescents also reported that physical activity options were not always available based on the change of seasons (Bucher Della Torre, Akre, & Suris, 2010; Martinez-Aguilar et al., 2010; Stankov et al., 2012; Thomas & Irwin, 2009). These obese and overweight adolescents identified the following interpersonal barriers to their physical activities: lack of family support, chaotic lifestyle, stereotyping, bullying, lack of competence, low self-esteem, feelings of rejection,
laziness, persistent failure linked with giving up, genetics, physical discomforts including next day fatigue, the impact of not looking good while exercising, being out of shape, and school and social demands. In another study, overweight and obese adolescents aged 11-17 years who perceived themselves as “too fat,” regardless of their actual weight, were less likely to participate in physical activities (Fuchs et al., 2012).

Adolescents in a study conducted by Lee et al. (2009) reported the belief that the competitive nature of organized sports and physical education activities is a negative attribute of physical activity. They also reported the belief that physical activity does not promote weight reduction. Obese adolescents described feelings of psychological and physiological discomfort after exercise and self-esteem issues as reasons why they may not initiate or continue physical activity (Lee et al., 2009). According to Lee et al. (2009), this discomfort and fatigue may impair the ability to conduct other activities on subsequent days. Stankov et al. (2012) found that African American overweight and obese adolescents reported believing that physical activity was not important.

**Culture.** Early adolescents’ perceptions of physical activity varied based on their race/ethnicity and religion. Early adolescents in one study conducted by Araki et al. (2013) reported that their religion influenced their physical activity habits. Buddhist Japanese early adolescents reported believing that soccer televised from the United States was “overly aggressive” (Araki et al., 2013). Furthermore, Christian Chinese early adolescents identified feelings of sadness regarding Muslim adolescents wearing extra clothing, such as a track pant suit, while exercising in hot weather (Araki et al., 2013).

**Geographic location.** Rural adolescents aged 8-17 years in one study identified a preference for practicing certain forms of physical activity based on their perceptions of physical activity versus exercise (Swanson et al., 2013). Rural adolescents in the study conducted by Swanson et al. (2013) reported the belief that exercise is a mandatory activity requiring effort and that physical activity is optional and fun. Overall, they
prefered to practice physical activity to exercise. Rural adolescents in two studies identified the following barriers to their physical activities: lack of family support, competition, fears of injury, lack of proper technique as a result of poorly trained instructors or having no instruction at all, lack of physical activity facilities, lack of time during the day to exercise, the high cost of physical activity programs, and the need to prioritize screen-time for computer learning and gaming (Swanson et al., 2013; Walia & Leipert, 2012).

**After-school responsibilities.** Adolescents in three studies identified after-school responsibilities as a significant barrier to their physical activities (Hannay et al., 2013; Swanson et al., 2013; Tuagalu, 2011). The specific after-school responsibilities referenced by these adolescents were jobs and sibling or child care. These responsibilities were identified as a hinderance to their participation in structured forms of physical activity, including organized sports offered after school.

**Adolescent Nutrition Beliefs and Behaviors**

The initial search of electronic databases yielded 540 publications related to adolescent nutrition and healthy eating beliefs and behaviors. A review of the abstracts of these publications revealed that only 13 of the publications were qualitative studies related to early adolescents' beliefs and behaviors of nutrition. There were 527 studies that did not meet the inclusion criteria of having a qualitative or mixed-methods design, investigating nutrition beliefs or behaviors, and including early adolescents in the sample. Only the 13 studies meeting the inclusion criteria were incorporated in the review.

Ten of the 13 studies focused on adolescent beliefs about nutrition or healthy eating as opposed to perceptions of their behaviors related to nutrition or healthy eating. None of the studies investigated only behaviors, and three studies investigated both beliefs and behaviors. In the 13 studies, early adolescents acknowledged the health
benefits associated with proper nutrition, healthy eating, and nutritious foods. The early adolescents also described their beliefs about barriers to their nutrition and healthy eating. These beliefs were associated with the influences of the aesthetics of fruits and vegetables, cost and time, sex, peers, home, and school. The review of literature about nutrition and healthy eating will be discussed using the term nutrition, which encompasses the studies about healthy eating as well.

**Recognition of Health Benefits of Good Nutrition**

Adolescents in five studies identified a number of health benefits related to good nutrition (Crofton, Markey, & Scannell, 2014; Krolner, Rasmussen, Brug, Klepp, Wind, & Due, 2011; Peykari, 2011; Riggs et al., 2013; Verstraeten et al., 2014). Adolescents in the study conducted by Krolner et al. (2011) strongly valued the immediate positive health benefits, to include increased attention span, motivation, and academic performance, of eating fruits and vegetables. Furthermore, adolescents recognized proper nutrition as preventing illness and improving physical appearance - i.e., attractiveness (Crofton, Markey, & Scannell, 2014; Krolner et al., 2011; Peykari, 2011). Specifically, adolescents in the study conducted by Peykari (2011) referenced proper nutrition as preventing osteoporosis later in life. Early adolescents in the study conducted by Riggs (2013) recognized that the increased intake of fruits and vegetables promotes digestion and prevents constipation. Early adolescents also identified that eating fruits and vegetables increases skin health (Riggs et al., 2013). Another study indicated that adolescents perceived their nutrition choices as being linked with the feeling of increased autonomy (Verstraeten et al., 2014).

Adolescents in one study reported the belief that breakfast is important in promoting intellectual capacity and focus (Bailey-Davis, 2013). Adolescents in this study also reported the belief that consuming breakfast promotes health and mood stabilization. Although these adolescents understood the consumption of standard
breakfast foods (e.g., pancakes, sausage, eggs) as a healthier option than snack foods (e.g., cake, candy, and chips), they did not identify any specific healthier alternative breakfast foods (e.g., whole wheat pancakes, egg whites, turkey sausage). These adolescents also identified the importance of convenient breakfast food items (e.g., cereal) for their hectic morning routine.

**Perceived Barriers of Good Nutrition**

**Aesthetics of fruits and vegetables.** In studies by He et al. (2012) and Krolner et al. (2011), adolescents reported the belief that certain characteristics of fruits and vegetables decreased the likelihood that they would eat them. Specifically, adolescents in the study by Krolner et al. (2011) reported that the taste, color, smell, and texture of fruits and vegetables influence consumption. Adolescents in the study by Krolner et al. (2011) reported decreased consumption of foods that were perceived as bad smelling, wet and soft, bruised, or discolored (Krolner et al., 2011). Furthermore, adolescents in the study by He et al. (2012) cited taste as an important factor in their consumption of fruits and vegetables. Adolescents in the study by He et al. (2012) reported eating less fruits and vegetables that were of poor quality (e.g., “dryness” and “gooeyness”).

**Cost and time.** Adolescents in two studies reported lack of money and time as barriers to eating nutritious foods (Berge et al., 2012; Verstraeten et al., 2014). Adolescents in these studies reported that their parents did not have enough money to purchase healthier food options. Furthermore, these adolescents reported that their frequently changing and tight schedules decreased the time that their families had to prepare healthier food options.

**Sex.** Differences in sex regarding adolescent nutrition beliefs were identified in one study (Peykari, 2011). Female adolescents in this study perceived poor nutrition as being connected with food poisoning and unhealthy dieting (Peykari, 2011). Male adolescents in the same study perceived poor nutrition as being connected with food
poisoning, but also associated it with gastrointestinal issues, impaired physical growth, and diseases (Peykari, 2011).

Differences in sex related to adolescent nutrition behaviors were identified in two studies (Harrison & Jackson, 2009; Peykari, 2011). Adolescent females in one study indicated that their male counterparts consumed three times more than they did (Peykari, 2011). Both male and female adolescents in this study reported the belief that females require less energy and that males are more active. Female adolescents in this study reported the belief that they need to increase dairy consumption to prevent osteoporosis, regulate food consumption to control physical appearance, and increase iron intake to prevent anemia.

Peer influence. The influence of peers on adolescent beliefs and behaviors related to nutrition was identified in four studies (Bailey-Davis, Virus, McCoy, Wojtanowski, Vander Veur, & Foster, 2013; Christiansen, Qureshi, Schaible, Park, Gittelsohn, 2013; Karimi-Shahanjarini, Omidvar, Bazargan, Rashidian, Majdzadeh, & Shojaeizadeh, 2010; Krolner et al., 2011). Adolescents in these studies described other students at school and their friends as their peers. Both male and female adolescents in these studies indicated that they preferred not to eat school provided meals (i.e., free meal plans) due to fear of scrutiny by peers. They thought that they would be perceived as belonging to a lower socioeconomic status than their peers. Adolescents in another study conducted by Peykari et al. (2011) also viewed food consumption as a social activity in which they connected with their peers and reported the belief that there is a generational difference in food preference. Adolescents in this study reported the belief that their generation prefers fast foods, snacks, and ready-made foods as opposed to traditional foods (Peykari et al., 2011).

Home. Adolescents in one study identified their preferences for the setting in which meals were prepared. Eating breakfast at home was the main preference
identified by adolescents in this study (Bailey-Davis, 2013). This preference was connected with concerns regarding the cost of desirable breakfast items at school and the peer scrutiny associated with consuming the standard free breakfast. This group of adolescents also identified the practice of consuming multiple breakfasts in one morning (e.g., eating at home and at the corner store). The rationale for multiple breakfast consumption was that one breakfast was not filling. Furthermore, adolescents aged 9-13 years in the study by Dammann and Smith (2010) reported a preference for eating only their mother’s cooking.

Adolescents in four studies identified four major barriers to nutrition behaviors at home. The first barrier was the time constraint of parental work and adolescent school schedules (Berge, Arikian, Doherty, & Neumark-Sztainer, 2012; Verstraeten et al., 2014). The second barrier was the socioeconomic status of the adolescent’s family (Verstraeten et al., 2014). Adolescents in the study conducted by Verstraeten et al., (2014) reported the belief that the cost of healthy food options was impeding their availability at home. The third barrier was the availability of unhealthy foods at home and in convenience stores near home that promoted uncontrolled eating of unhealthy foods (Dammann & Smith, 2010). The fourth barrier was that adolescents reported feeling enticed to eat unhealthy foods at convenience stores, carry-out restaurants, and fast food chains close to their homes (Christiansen, Qureshi, Schaible, Park, & Gittelsohn, 2013). Adolescents in two studies identified individuals (e.g., parents/guardians and siblings) in the home setting who motivated them to adopt healthier nutrition behaviors (Berge et al., 2012; Christiansen, Qureshi, Schaible, Park, & Gittelsohn, 2013).

**School.** The school setting was frequently referenced by adolescents in four studies when discussing nutrition beliefs and behaviors. Adolescents in one of these studies expressed dislike for all meals prepared at school, including breakfast (Rawlins, Baker, Maynard, & Harding, 2013). They indicated that school meals were tasteless,
often overcooked, and visually unappealing. Adolescents in two of these studies reported the belief that easily accessible school meals lacked appropriate nutrition (Krolner et al., 2011; Verstraeten et al., 2014).

**Summary**

The standards, guidelines, and current research described in the literature review provide a snapshot of the state of research and policy related to early adolescent physical activity and nutrition. Standards and guidelines have been developed to promote physical activity and nutrition. Some, but not all, adolescents are meeting the guidelines. Research of early adolescents’ physical activity and nutrition beliefs and behaviors is limited. Only 30 qualitative studies of adolescent physical activity and nutrition beliefs and behaviors were identified in the literature in the last eight years.

In these studies, there were some commonalities in the physical activity and nutrition findings. Adolescents in both the physical activity and nutrition studies identified safety issues such as food safety and safety-related physical activity barriers. Also, there were differences in perceived barriers to physical activity and good nutrition between males and females. For example, female adolescents expressed concerns regarding their appearance when exercising and eating. Adolescents also reported that the high cost of nutritious foods posed a significant barrier to increasing their consumption of healthier food options. Furthermore, adolescents reported that their parents’ jobs and hectic schedules prohibited their families from preparing nutritious foods at home. Similarly, adolescents referenced the cost of joining a gym and the time required to complete physical activities after school as barriers to increasing their activity levels.

Although previous studies have explored adolescents’ beliefs and behaviors regarding physical activity and nutrition, additional research of early adolescents’ beliefs and behaviors regarding physical activity and nutrition is needed. Further investigation of the physical activity and nutrition beliefs and behaviors of early adolescents should focus
on adolescents 10-14 years of age, which is a critical period during which beliefs and behaviors about physical activity and nutrition are being developed. Also, it is important to study both physical activity and nutrition together because the interplay between these and other factors is what oftentimes leads to obesity. The study design and methods will be discussed in detail in chapter three.
CHAPTER 3

METHODS

In this chapter, research methods are presented for this ethnographic study of early adolescents’ physical activity and healthy eating beliefs and behaviors in an urban cluster in the southeastern part of the United States. The study’s setting is described, with a focus on aspects of the setting related to physical activity and healthy eating (e.g., restaurants and parks). The participants are described, including selection rationale, sampling characteristics, and recruitment strategies. The three data collection methods (semi-structured interviewing, participant observation, and artifact collection) and the data analysis process are explained. Finally, the four components of trustworthiness – credibility, dependability, transferability, and confirmability – are reviewed with respect to assessment of the validity and reliability of the study.

Setting

Community

A small urban cluster in the southeastern part of the United States was selected as the setting for this study because (a) it contains a high concentration of early adolescents residing in an urban cluster, and (b) the researcher has had recent extended experience working in and learning about this community. A community organization was selected as the research site because a large number of early adolescents regularly attend this organization after school and in the summer. Also, this site featured components of physical activity and healthy eating that played a key part in the daily lives of the early adolescents. There were multiple opportunities for the
researcher to observe and interact with early adolescents without disturbing their structured activities at the community organization.

The total population of the community where the community organization is located was 6,778 individuals in the last census taken before the research was conducted (US Census Bureau, 2010). Approximately 63% of the total population was African American, and 35% was White (US Census Bureau, 2010). Individuals of Hispanic or Latino origin comprised 1.5% of the total population (US Census Bureau, 2010). There were slightly more females (57.1%) than males (42.9%) in the community, and approximately 20% of the individuals were 5 to 17 years of age (US Census Bureau, 2010). The median household income averaged $24,347 per year in the community, which was approximately half of the average annual household income for other residents in the state where the research was conducted (US Census Bureau, 2010). Furthermore, 30% of the community’s residents were considered to be living in poverty (U.S. Census Bureau, 2010).

There was one middle school located in the community. This middle school was comprised of the sixth, seventh, and eighth grades, which included early adolescents ranging in age from 11 to 14 years. The middle school was not selected as a research site because the physical education courses were not offered on a regular basis, which would make it difficult to observe the participants’ physical activity behaviors. Approximately 48% of the total middle school population was African American, and 48% was Caucasian (Governor’s Office of Student Achievement, 2011). In the middle school, 2% of the students were of Hispanic or Latino origin, and 1% of the students were of Asian origin (US Census Bureau, 2010). Two percent of the middle school students were multiracial (Governor’s Office of Student Achievement, 2011). The middle

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1 Caucasian was the term used in the cited reference.
school participated in the national school lunch program, which was overseen by the United States Department of Agriculture and the state’s Department of Education. The national school lunch program ensures that students are provided with two meals (breakfast and lunch) each school day. Approximately 71% of the middle school students in the community were eligible for meals at no or a reduced cost (Governor’s Office of Student Achievement, 2011).

There were eight community organizations in the urban cluster. These organizations provided services such as mental and physical healthcare and professional development. Two of these community organizations offered programs that featured physical activity and/or healthy eating for early adolescents. The Family YMCA, which had two locations in the urban cluster, was a community organization that was focused on providing physical activities in underserved areas. The Family YMCA in this community was not used as a research site because this organization did not have a structured after-school program that featured both physical activity and healthy eating, but instead the organization’s after-school program focused its services only on physical activity.

There were 39 restaurants and 6 grocery stores located in the community. Twenty of the restaurants served fast-food (e.g., Popeye’s Louisiana Chicken and Zaxby’s Restaurant) and catered to traffic from the nearby interstate, which crossed through the community as it intersected a U.S. highway. There were three diners, six restaurants serving ethnic cuisine (e.g., Mexican and Chinese), and 16 restaurants serving American cuisine (e.g., seafood, BBQ, and Southern cuisine) in the community. Over half of the grocery stores were locally owned (e.g., Happy Valley Grocery, KJ’s Market, Polo Grocery, and La Guadalajara). Two franchise grocery stores, Bi-Lo and Walmart Supercenter, also were located in the community.
Walking and bicycling were restricted in the community because there was a limited number of sidewalks and bike lanes. The closest walking or bicycle trail to the center of town was located in the nearby state park, approximately 22 miles from the community. Public transportation also was limited. There was one bus station for travel between towns and one taxi service for local transportation within the town. Two city parks were located in the community. One of the city parks, which encompassed 85 acres, included nine baseball/softball fields, two football fields, a half-mile walking track, and two playgrounds. The other city park was comprised of two fields used for football and baseball or softball, two outdoor basketball courts, and a skate park. An organization that provided recreation and leisure services in the community offered soccer, baseball, girls’ fast-pitch softball, golf, competitive cheerleading, basketball, and football at a minimal fee to community members. This organization provided recreation and leisure services for the community and used one of the city parks as the primary site to conduct its physical activities.

Community Organization

The community organization where this study was conducted served children and adolescents aged 6-18 years by offering programs aimed at promoting health as well as social, educational, vocational, and character development. Membership was required for participation in all programs offered by the community organization, including the after-school program. All programs at the community organization were offered to all children and adolescents enrolled in school in the community. However, certain specialized programs were prioritized for children and adolescents who were at an economic, social, or academic disadvantage.

In 2015, the community organization where the research was conducted consisted of 69 members who were 10-14 years of age; these members comprised 56% of the club membership (B. Gregory, personal communication, September 22, 2014).
The majority of the 69 early adolescents in the community organization were of a lower socioeconomic status than other early adolescents in the community (J. McCoy, personal communication, October 30, 2014). There was a $10.00 membership fee for the after-school program. If Amerigroup or Wellcare insured the early adolescents, these companies paid the $10.00 registration fee. Amerigroup and Wellcare are corporate insurance agencies that provide insurance to underserved children and adolescents through government sponsored programs such as Medicaid. The community organization offered an after-school program for first through twelfth grades from 2:30 p.m. to 7:00 p.m. on school days. During the after-school program, homework was completed, and snacks and physical activity options were provided. The community organization operated on the principles of academic success, character development and leadership, and healthy lifestyles. A program aimed at promoting health was established within the after-school program at the community organization. The program focused on increasing healthy behaviors in the members of the community organization to promote the health of the mind, body, and soul.

Early adolescents’ activities at the community organization were structured. The early adolescents rotated through a daily schedule at the community organization that was organized based on grade level. When early adolescents arrived at the community organization, they started with snack time for thirty minutes to one hour. Next, they rotated through the physical activity, academic, and art or creative learning components of their activities at the community organization. They ended their daily activities at the community organization with dinner.

The community organization had one director and a daily average of six staff members who guided the children and adolescents through their structured activities. The staff had different roles based on the area of the community organization where they worked that particular week. For example, if they were responsible for children and
adolescents in the gym, a staff member assumed the role of a coach. Two individuals consistently assigned as cooks in the kitchen were responsible for preparing the children’s and adolescents’ snacks and meals.

The physical structure of the community organization was functional and was opportunistically located in an open grassy space with a few trees in the middle of a housing project. The organization’s building was constructed from white cinder blocks and had large square windows in the front. To the right of the cinder block building was a large green playground under a yellow protective overhang. To the left of the cinder block building were square raised garden beds that contained remnants of dead plants from the previous growing season.

In the entryway of the community organization’s building, there was a bulletin board containing names and photographs of star members of the month and special announcements. Early adolescents were checked in to the community organization at a desk at the end of the hall. A white board hanging on the hallway wall displayed the members’ daily rotation of activities. Three classrooms, a business office, the director’s office, and restrooms were accessible from the hallway. There were cubicles in front of the restrooms where the members could store their belongings. The main hallway led directly into a large gymnasium.

There was a large basketball court with goals on either side of the gymnasium. There were red and yellow exercise machines to the right, and a drink machine and two weight scales were to the left of the gymnasium. Two sets of bleachers lined the walls in the back of the gymnasium. To the right of the bleachers were metal crates filled with balls such as basketballs and foam balls. There also was a shelf for the storage of yoga mats. A dining room, containing ski ball and pool tables, was located toward the back of the community organization behind the gymnasium. A large MyPlate banner hung at the front of the dining room. MyPlate is a diagram that illustrates the five foods groups (fruits,
vegetables, grains, protein, and dairy) that should be included in a meal. A kitchen with an open window for serving food was adjacent to the dining room.

**Participants**

**Rationale for Participant Selection**

Male and female early adolescents who were 10-14 years of age, had been residing in the community for at least a year, and were attending the community organization were eligible to participate in the study. Early adolescence is the first developmental stage in adolescence; it occurs between 10 and 14 years of age and is marked by the onset of puberty and increased growth (AAP, 2014). Originally, the researcher intended for the study to include a racially diverse group of adolescents for the purpose of identifying a wide range of adolescents’ physical activity and healthy eating beliefs and behaviors in the community. However, participant characteristics were less diverse than expected due to the community organization being mainly comprised of Black and African American members. Early adolescents from 10 to 14 years of age were selected because this period of development is highly impacted by social interactions and environmental factors foundationally related to health beliefs and behaviors (Wang et al., 2013). Research is needed to better understand how early adolescents differ from other age groups with respect to these beliefs and behaviors (Wang et al., 2013).

**Participant Sampling Technique**

Fifteen early adolescents in the community organization were selected for the study using purposive sampling, which is a sampling technique in which individuals are selected for participation in a study based on their knowledge and experiences with the research topic (LeCompte & Schensul, 2010; Morse, 1997). One male early adolescent

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2 Black or African American were the terms used by the participants when asked how they racially identified themselves.
withdrew from the study after completing the first interview. He did not provide a reason for dropping out of the study. However, the researcher observed that he was participating in a number of school sports that were limiting his time at the community organization. Male and female adolescents were included in the study if they were 10 – 14 years of age at enrollment, were members of the community organization, and had resided in the community for at least one year. Adults, including parents and teachers, were excluded from the study.

Using purposive sampling, a variety of early adolescents were selected for participation in the study. The goal was to select early adolescents who represented different knowledge and experiences related to physical activity and healthy eating based on their varying age, weight, and sex. As early adolescents of one age, weight, or sex group participated in the study, the researcher targeted other early adolescents who belonged to another age, weight, or sex group to participate in the study. By selecting early adolescents who varied according to these characteristics, the researcher increased the chance that the adolescents would have different knowledge and experiences related to physical activity and healthy eating. Also, as early adolescents were selected for participation in the study, they were asked to provide the names of additional individuals they knew who might be willing to take part in the study and may have experiences and knowledge about physical activity and healthy eating that they wanted to discuss. It was not possible for the researcher to select a sample that was racially diverse because the community organization had a racially homogenous population.

The number of participants chosen was determined by applying the principle of data saturation. Data saturation for this study was reached at the point when the early adolescents explained their physical activity and nutrition beliefs and behaviors well enough that rich, thick, descriptive data were provided to answer the research questions
and no new information regarding the questions being asked emerged (Denzin & Lincoln, 2011). After interviewing 15 early adolescents, the researcher stopped enrollment because no new information related to their physical activity and nutrition beliefs and behaviors was being provided during their interviews, participant observation, discussion of artifacts, or mapping activity.

**Participant Recruitment and Enrollment**

To gain entry into the community organization for initiating the recruitment and enrollment process, the researcher met with the director of the community organization in October 2014. At this meeting, the researcher explained the study to the director and asked for authorization to conduct the study at the organization. The researcher obtained approval from the local and regional directors of the community organization to conduct participant observations and interviews during the community organization’s after-school program. The winter after-school program was held during weekdays (Monday – Friday) from 2:30 p.m. to 7 p.m. and on holidays from 8:30 a.m. to 5:00 p.m. The summer program was held during weekdays (Monday – Friday) from 9 a.m. to 5 p.m.

The researcher received IRB approval (see Appendix A) in January 2015. The researcher established individual contact with parents of adolescents when they were arriving at the organization for the winter after-school program from 2:00 p.m. to 3:00 p.m. and also when they were departing from the organization between 6 p.m. and 8 p.m. during regular hours of operation and 5 p.m. on holidays. She was available for one hour at the end of the winter session after-school program (6-8 p.m. during regular hours of operation and 4-6 p.m. during holidays). The researcher had parent permission forms and assent forms (see Appendices B and C) available when establishing individual contact with the parents and their early adolescents.
Originally, the researcher planned to ask the community organization’s staff to distribute parental meeting invitations to the adolescents. These were IRB-approved flyers containing details about the parent permission meetings (see Appendix D). In addition, the researcher planned to ask the director of the community organization to distribute the parental meeting invitations to the parents by email. The researcher planned to confirm receipt of the invitation by having the adolescents’ parents sign a slip of paper that was to be returned to the staff and researcher.

However, the researcher discovered in the field that the IRB-approved flyers were not needed. The researcher was able to communicate with the parents each day as they dropped off and picked up their children from the community organization. Some parents did not seem to be interested in reading hard copy informational materials; they preferred that the researcher briefly speak with them in person while they were on site at the community organization. The researcher also discovered that the community organization’s staff and director did not use email to communicate with the parents. The staff mainly communicated with parents in person.

The researcher conducted parent permission meetings in a private room at the community organization. These were individual meetings that the researcher conducted with an early adolescent and one of their parents. The researcher met with five fathers and ten mothers during the parent permission meetings. There was not a situation when the researcher met with both parents of an early adolescent during the parent permission meetings. The director of the community organization was present at these meetings to introduce the researcher to the adolescent and their parent. At these meetings, the researcher explained the study, and the parents and adolescents completed the parent permission and assent forms. Before signing these forms, the parents and adolescents were provided with as much time as needed to review the two forms, ask the researcher questions, and consider whether they would like to participate
in the study. Only one parent of each early adolescent was required to sign the parent permission form. The parents and adolescents were permitted to take the parent permission and assent forms home to review. Four parents requested to review the parent permission and assent forms at home. The researcher was available to answer questions from the parents and adolescents about the study at the parent permission meetings, by phone, and upon receipt of the parent permission and assent forms. The researcher provided the parents and early adolescents with a hard copy of the signed parent permission and assent forms after completion.

The researcher conducted parent permission and assent meetings throughout the study until enrollment had concluded. A Microsoft Excel spreadsheet containing the names of the enrolled adolescents and their corresponding alphanumeric label was maintained and stored on the secure university research drive. No identifiers were included on any of the transcripts or field notes. This spreadsheet was maintained to help the researcher identify the adolescents for their second and third interviews and also for their participant observations. The completed parent permission forms and assent forms were stored in a locked cabinet in a faculty member’s office at the university.

**Sample Characteristics**

The sample varied by age and gender, but there was very little variation in race (see Figure 2 and Table 1). Initially, the sample was 47% male and 53% female. After one male adolescent dropped out of the study, the sample was 50% male and 50% female. The majority (75%) of female adolescents were between 10 and 11 years of age, whereas the majority (72%) of male adolescents were between 13 and 14 years of age. All participants identified as African American or Black except for one participant who identified as Hispanic/White.
Figure 2. Early adolescents by age and gender. This figure illustrates the age and gender of early adolescents in the study.

Table 1. Sample characteristics. This table illustrates the age, gender, and race of early adolescents in the study.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Male (n = 7)</th>
<th>Female (n = 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black or African American</td>
<td>7 (100%)</td>
<td>7 (86%)</td>
</tr>
<tr>
<td>Mixed Hispanic and White</td>
<td>0</td>
<td>1 (14%)</td>
</tr>
<tr>
<td>Age in Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1 (12.5%)</td>
<td>2 (29%)</td>
</tr>
<tr>
<td>11</td>
<td>1 (12.5%)</td>
<td>4 (57%)</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>3 (37.5%)</td>
<td>2 (29%)</td>
</tr>
<tr>
<td>14</td>
<td>2 (25%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Early Adolescents as Participants

Early adolescence is marked by the onset of puberty and the transition from Erikson’s developmental stage of industry versus inferiority into his developmental stage of identity versus role confusion (Mooney, 2013). As early adolescents transition from the stage of industry versus inferiority where they are focused on their competency in completing activities and tasks, they become more concerned with developing their
identities and independence from their parents and family unit in the identity versus role confusion stage (Mooney, 2013). Due to the transitional nature of this developmental stage, early adolescents generally are not able to maintain their focus over as long a period of time as are older adolescents (Vakil, Blachstein, Sheinman, & Greenstein, 2009).

The developmental considerations of early adolescents were taken into account when using the semi-structured interview guide, which was relatively long because it included questions about both physical activity and nutrition. The researcher used three strategies to enhance the early adolescents’ focus and engage them in the interview process. The first strategy was that the researcher used the semi-structured questions over two to three separate interview sessions with the early adolescents. The second strategy was that the researcher kept the questions as short as possible, addressed only one issue at a time, and used a number of clarifying questions throughout the interviews. Third, the researcher used the artifacts and mapping activity to help maintain early adolescents’ attention during the interview sessions. Toward the end of the study, the early adolescents were excited about the end of their school year and the start of the summer. The researcher completed the first and second interviews before May to prevent the early adolescents from being distracted by their excitement about the end of the school year.

In this study, female early adolescents generally were more talkative and provided more information during the interviews and participant observations than male early adolescents. Three male early adolescents who were siblings provided only one or two word responses to many of the open-ended questions during one of their interviews. However, the other male early adolescents provided much lengthier responses with real life examples of their physical activity beliefs and behaviors. All female early adolescents provided multiple sentence responses with real life examples of their physical activity
and nutrition beliefs and behaviors. Additionally, interview responses from the younger male adolescents 10-11 years of age were less descriptive and shorter than the interview responses of the five older male adolescents who were 13-14 years of age.

**Data Collection**

Three data collection methods – participant observation, semi-structured interviews, and artifact collection – were used to examine early adolescents’ physical activity and healthy eating beliefs and behaviors. Data were collected over a five-month time period starting in January 2015 after early adolescents’ winter break from school. During this time, data were collected approximately four days per week at the community organization. The researcher was present at the community organization’s after-school program most days that it was offered. There were some weeks when the researcher was there less due to other research activities and holidays when the after-school program was not offered. The period of data collection beginning in January 2015 permitted the researcher to maximize the time for fieldwork in the community organization’s winter after-school program, which concludes in May each year. Data collection continued through the summer during the community organization’s summer program and concluded in June 2015. Overall, data were collected during the winter program for five months from the middle of January 2015 through May 2015 and for two weeks during the beginning of the summer program until the middle of June 2015. The first and second semi-structured interviews were completed during the winter program, and seven of the third interviews were completed during the summer program. The other seven of the third interviews were completed at the end of the winter program because the seven early adolescents did not plan to attend the summer program.

In this study, primacy was given to communication with the early adolescents during their semi-structured interviews. This study was conducted using processes of communication that involved back-and-forth discussions between the researcher and
early adolescents. As early adolescents provided information about their knowledge, experiences, and interactions related to physical activity and healthy eating, the researcher strived to gain a more in-depth understanding of this information by asking additional questions to clarify the meaning of their communication. As early adolescents provided additional follow-up information, the researcher strived to clarify the meaning of the information that the adolescents were providing by asking additional questions. Using this back-and-forth process of communication involving hermeneutic and dialectic discussions, the researcher clarified the meaning in the adolescents’ responses so that the researcher could gain a better understanding of the realities related to their physical activity and healthy eating beliefs and behaviors. The following three data collection methods – semi-structured interviews, participant observation, and artifact collection – are described separately to provide clarity for the reader. However, data collection methods were used simultaneously as opportunities were presented.

**Participant Observation**

**Participant observation overview.** Wolcott (2008) suggests that there are three key phases of participant observation: experiencing, enquiring, and examining. To initiate the implementation of participant observation, the researcher included experiencing through observation as well as enquiring through participation (Wolcott, 2008). The researcher implemented participant observation using a dynamic back-and-forth process between observation and participation as opportunities presented themselves. During the experiencing phase of participant observation, the researcher focused primarily on observation rather than participation. The researcher observed patterns of interactions and exchanges during this phase, using active and passive listening skills. While in the experiencing phase, the researcher attempted to establish rapport by being present at the field site over a prolonged period of time.
During the enquiring phase to gain further insight, the researcher transitioned out of her role as an observer to initiate hermeneutic discussions with early adolescents regarding their beliefs about what they knew as the truth related to their interactions and exchanges. These hermeneutic discussions generated an understanding of early adolescents’ beliefs, which served to contextualize their interactions and exchanges that were related to their behaviors. The phases of experiencing and enquiring were analyzed using the ongoing process of thematic analysis of field notes and the researcher’s journal.

The examining phase of participant observation occurred when the researcher contextualized the behaviors that she observed in the field with early adolescents’ stated beliefs (Guba & Lincoln, 1985; Wolcott, 2008). To contextualize the observed behaviors with the beliefs, the researcher compared the adolescents’ physical activity and healthy eating stated beliefs with their behaviors related to physical activity and healthy eating. For this study, behavior was defined as the researcher’s actual observations of what the early adolescents did in their environment, as opposed to what they verbalized they did (LeCompte & Schensul, 2010). A belief was defined in this study as an early adolescent’s explanation of the concepts, experiences, interactions, and objects that constituted the nature of their society (Hicks, 2002).

The researcher focused on whether early adolescents’ physical activity and healthy eating beliefs were expressed in their physical activity and healthy eating behaviors. The researcher considered (a) what the adolescents were eating and how they were being physically active; and (b) how their physical activity and healthy eating beliefs were different from or consistent with their behaviors. The process of contextualizing and examining the adolescents’ beliefs with their behaviors generated thick descriptive data that provided detailed information regarding early adolescents’
physical activity and healthy eating beliefs and behaviors as they occurred at the field site.

**Participant observation implementation.** Using participant observation, the researcher was immersed in the community from the beginning of the early adolescents’ winter program in January 2015 through the first couple of weeks of their summer program in June 2015. During this time, the researcher observed and participated in the culture approximately four days per week depending on the community organization’s schedule as well as the schedules of early adolescents and their parents.

The researcher used a short, intense observational period of “experiencing,” starting after the adolescents’ winter break in 2015 to reorient herself to the rural community. Previously, the researcher completed a project with a university program in the community where this study was conducted. She collected community assessment data using semi-structured interviews and focus groups in the community for approximately eight months and worked with a colleague to write a report on these data for approximately four months in 2013. During the reorientation time, the researcher looked for details in the community regarding adolescents’ living patterns related to physical activity and healthy eating, focusing on areas of the community where the adolescents ate and were active. The researcher documented this process using official field notes and artifact collection (e.g., informational pamphlets, marketing posters, and newspaper articles related to healthy eating and physical activity).

Once the reorientation period was completed and IRB approval was received, the researcher was ready to start participant observation at the community organization by conducting observations at the beginning of the adolescents’ winter program in 2015. The researcher met with the director and staff before initiating participant observation. The director introduced the researcher to each of the staff. Furthermore, the director explained the researcher’s role to the staff during this meeting. He explained that the
researcher would observe and interact with early adolescents who enrolled in the study. The researcher began by observing at the community organization during their after-school program. The researcher focused observations in areas related to physical activity and healthy eating (e.g., the snack area and playground).

After the parents provided their permission and early adolescents completed their assent form, the researcher began to interact with early adolescents and ask questions related to her observations. Field notes documented during the observation period were reviewed to guide the researcher on the best ways to interact with the adolescents. For example, the researcher noted in the field notes that male adolescents valued their time allocated for playing basketball. Therefore, she did not conduct interviews with male adolescents during their designated time for playing basketball. The researcher sought clarification from early adolescents regarding observations of their interactions and experiences. The researcher focused on interacting with the adolescents in areas of the community organization related to physical activity and healthy eating. Areas of the community organization that were related to physical activity and healthy eating included the gymnasium and dining room.

**Field notes.** Three types of field notes were used to collect data during participant observation: jottings, the researcher's journal, and official field notes (Bernard, 2006). Jottings were shorthand notes that the researcher wrote while interacting with adolescents or observing (Bernard, 2006). These shorthand notes reminded the researcher to write an official field note regarding the jotting's content later. The researcher's journal was the researcher's personal journal in which reflective notes were recorded (Bernard, 2006). Official field notes were detailed notes of the individuals, interactions, objects, and situations that the researcher experienced during participant observation (Bernard, 2006).
Official field notes can be categorized as descriptive, methodological, or analytical (Bernard, 2006). The researcher incorporated descriptive, methodological, and analytic field notes as one set of field notes that were documented in two composition notebooks and were later transcribed and coded. Descriptive field notes were detailed documentations of the research site and the adolescents that were constructed as the researcher listened, observed, and interacted with the early adolescents (Bernard, 2006). Methodological field notes were notes taken “to document the technique used to collect data” (Bernard, 2006, p. 297). Analytic field notes were notes taken to document the “social organization” of the culture of early adolescents being studied (Bernard, 2006, p. 299). The researcher documented analytical field notes during the process of data analysis.

The researcher used the researcher’s journal to reflect on the observations made in the official field notes. This helped the researcher gain a better understanding of her observations and discussions with early adolescents and determine what type of additional information was needed. All official field notes were documented within twenty-four hours of a site visit to ensure that the researcher recalled details and thoughts about her observations and interactions as accurately as possible.

The researcher referred to the methodological field notes to evaluate how to better conduct participant observations throughout the study. For example, if a particular interaction with an adolescent went well and data related to a newly emerging theme were obtained, the researcher referenced the methodological field notes to determine the specifics of the interaction that contributed to its success. The researcher referenced the descriptive and methodological field notes to build the analytical field notes required during data analysis.

Field notes from participant observations were documented using either a digital audio recorder or hard copy format in a notebook. All field notes were recorded using the
alphanumeric labels to identify the adolescents in the observations. In this way, all field notes were de-identified during the documentation and transcription processes. All of the field notes that were documented in hard copy format were transcribed into electronic format. After transcription, the researcher organized the data, including all of the field notes, using the qualitative data analysis computer software package, NVivo. All of the field notes were stored electronically on the university’s research drive.

Artifact Collection

After IRB approval of the study, the researcher collected artifacts directly from the community. The collection of artifacts from the early adolescents began after the parent provided permission for their adolescent’s participation in the study and the early adolescent gave assent. The artifacts collected within the community included photographs as well as publically displayed health pamphlets (Angrosino, 2007). The researcher took digital photographs of the community and non-human objects related to early adolescents’ physical activity and healthy eating beliefs and behaviors. For example, the researcher took photographs of restaurants, parks, and the Family YMCA. The researcher used the artifacts collected from the community to further understand information that early adolescents provided during their interviews, mapping activity, and discussion of the artifacts that they brought from home. For example, if early adolescents referenced doing gymnastics at the Family YMCA, the researcher could use a pamphlet from this organization to learn more about its gymnastics program.

Early adolescents were asked to bring artifacts (objects that had meaning to them regarding healthy or nutritious foods or physical activities) to the interview. The researcher examined the artifacts to explore their relationship to the adolescent’s interactions, experiences, and knowledge of physical activity and healthy eating. Early adolescents used these artifacts during the interview as props to help them respond to the questions. The researcher observed that the use of artifacts helped early
adolescents provide additional information related to their physical activity and nutrition beliefs and behaviors during their interviews. Each artifact had a special meaning to the early adolescents that they excitedly shared with the researcher. Early adolescents appeared to become restless or bored at the end of some interviews. However, they became more engaged and regained interest in the interview process when they discussed their artifacts. A digital recording of early adolescents’ discussions regarding the artifacts was included as part of the interviews and was analyzed by the researcher.

Originally, the researcher intended to photograph artifacts that early adolescents provided during the interviews. The photographs did not contain human identifiers. However, the researcher detected that early adolescents' parents were reluctant for the researcher to photograph while on site at the community organization. For example, as she was photographing one of the basketball goals, the researcher overheard two parents asking the director why the researcher was taking photographs of their children, although no children were included in the photograph. Furthermore, as the researcher was taking a photograph of the outside of the community organization, one parent asked the researcher if she was taking a photograph of their vehicle’s license plate. Therefore, the researcher discontinued the use of photography while on site at the community organization. Instead of using photographs during data analysis, the researcher used recorded discussions of the artifacts and her detailed field notes that included a description of the community organization and the community.

**Semi-Structured Interviews**

The semi-structured interview is an interview format with questions designed before the implementation of the interview in such a way that allows for flexibility during the interviewing process to incorporate questions eliciting additional information about a topic relevant to a developing theme (Wengraf, 2001). It provided the researcher with a method of interviewing that was adaptable and less rigid than a completely structured
interview. The researcher developed the semi-structured interview guide based on the literature review and the study's conceptual framework. Conducting interviews using a flexible interview guide was helpful when an adolescent provided valuable information related to physical activity and healthy eating beliefs and behaviors spontaneously during an interview. If information occurred spontaneously while using a semi-structured interview guide, the researcher redirected the interview format to ask the early adolescent about additional related information.

**Interview guide composition.** Three semi-structured interviews were conducted with each early adolescent using an interview schedule (see Appendix E). The first and second interviews focused on questions related to identifying early adolescents’ physical activity and healthy eating beliefs and practices. The third interview was used to follow-up with early adolescents about questions, concepts, and themes identified during the researcher’s review of the first and second interview transcripts, to include commonalities and differences noted among the interviews of different adolescents. Additionally, interview questions that could not be addressed during the first and second interviews were discussed during the third interview. Early adolescents’ stated beliefs conveyed during their first and second interviews were compared with their behaviors that the researcher observed in the field. The researcher addressed discrepancies between adolescents’ stated beliefs and observed behaviors during participant observation or during the third interviews.

A focus of the third interview also included informal member checking. Informal member checking is the process of confirming the information provided by adolescents at the time that it is collected (Guba & Lincoln, 1985; LeCompte & Schensul, 2010). The researcher conducted informal member checking with all fourteen early adolescents who completed a third interview. The researcher confirmed information that early adolescents
provided during their interviews by restating the information in the form of a question back to them.

**Interview implementation.** The semi-structured interviews were conducted with adolescents at the community organization. The interviews were conducted in a private room with sufficient visibility (i.e., windows) or in an open quiet area that also offered enough privacy for the interviews. The researcher asked the adolescents when they would like to schedule their interviews during their activities at the community organization. Using the semi-structured interview guide, the researcher conducted interviews for approximately one hour or until the adolescent was ready to end the interview. The researcher offered to conduct the interviews at any time in the setting that was most convenient for the early adolescent and that did not interfere with the early adolescent’s structured program at the community organization.

**Interviewing techniques.** Artifacts and a mapping activity were used during the interviews to facilitate discussion between the researcher and early adolescents.

**Artifacts.** During the assenting process, the researcher requested that the early adolescents provide artifacts they thought related to physical activity and healthy eating in their lives. An artifact is a tangible object, such as a newspaper article or a photograph, which has significant meaning to an individual regarding their culture (LeCompte & Schensul, 2010). The researcher asked the adolescents to use the artifacts to assist them in their responses to the interview questions. The researcher found that the artifacts helped the adolescents explain their thoughts, feelings, and opinions regarding the meaning of physical activity and healthy eating in their daily lives. The early adolescents brought in a variety of artifacts, such as a basketball, jump rope, apple, and granola bar.

**Mapping activity.** All adolescents also completed a mapping activity during the interview process. The mapping activity was a way of engaging early adolescents in the
interviews by asking them to mark the locations of their physical activities and eating on a map of the community (Kirby, Levin, & Inchley, 2013). The researcher used the mapping activity with the early adolescents when specific questions were asked related to the location of physical activity and eating.

**Interview transcription.** The researcher collected semi-structured interview data using a digital tape recorder. All interview data were transcribed after collection using the online transcription service, transcribeme.com. Transcribeme.com was selected because it can be used to quickly transcribe multiple voices during an interview. To ensure confidentiality, early adolescents were referenced by their alphanumeric labels during their recorded interviews that included discussions of the artifacts and the mapping activity. Each recorded interview began by the researcher stating the adolescent's alphanumeric label. No personal identification information was referenced during the interview, so no personal identifiers were transcribed. Each file was labeled with an alphanumeric label before being stored. The alphanumeric label did not contain any identifying information related to the early adolescent. All electronically transcribed semi-structured interviews were organized using the alphanumeric label and stored on the secure university research drive.

**Data Analysis**

Constant comparative analysis was used to analyze the data (Guba & Lincoln, 1985; LeCompte & Schensul, 2013). Constant comparative analysis involves separating text into units of meaning (i.e., codes) and sorting the units into groups, which are referred to as themes. The text that was analyzed consisted of the interviews (which included discussion of artifacts and the mapping activity) and field notes. The recorded interviews and hand written field notes were transcribed directly into an electronic format.
The researcher began to analyze the text by looking for units of meaning (i.e.,
codes) that represented adolescents’ physical activity and healthy eating beliefs and
behaviors. Specifically, the researcher looked for codes related to physical activity and
healthy eating beliefs and behaviors at the level of the individual and the environment.
The researcher categorized the information from the text using descriptive codes. A
descriptive code summarizes information from the text that belong in the same category
(Saldaña, 2012). An explanation of the codes can be found in Appendix F.

The researcher identified codes from the text using NVivo, which was used to
track data coding and document the development and conceptualization of the themes.
By tracking and documenting data analysis in this way, the researcher produced an in-
depth description of the data analysis process, which served as an audit trail. The review
of this audit trail increased the study’s trustworthiness by ensuring an accurate and
detailed recall of the data analysis process (Denzin & Lincoln, 2011; Guba & Lincoln,
1985).

The researcher evaluated the details, similarities, and differences between the
codes to organize them into groups (i.e., themes). These themes provided descriptive
and explanatory information regarding early adolescents’ physical activity and healthy
eating beliefs and behaviors. The researcher developed these themes by reflecting on
her observations and experiences with the adolescents in the field. Initially, the
researcher separated the codes that were related to early adolescents’ physical activity
beliefs and behaviors connected with the environment from the codes that were based
on their individual beliefs and behaviors of physical activity and nutrition. After analyzing
these codes separately, the researcher organized and consolidated them into themes. A
description of the themes can be found in Appendix G.

The researcher analyzed the artifacts that she collected in the field as well as
artifacts that early adolescents provided during the interview process. To analyze the
artifacts, the researcher examined their details (e.g., size, shape, color, and location of collection) to gain a better understanding of the meaning that the object had within the community or to the adolescents. The researcher then examined the artifacts to understand the relationship of the artifacts to early adolescents’ interactions, experiences, and knowledge of physical activity and healthy eating. Understanding this relationship provided the researcher with insight regarding early adolescents’ physical activity and healthy eating beliefs and behaviors.

The process of analyzing the data was a reflexive and recursive process that used discussions between the researcher and early adolescents to negotiate the meaning of early adolescents’ realities (Guba & Lincoln, 1985; LeCompte & Schensul, 2013). The reflexive and recursive process is the repetitive and constant examination and reconsideration of the data and findings, which ultimately results in the development of themes (Denzin & Lincoln, 2011). Data analysis is described as a stepwise process to provide clarity for the reader. However, the data were analyzed using an inductive process that included moving back-and-forth from a narrow examination to a broad examination of the text that often occurred simultaneously.

**Methodological Rigor**

The personal values and beliefs of both the early adolescents and the researcher were present and acknowledged during this study. One example of why it was necessary to establish criteria for judging the value and rigor of the research is that the study was guided by a strong connection between the researcher and early adolescents. This strong connection was created by the personal values and beliefs of both early adolescents and the researcher that were present and acknowledged during the study. In this qualitative study, the evaluation of validity and reliability were assessed by the criterion of goodness (Guba & Lincoln, 1985). The goodness criterion is established by the evaluation of trustworthiness (Lincoln, Lynham, & Guba, 2011). Trustworthiness
involves appraising the goodness of qualitative research and is comprised of truth-value, applicability, consistency, and neutrality. These components are assessed using credibility, transferability, dependability, and confirmability, respectively (Denzin & Lincoln, 2011).

Concepts of internal validity, external validity, and reliability that apply to quantitative studies are assessed in qualitative studies through the trustworthiness criteria of credibility, transferability, and dependability, respectively (Guba & Lincoln, 1985). Internal validity is the degree to which a study’s conclusion(s) are justified based on the reduction or elimination of systematic error and bias (Polit & Beck, 2008). The internal validity of qualitative research is assessed by the credibility of the research. External validity is how well the outcomes of a study can be generalized to other populations (Shadish, Cook, & Campbell, 2002). Reliability is the degree to which the study can be replicated and remain consistent in producing the same outcomes (Shadish et al., 2002). The reliability of qualitative research is assessed using dependability. Dependability is the degree to which findings are consistent with the data, which determines if the study would have similar findings if repeated in the same setting (Guba & Lincoln, 1985). The following sections describe how each one of these components was addressed in the study.

**Credibility**

Credibility is the degree to which the findings are considered to represent the experiences of the participants (Denzin & Lincoln, 2011; Guba & Lincoln, 1985). The researcher enhanced credibility by using five key elements in the study design (Guba & Lincoln, 1985). The first key element was extended immersion in the field (Denzin & Lincoln, 2011; Guba & Lincoln, 1985). The researcher conducted fieldwork for five months in the community. Although the researcher limited her fieldwork to five months in 2015, she previously had been immersed in the community in 2013 for eight months and
had visited the community intermittently in 2014. Although she did not work with the community organization during her first immersion period in the community, the researcher’s previous immersion within the community helped familiarize her with aspects of the community that related to early adolescents’ physical activity and nutrition behaviors (e.g., restaurants and gymnasiums).

During the five months in the field at the community organization, the researcher conducted her fieldwork during the community organization’s after-school program approximately four days per week. The researcher ensured that, as much as possible, the field site visits were conducted for the entire length of the after-school program activities each day. The duration and frequency of the fieldwork (i.e., five months for approximately four days per week) was contingent on the researcher’s ability to gather the detailed and thick descriptive data that were needed. Extended immersion in the field promoted continual data collection, ensuring the accuracy of capturing early adolescents’ realities in the findings.

The second key element in the study design that the researcher applied to enhance credibility was triangulation (Guba & Lincoln, 1985). Triangulation is the process of obtaining data from multiple sources (Guba & Lincoln, 1985). In this study, the multiple data sources used in triangulation were from semi-structured interviews, participant observation, collection of artifacts, and the mapping activity. The researcher implemented triangulation into the study design through verification of data from these multiple sources. Each of the data collection methods, including semi-structured interviews, participant observation, and the collection and discussions of artifacts, was implemented as described in the data collection section, and the researcher used these methods together to contextualize the observations and interactions related to adolescents’ beliefs and behaviors.
The third key element in the study design that the researcher applied to enhance credibility was review of the research plans prior to implementation (Guba & Lincoln, 1985). To start the review process, the researcher’s dissertation committee conducted a thorough review of the research proposal to critique the introduction, literature review, and methods. Two of the researcher’s dissertation committee members provided a focused review of the methods section of the proposal. These committee members had experience with the implementation and critical review of ethnographic studies. As the dissertation committee members identified areas for improvement, the researcher investigated solutions and proposed them to the committee for approval.

The fourth key element in the study design that the researcher applied to enhance credibility was to conduct continuous evaluation of how data were being collected (Guba & Lincoln, 1985). The continuous evaluation of data collection was completed as the researcher reviewed audio digital recordings of the semi-structured interview process to search for techniques that could improve interviewing skills. Furthermore, the researcher had a seasoned qualitative scholar from the dissertation committee review a recorded interview. This committee member helped the researcher evaluate the semi-structured interview to improve the researcher’s interviewing skills.

The fifth key element in the study design that the researcher applied to enhance credibility was member checking (Guba & Lincoln, 1985). Prior to the official reporting of the findings, the researcher presented the analyzed data and conclusions to a few of the early adolescents for verification. The researcher conducted informal member checking during fieldwork throughout the data collection process. The researcher asked the early adolescents to confirm the findings as they were collected. If any of the early adolescents disagreed with the findings, the researcher collaborated with the early adolescents to understand how and why the disagreement occurred. The researcher
also asked selected dissertation committee members for their opinions regarding any discrepancies in the findings.

Disagreements occurred ten times during the member checking in the third interviews. However, all ten of the discrepancies were resolved during the member checking. The researcher resolved these discrepancies by asking the early adolescents why they disagreed with certain information that the other early adolescents provided. As early adolescents provided additional information regarding their discrepancies, the researcher discovered that they actually agreed with the information that the other early adolescents provided. The early adolescents articulated the same information differently. For example, one early adolescent disagreed with another early adolescent’s statement that an apple helped promote physical activity. When the researcher asked the early adolescent to provide additional information, she indicated that an apple was not something she used during physical activity but that it did help her have energy to play.

**Transferability**

The external validity of this study was assessed using transferability, which can be defined as how well the findings fit when they are applied to another setting that differs from the setting of the study (Guba & Lincoln, 1985). The key element in this study design that enhanced transferability was the generation of detailed and highly descriptive (i.e., “thick descriptive”) data that adequately represented the researcher’s observations in the field. This thick descriptive data were important to provide a representative depiction of early adolescents’ experiences. To determine if the requirement of transferability was being achieved, the researcher asked one of her dissertation committee members who had experience conducting qualitative research to assist in assessing findings for the presence of rich, thick descriptive data. To assess for the presence of such data, the committee member considered if, and to what extent, a clear portrayal of early adolescents’ realities was offered. She examined the raw data for
the use of descriptive words and notes that were highly detailed regarding the early adolescents' beliefs and behaviors. The committee member compared the raw data with the researcher's themes to confirm that the themes accurately represented the raw data. The committee member determined that there was an adequate level of descriptive detail and narrative information in the findings (Guba & Lincoln, 1985).

**Dependability and Confirmability**

The incorporation of inquiry and confirmability audits were the key elements in the study design to enhance dependability and confirmability, respectively (Guba & Lincoln, 1985). The inquiry and confirmability audits were completed using the same process and were conducted by the same dissertation committee member. The inquiry and confirmability auditor was a dissertation committee member who specifically evaluated the overall data collection and analysis process to determine whether the collected data itself sufficiently supported the findings. This dissertation committee member had extensive experience conducting ethnographic qualitative research.

The inquiry and confirmability auditor was provided with three documents for the audits: (1) a data analysis document that contained raw data from the interviews, participant observation, discussion of artifacts, and mapping activity; (2) a second data analysis document that contained a summary of the raw data found in the first data analysis document; and (3) photographs of the maps that the adolescents used during their mapping activity. The committee member completed the audit over two days. During the audit, the committee member specifically evaluated whether the six major themes generated from data analysis were present in the raw collective data provided by the researcher. The committee member determined that the six major themes were present in the raw data grounded from the interviews, participant observation, artifacts, and mapping activity. Furthermore, the committee member confirmed that the six major
themes included data that were triangulated from the interviews, participant observation, discussion of artifacts, and mapping activity.

The researcher also included an additional element into the study design to enhance dependability. Throughout the study, two committee members who were experienced qualitative researchers evaluated the data collection and analysis processes and the initial findings. The researcher met with each of the two committee members regularly from the middle of January 2015 through March 2016 to identify issues and evaluate solutions related to the data collection and analysis processes.

**Summary**

In this chapter, research methods were described for an ethnographic study of early adolescents' physical activity and healthy eating beliefs and behaviors in an urban cluster in the southeastern part of the United States. Using purposive sampling, early adolescents were recruited and enrolled in the study at a community organization that served as the research site. Early adolescents were selected for participation in the study based on their age (10-14 years), community organization membership, and time residing in the community (at least one year). Adolescents were not excluded from the study based on their sex, obesity status, or race. The researcher conducted parental permission meetings to obtain permission from the parents and assent from the adolescents for their participation in the study.

Three data collection methods were used in this study: semi-structured interviews, participant observation, and artifact collection. Additionally, a mapping activity was used to engage early adolescents during the interviews. Field notes from participant observation, interview transcripts, artifact collection, and a mapping activity were analyzed to facilitate an understanding of the meaning of early adolescents’ communications about their physical activity and healthy eating beliefs and behaviors. The researcher analyzed the data using constant comparative analysis, which involved
organizing the text into units of meaning and themes. To assess the validity and reliability of the study’s findings, four components of trustworthiness — credibility, dependability, transferability, and confirmability — were assessed. Findings will be presented in chapter four.
CHAPTER 4

PRESENTATION OF THE FINDINGS

The central research question for this study was: What are the physical activity and nutrition beliefs and behaviors of early adolescents in an urban cluster in the southeastern part of the United States? In addition, the study addressed the following two research sub-questions: (1) What are the facilitators of physical activity and healthy eating for early adolescents in an urban cluster in the southeastern part of the United States; and (2) What are the barriers to physical activity and healthy eating for early adolescents in an urban cluster in the southeastern part of the United States?

In this chapter, findings are presented that shed light on each of these questions. The six themes identified during data analysis reflect important beliefs, behaviors, facilitators, and barriers regarding physical activity and healthy eating for the participants in this study. The six themes identified through this study are: (a) recognizing benefits of physical activity and healthy eating, (b) family influences, (c) connecting with the community, (d) peer influences, (e) electronic media influences, and (f) developing a sense of self. All six of these themes address the central research question and the first sub-question. Five of the six themes (all except the theme, Recognizing Benefits of Physical Activity and Healthy Eating) address the second research sub-question. In reporting the findings, the term “healthy eating” will be used
instead of "nutrition" (the term used in the central research question) because it was the term used by the early adolescents during their conversations with the researcher.

Each theme will be discussed separately in this chapter, along with the data that support the theme. At the same time, it should be noted that the data identified in each theme do not exist in isolation. Rather, data supporting each theme are extractions from the entire experience of the early adolescents. The early adolescents’ physical activity and healthy eating beliefs and behaviors were connected to more than one area of their life represented by each theme. For example, the influences that early adolescents’ peers had on their physical activity and healthy eating beliefs and behaviors were connected to their school as a part of their community. Therefore, in some places in this report, similar data will be reported as support for different themes. This serves to highlight the connections among the various themes.

The findings reported here suggest that early adolescents’ health promoting beliefs and behaviors were founded in their recognition of the benefits of physical activity and healthy eating, which resulted from the positive influences of their families and connections within their community. Influences of early adolescents’ physical activity and healthy eating behaviors included: (a) their connections with their school, community organization, and other places in their community; (b) their relationships with peers (including their friends and relatives of similar ages); and (c) electronic media that they used to communicate and disseminate information with their peers and family. As the early adolescents interacted with their peers, family, and other individuals in their community, their development of a sense of self also influenced their physical activity and healthy eating beliefs and behaviors.

**Recognizing Benefits of Physical Activity and Healthy Eating**

All fifteen early adolescents recognized physical activity and healthy eating as beneficial for promoting their health and improving the quality of their lives. Early
adolescents were able to recognize the benefits of physical activity and healthy eating because of the influences of their families and their connections within their community. As early adolescents connected with other individuals in their home, school, and community organization, and within other aspects of their community, they were positively influenced to believe that physical activity and healthy eating are beneficial.

Early adolescents identified the benefits of physical activity and healthy eating as they discussed their resources for physical activity and healthy eating information. For example, they identified their home, school, and the community organization as locations of their learning about these benefits. They identified their mothers, grandmothers, and aunts as their main source of information about the benefits of physical activity and healthy eating at home. In addition, teachers in the early adolescents’ health classes and coaches in their organized sports and physical education courses reportedly taught them about the benefits of physical activity and healthy eating at school. Likewise, the director and staff at the community organization used health promotion programs to educate the early adolescents about these benefits.

Early adolescents described the benefits of physical activity and healthy eating associated with increases in physical and mental health. They identified positive benefits of both physical activity and healthy eating that included increases in bone health, immune function, energy, weight loss, physical strength, positive mental attitude, and overall health. Nine of the fifteen early adolescents perceived physical activity and healthy eating as beneficial for their personal growth later in life. Early adolescents’ perceived benefits of physical activity and healthy eating are discussed separately in the subsections that follow.

Physical Activity

During their interviews, all early adolescents described physical activity as a way for them to connect with their friends and family at home, school, and the community
organization. Additionally, the researcher observed early adolescents connecting with their peers at the community organization during physical activities such as basketball, dancing, and games. All of them described physical activity as beneficial for connecting with friends and family through “play” and other “fun” activities. Participation in organized sports was one of the main forms of physical activity that early adolescents used to connect with their peers. The ways in which early adolescents viewed physical activity as connecting them with other individuals in their environment is also discussed in the sections on Family Influences, Connecting with the Community, and Peer Influences.

During the discussion of artifacts, two early adolescents identified the benefits of a resistance band and an apple as increasing their physical activity and overall health. One early adolescent learned from her mother that a resistance band promoted her ability to play by increasing flexibility. Another early adolescent identified that eating an apple increased her ability to play by increasing physical growth and helping her body “be good.”

Ten early adolescents recognized physical activity as beneficial for preparing them for their current or anticipated participation in recreational or school organized sports. Being physically fit and eating healthy foods to prepare for participation in basketball was important to male early adolescents. Four of the seven male adolescents perceived playing basketball as beneficial for reaching the goal of becoming a professional basketball player as an adult. One of the male adolescents who wanted to become a professional basketball player described increased cardiovascular function as a unique benefit of physical activity.

All but one of eight female adolescents perceived physical activity as beneficial for weight maintenance or loss. Female adolescents learned about the importance of physical activity and healthy eating for weight loss from their mothers, grandmothers, and aunts. Weight loss seemed to be important to early adolescents’ mothers,
grandmothers, and aunts for the purpose of increasing physical attractiveness more than for health promotion. One of these female early adolescents indicated that her peers also viewed physical activity as beneficial for weight loss to avoid bullying from other peers. The researcher observed that bullying occurred at the community organization. One early adolescent articulated her association of being overweight or obese with bullying:

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. . . if you want to lose some weight, you can run, jump and do all kinds of healthy stuff. Because some people want to lose weight because other people been picking on them about how their size is. When people pick on them, they’re like they need to run the track and lose some weight and stuff.
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**Healthy Eating**

All but one early adolescent perceived healthy eating as beneficial for increasing their energy so they could connect with others and their environments during physical activity. One female adolescent said, "... it takes a lot of activeness to do dance and stuff. So, if you really don't eat your vegetables, and you just load up on junk food it's not going to help." A male adolescent also clearly described the benefits of healthy eating: "When we're playing basketball or some other sport, and they're making up new games for us to play, it helps you get more used to running around and helps you get tired less easy."

Early adolescents associated increased junk food consumption with decreased energy levels necessary for physical activity and health. Four early adolescents described their perceived benefits of healthy eating through discussions about decreased consumption of junk food (e.g., donuts) to reduce negative health complications. Six early adolescents stated that if they ate increased quantities of junk food, they would sit around watching television or not have the required energy to go
outdoors to play. One early adolescent clearly articulated the lack of energy they felt after eating junk food:

. . . you can’t eat junk food all the time because you’ll be [laughter]. . . well, I’m not saying you’re going to be mentally slow, but you'll physically be slow. Your body will weigh down, and you really won't feel like doing anything but sitting down and eating. And you really won't want to go anywhere, like walking or running or jogging, or going anywhere to be outside. You'll mostly just sit on the couch and eat some food and watch TV all day. You won’t want to do anything.

Three male adolescents provided general descriptions of how healthy eating improved their quality of life. One of these early adolescents referenced healthy eating as beneficial for ensuring that their “life will be good” and as increasing their likelihood of trying new experiences. Another male adolescent referenced healthy eating as beneficial to helping them “stay on track.” Two of these male adolescents described healthy eating as being related to a prolonged lifespan and an increase in dental health (e.g., decreased number of dental caries).

In sum, the early adolescents in the study recognized the benefits of physical activity and healthy eating. Perceived benefits of physical activity included helping early adolescents connect with others and helping them excel in organized sports and lose weight. Perceived benefits of healthy eating included increasing energy and improving the quality of life.

**Family Influences**

The most commonly reported positive influence on physical activity and healthy eating at home was the family of the early adolescents – both immediate family (e.g., mother, father, siblings) and extended family (e.g., cousins, aunts, uncles, grandparents). Early adolescents described how their families (especially their mothers,
grandmothers, and aunts) were positive promoters of physical activity and healthy eating in general. They also explained that family participation in organized sports and other family practices influenced their physical activity and healthy eating behaviors. Overall, early adolescents described their mothers as the most influential family member for their physical activity and healthy eating behaviors. One male adolescent emphasized his rationale for why his mother was influential for helping him make decisions to eat healthy foods by stating: “Because usually, Mom is the first person that you begin to love and guides you through your life and through all the times that you need her to.” The influences of various family members (both positive and negative), as well as whether they influenced physical activity or healthy eating, are discussed in the subsections that follow.

Influences of Mothers, Aunts, and Grandmothers

Physical activity. During their interviews and discussion of artifacts, all early adolescents identified their mother, grandmother, or aunt as a positive influence on their physical activity. A mother, grandmother, or aunt was often the one who spent the most time with the early adolescent. Therefore, they often were included in physical activity that the mother, grandmother, or aunt engaged in to lose weight and improve health. Early adolescents provided examples of ways their mothers promoted their physical activity, including attending the gym and the two local community organizations, jogging, walking, taking them to the park, suggesting walking as an alternative to driving, bringing healthy foods (e.g., apples) to sporting events, discouraging sedentary behaviors (e.g., sitting around reading or playing video games), and promoting play outdoors. One early adolescent was inspired by her aunt to exercise more frequently using a smart phone application called “Daily Workouts.”

Mothers, grandmothers, and aunts also helped early adolescents be more physically active by providing a mode of transportation to the community organization,
local walking tracks, and family members’ homes where the adolescent could play with relatives. During their mapping activity, six early adolescents talked about their mothers driving them to places where they could be physically active. One early adolescent stated that her mother signed her up for the community organization, which she identified as a location of physical activity on the map. Another adolescent marked a hill by her home as a location of physical activity. She stated that her mother encouraged her to walk up and down the hill to increase muscle strength and promote weight loss. Furthermore, two female adolescents marked their grandmother’s house as a place in the community where they walked or played. One female adolescent identified her aunt’s house as a location for physical activity. She reported frequently riding her bicycle or walking to her aunt’s house.

Female adolescents described their mothers as facilitators of their physical activity during discussions of artifacts. One female adolescent brought in an apple and stated that her mother provided apples to eat at organized sports events. Another female adolescent learned from her mother that increased muscle flexibility from stretching and play promote cardiovascular health. Mothers, grandmothers, and aunts also supported the early adolescents’ physical activity by purchasing items that helped them be more physically active. One adolescent stated that a watch her mother gave her as a gift facilitated her physical activity by helping her “keep time” while being active. Another female adolescent who brought in a jump rope discussed the importance of jumping rope with her aunt at the other local community organization.

Five of the eight female adolescents reported that their mothers believed physical activity is important for weight loss. Furthermore, all early adolescents referenced “weight loss” at some point during their interviews, although none of the early adolescents provided information related to weight loss during their discussions of the artifacts or mapping activity. One early adolescent’s mother encouraged her to go on a
diet during Christmas time by offering 200 dollars to whichever family member could lose
the most weight by Christmas day.

**Healthy eating.** All early adolescents identified their mother, grandmothers, and
aunts as a collective group that acted in unison to positively influence healthy eating.
One early adolescent thought that it was easy for them to eat healthy foods because
their mother always said “yes” to eating healthy foods. Adolescents’ mothers,
grandmothers, and aunts were responsible for family meal planning and preparation,
and their mother and grandmothers worked together to provide weekly family meals.
Early adolescents frequently referenced their grandmothers cooking on Sundays.

Early adolescents’ mothers encouraged healthy eating by including them in the
planning of structured, healthy meals and snacks. All but one early adolescent reported
helping their mother with grocery shopping. Early adolescents stated that their mother
was the family member who purchased healthy foods, which increased the availability of
healthy foods in their home. For example, an early adolescent’s mother attempted to
change her family’s eating behaviors by grocery shopping for healthier foods and
ingredients to make a smoothie. However, the early adolescent stated that the smoothie
was not appetizing because it tasted like “sour strawberries.” This early adolescent’s
mother decided to make health changes to prevent diabetes. Another early adolescent
described her mother purchasing her favorite fruits and vegetables, which she felt
encouraged her healthy eating behaviors at home. Two female adolescents also
reported helping their mother shop for breakfast ingredients, to include pancakes,
sausage, grits, bacon, and eggs.

In addition to engaging early adolescents in grocery shopping to increase the
availability of healthy snacks at home, four mothers encouraged healthy eating by
promoting healthy alternatives to unhealthy snacks. One early adolescent explained that
her mother motivated her to eat “healthy ice cream” instead of Hot Cheetos. Another
early adolescent’s mother discouraged sweets and encouraged him to eat a healthy
snack, such as an apple or banana, before snacking on unhealthy foods. Another
mother discouraged the consumption of soda and promoted water consumption.

During mealtime, all early adolescents said that their mothers, aunts, and/or
grandmothers often cooked healthy foods for them to eat, including carrots, collard
greens, and green beans. The mothers often tailored family meals to their taste
preferences, which encouraged the consumption of healthy foods. One early adolescent
discussed eating a certain vegetable that her grandmother cooked and the early
adolescent loved, but could not recall the specific name of the vegetable. Two early
adolescents stated that their mothers always served meals with “veggies on each plate.”
However, one early adolescent referenced her mother baking sweet potato pie as a
barrier to her healthy eating.

Three early adolescents perceived their mothers, grandmothers, and aunts as
resources for information about healthy eating. Three adolescents were motivated by
their mothers and grandmothers to eat healthy for the purpose of avoiding illness. Two
early adolescents stated that their grandmother advised them to always eat their healthy
foods and to eat them first. In later discussions with one of these two early adolescents,
she revealed that their grandmother ate healthy foods to manage hypertension.

Two early adolescents described their mothers encouraging healthy eating to
facilitate their physical activity. One early adolescent described his mother’s belief that
eating healthy foods would increase his physical strength. During the discussion of
artifacts, another early adolescent stated that his mother provided him with a Nutri-Grain
Bar, which helped him play school sports better.

Early adolescents’ mothers also encouraged healthy eating for weight loss. Four
female early adolescents believed that their mothers and grandmothers mainly
supported healthy eating for weight reduction. One of these four early adolescents was
encouraged to have healthier eating behaviors by observing her mother’s positive influence of eating healthy foods to lose weight. Another one of these four early adolescents discussed her mother’s positive influence by discussing the negative consequences of weight gain associated with unhealthy eating. One of these early adolescents observed her mother eating healthy foods for weight maintenance. Another early adolescent was motivated by her stepmother to decrease her current weight through increased physical activity as a means of promoting physical attractiveness for being a wife later in life:

> Because she [stepmom] herself does not like to get big. . . Because when she got married to my dad, when she saw pictures from the wedding come back, she says she was way too big for her. She says she hate it just because she looked ugly. . . So, she decided to go on a diet and fix herself. I guess she does that to me because she doesn't want me to be like that.

**Influences of Fathers, Uncles, and Male Cousins**

**Physical activity.** During their interviews, early adolescents described how their fathers, uncles, and male cousins positively influenced their physical activity. Two male early adolescents described the importance of their fathers, uncles, or male cousins in promoting their physical activity. One male early adolescent described the importance of discussions with his male cousins and uncles for encouraging organized sports participation. Another male early adolescent stated that his father and uncle encouraged outdoor play. During their mapping activity, two female early adolescents with the same grandfather identified his house as a location where they rode their bicycles and walked. No data were provided during the discussion of the artifacts or participant observation to support the influences of fathers, uncles, or male cousins on early adolescents’ physical activity.
Healthy eating. In addition to their mothers, grandmothers, and or aunts, five early adolescents described during their interviews that their fathers and grandfathers were positive influences on their healthy eating behaviors. Two early adolescents referenced their diabetic fathers promoting their healthy eating behaviors (e.g., discouraging sugar consumption and encouraging healthy eating). One early adolescent referenced their grandfather as a facilitator to their healthy eating in his preparation of fried chicken.

However, one early adolescent perceived her father as a barrier to her healthy eating. She viewed her father as inhibiting her healthy eating behaviors by eating junk food. Data were not provided during the discussion of the artifacts, mapping activity, or participant observation to support the influences of fathers, uncles, and male cousins on early adolescents’ healthy eating.

Influences of Family Practices

Physical activity. Early adolescents’ physical activity at home was centered on play and participation in sports with family members. However, after-school responsibilities limited their time for play. Nine adolescents discussed their physical activity at home after school and during the weekend. Physical activities that adolescents engaged in at home included: skating using street roller skates, playing games on the Xbox, basketball, football, running/jogging, push-ups, sit-ups, biking, jumping jacks, and general play with relatives. One adolescent referenced his family as discouraging the use of smart phones and television as a way of encouraging him to increase his activity level.

If early adolescents were physically active when they arrived home, their physical activity was focused around play. Two early adolescents referenced not having a playmate as a barrier to their physical activity at home. Two male early adolescents that were brothers enjoyed playing basketball but did not have basketball courts at home.
These two brothers played basketball at courts located in nearby parks. One male early adolescent walked or rode his bike to the basketball court, while the other male early adolescent walked across the street to access a basketball court.

Within the home setting, another early adolescent identified that broken equipment required for his physical activity was a hindrance. For example, this adolescent referenced a broken bicycle helmet as impeding his ability to safely engage in one of his favorite physical activities. Not having a helmet caused issues with this early adolescent in that, without it, he could not utilize his bicycle to commute to local physical activity venues within the community (e.g., parks and basketball courts).

Another early adolescent articulated her concerns of becoming injured during play: “If I ever get hurt playing I can’t go to school and do the test, so I might have to stay back.”

**Positive influence.** All early adolescents described their families’ positive influences on their physical activity behaviors. All early adolescents identified at least one family member with positive beliefs about physical activity. Early adolescents referenced participating in physical activity with siblings and extended family members (e.g., cousins) of the same age. Early adolescents, siblings, and cousins participated in outdoor play together, including biking, running in nearby fields or tracks, and practicing organized sports.

One early adolescent described playing games (e.g., Simon Says) involving physical activity with his family. This adolescent said, “Me and my mom and my family always go exercising together. Even if we’re walking round the street or around the block together, if we’re riding bikes together. . . .” This early adolescent also referenced family gatherings (e.g., family reunions) as sources of physical activity promotion (e.g., sack races and running contests featuring prizes). This early adolescent discussed that going to family members’ houses encouraged him to “get up” and increase his activity levels.
During the discussion of artifacts, another early adolescent provided a jump rope and discussed the importance of her physical activity with family while using the jump rope.

**Responsibilities.** Early adolescents had a number of responsibilities within the home setting that they perceived as impediments to their physical activity. Eight early adolescents stated that they were too tired and nine said they had too much homework to complete when they got home from the community organization after school to play. One of these early adolescent's parents relied on him to help take care of his younger siblings. Early adolescents helped their younger siblings with their homework assignments and saw this responsibility as a barrier to their own physical activity. Another one of these early adolescents described the difficulties she felt balancing sibling demands and homework with school, which inhibited her evening physical activity:

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Daily, through the weekdays are hard because everybody's trying to get their work done and homework done. Usually, my brother comes to me, he's like, "Can you help me with this?" I'm like, "Yeah, I'll do this." Then, other than that, I'm usually trying to do it for myself or whenever I have free time through the week. Other than that, it's like a weekend.
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In addition to helping their siblings with homework, early adolescents had their own homework to complete each night. Although homework incorporating physical exercise was identified as a facilitator to physical activity, early adolescents saw their own homework as impeding their outdoor playtime and indoor physical activity (e.g., fitness programs, push-ups and sit-ups). Parental job schedules were referenced by early adolescents as hindrances to scheduling time to being physically active with parents. Furthermore, the early adolescents cited their parents' jobs as causing transportation issues to and from local parks, sporting practice and games, gyms, and homes of family and friends where they could participate in physical activity. They
referenced their parents’ lack of energy as a barrier to their physical activity in that their parents could not participate in physical activities with them.

**Healthy eating.** In addition to the positive influences of mothers, grandmothers, and aunts on their healthy eating, early adolescents’ healthy eating at home was encouraged by their families’ positive beliefs around healthy eating, family mealtime, and attempts to eat healthy at restaurants with their families. However, unhealthy eating on weekends and the availability of junk food sometimes prevented early adolescents from eating healthier at home. The school and community organization often provided early adolescents with structured healthy meals if their families did not have structured meals at home.

Early adolescents talked about eating the following healthy foods at home: carrots, collard greens, mashed potatoes, butter beans, tomatoes, mixed vegetables, green beans, corn, yogurt, white rice, protein bars, kiwi, bananas, oranges, pears, chicken salad, apples, and other fruits. As early adolescents provided examples of their healthy food eaten at home, they emphasized the importance of assisting their mothers, grandmothers, and aunts with the preparation of healthy cooked foods (e.g., collard greens, green beans). Early adolescents discussed the importance of the ways that the food was prepared for enhancing taste.

While all early adolescents reported at least one family influence that was positive, four adolescents reported negative family influences related to physical activity and healthy eating. For example, one family reportedly did not have time to be physically active because of the pressures of homework, childcare (e.g., nightly bathing), and entertainment (e.g., watching television programs and movies). Another early adolescent indicated that her family did not discuss physical activity. In contrast, yet another early adolescent, who the researcher observed as being less physically active than the other early adolescents, confirmed his family’s belief in the benefits of physical activity, but
stated that his family did not participate in physical activity together. One early adolescent said that her brothers and sisters: “... say it's [healthy eating] nasty because you got to eat a lot of beans and tomatoes, and we don't like squash.” This early adolescent also stated that her family did not discuss nutrition and healthy eating often.

**Positive influence.** Early adolescents described their families’ beliefs about healthy eating as positive. Nine early adolescents reported that their families had positive beliefs about healthy eating. Early adolescents believed that their families valued healthy eating to increase their physical development, including strength. Three early adolescents described their families as believing that healthy eating is beneficial because it helps them grow stronger and become healthier. Another one of these early adolescents reported that his family believed healthy eating was a good thing to do “because they want the best for the family to keep us together.”

**Family meals.** Healthy eating behaviors were largely influenced by breakfast and dinner prepared for the adolescents at home. Early adolescents described their experiences eating breakfast on the weekends and dinner nightly at home. The early adolescents cited their mothers as the main family member who prepared their meals, including breakfast and dinner, at home. Three early adolescents assisted their mothers in preparing breakfast and dinner. Early adolescents identified dinner as one of the healthiest meals that they ate at home. Although the frequency of family mealtimes was not a question asked of the early adolescents during the interviews, one early adolescent reported that his family consumed healthy foods together three to four times per week. Another early adolescent enjoyed cookouts with her family where they consumed foods such as potato salad, ribs, and other salads (e.g., salad with cheese, eggs, and tomatoes).

Early adolescents provided detailed descriptions of the ways their mothers, grandmothers, and aunts prepared healthy foods (e.g., greens, lima beans, string beans,
cabbage, corn, and squash) to their liking. One early adolescent fondly discussed their mother adding less healthy food options to their favorite healthy foods to increase likeability (e.g., cabbage with sausage and green beans with fatback, sugar, and bacon). This early adolescent articulated the importance of the foods that her mother cooked by saying, “I guess it’s because she boils them, add sugar, and stuff like that in it. I can eat them regular but then again I never tried it that way. So, that’s the way she always cooked it from generation to generation.”

As previously discussed, home cooked meals were often replaced by fast-food options when early adolescents’ mothers did not have time to cook. Three early adolescents reported that they often dined out at a restaurant for dinner on evenings when their mothers did not feel like cooking or did not have sufficient time to cook. The restaurants that early adolescents and their families frequented included: fast-food, Italian, Pan-Asian, and buffet style restaurants. Chicken nuggets and French fries were favorite food items at fast-food restaurants. Two early adolescents specifically referenced greasy or fast foods as a barrier to their healthy eating. Three early adolescents ate kid’s meals at various fast-food restaurants. One early adolescent reflected on her kid’s meal consumption by saying that she did not think she ate “healthy” at one fast-food restaurant. Another early adolescent purchased hamburgers on a value menu at a fast-food restaurant to save money.

**Junk food.** The availability and consumption of junk food and unhealthy foods (e.g., fast foods, greasy foods) was a barrier to all early adolescents’ healthy eating. One early adolescent stated that the availability of junk food in their home was an issue preventing them from eating more healthily. Some early adolescents stated that their siblings encouraged them to eat junk food simply by consuming it in front of and with them.
Early adolescents discussed how the availability of unhealthy food options discouraged their healthy eating. While discussing the importance of a granola bar, the early adolescent stated that they felt the presence of potato chips at home prevented them from opting for the granola bar. Another early adolescent who brought an apple to discuss as a facilitator to their healthy eating also stated that “seeing” potato chips discouraged their healthy eating. Early adolescents reported that their mothers attempted to prevent them from eating unhealthy foods at home by purchasing healthy foods and suggested healthy alternatives to unhealthy foods. However, they did not elaborate on how the “junk foods” were brought into their homes.

**Healthy alternatives.** Early adolescents discussed their attempts to eat healthier at the restaurants they frequented with their families within the community. This discussion developed as they described having to dine out for dinner when their mothers did not have time to cook meals. One adolescent referenced ordering lettuce on his sandwich to eat healthier at fast-food restaurants. This early adolescent confirmed interest in trying a turkey burger as an alternative to a beef burger. Two early adolescents discussed healthy alternatives that they consumed at restaurants: oranges at a local Pan-Asian restaurant, salads from the salad bar at the buffet style restaurant, and brown rice while eating at another Pan-Asian restaurant. One early adolescent identified fried cheese filled crab rangoons at a Pan-Asian restaurant as a healthy food option.

**Weekends.** Early adolescents stated that weekends were considered a time of relaxation and rest when their eating was less restricted than it was on weekdays. Five early adolescents stated that they had candy, soda, chips, ice cream, hot wings, Hot Cheetos, and/or french fries during the weekend at home. Early adolescents had more time and freedom on weekends to walk or ride their bicycles to local retail stores to purchase unhealthy foods. One early adolescent stated that she drank “one cup” of
water each weekend. This early adolescent reported that her family did not eat regular meals, except for a breakfast of bacon, eggs, toast, and grits, on the weekend at home.

However, early adolescents reported some healthy eating on weekends. Examples they gave of healthy foods they ate on weekends included carrots, green and red apples, oranges, strawberries, broccoli, bananas, blueberry and strawberry flavored yogurt, green beans, cabbage, lima/butter beans, mashed potatoes, corn, peas, and salad. One early adolescent described enjoying salads with bacon bits, ham, cucumbers, and ranch dressing on the weekends. Two early adolescents referenced eating fried chicken, sweet potato pie, chicken, macaroni and cheese, rice, and or baked beans that their mother cooked at home after attending church on Sundays.

One early adolescent enjoyed eating oranges on the weekends, but stated that her stepmother needed the oranges to be available at home because of a dietary need due to an illness. She was reluctant to ask permission to eat the fruits available at home during the weekends due to her stepmother’s illness. Her mother purchased ramen noodles for the adolescent to eat when she did not feel like preparing a meal on the weekends.

**Grandmother’s house.** Two early adolescents referenced their grandmother’s house as a positive influence on their healthy eating behaviors. One early adolescent stated that she did not consume many healthy foods at home because her mother did not know how to cook broccoli and peas, which she described as her favorite healthy foods. She reported going to her grandmother’s house to consume peas and broccoli. Another early adolescent stated that her mother and grandmother prepared string beans to her liking (not over or under cooked). She would not eat string beans if her mother or grandmother did not prepare them.
Influences of Organized Sports

Early adolescents considered organized sports a family tradition. Eleven adolescents were motivated to participate in organized sports by their siblings and family members who were of the same gender but older and participated in organized sports recreationally or professionally. Male and female early adolescents perceived their family members of the same gender who participated in organized sports as role models. During their interviews, two female early adolescents referenced their mother, sister, aunt, and or young grandmother as role models due to their previous participation in track and basketball. During their interviews, two male early adolescents referenced their uncles and male cousins who participated in basketball as facilitating their physical activity by playing basketball with them.

At the same time, one male early adolescent looked up to his mother and aunt for their participation in organized sports. During the discussion of artifacts, one male early adolescent brought in a basketball that reminded him of his mother and two aunts who played basketball. He described basketball as an important activity for him to engage in because it was a “family tradition” passed down from his two aunts and mother. During participant observation, another male early adolescent described his mother’s participation in track during high school as motivating him to be on the track team at school.

Five male early adolescents and one female early adolescent explained that older family members promoted their physical activity by setting a good example with their participation in organized sports. For example, one male early adolescent perceived his older male cousin’s participation in a university basketball team as a personal inspiration toward becoming a basketball player as an adult. Another male early adolescent stated that his older male cousins and brother inspired him to play football and basketball due to their participation in these organized sports.
Early adolescents engaged in physical activity with their siblings and discussed how their siblings promoted their physical activity. Three male early adolescents and six female early adolescents described their siblings as facilitators of their physical activity by participating in outdoor play and organized sports with them. Two male early adolescents referenced throwing the football with their siblings.

Although early adolescents enjoyed organized sports at home with their families, four early adolescents reported that they feared injury from higher contact sports, general play, or weight-lifting. The researcher observed one group of early adolescents returning to the gym after one of these early adolescents got hurt while playing kickball outdoors. One male early adolescent said, “Yeah, I don’t like football because you get be hurt easily. Somebody hit him [cousin] and then he threw the football, somebody knocked their head down and he fell over the dude.”

In sum, early adolescents reported that a significant positive influence on physical activity and healthy eating at home was the family – both immediate family (e.g., mother, father, siblings) and extended family (e.g., cousins, aunts, uncles, grandparents). Early adolescents described how their families (especially their mothers, grandmothers, and aunts) were positive promoters of physical activity and healthy eating in general. They also explained that family participation in organized sports and other family practices influenced their physical activity and healthy eating behaviors. At the same, there were some reports of family behaviors that were barriers to physical activity and healthy eating, including family responsibilities, stressors, and unhealthy eating habits.

**Connecting with the Community**

Early adolescents described how connecting with their community, to include their school and community organization, influenced their physical activity and healthy eating beliefs and behaviors. The community organization was the main facilitator of
their physical activity within their immediate environment outside their home, while their school and the community organization were the main facilitators of their healthy eating. Early adolescents’ immediate environment consisted of their school, the community organization, and other less frequently referenced aspects of community. The adolescents referenced the two local parks, the Family YMCA, and a nature trail when discussing their community-related physical activity. When describing the location of their healthy eating within the community, adolescents cited local restaurants, discount and grocery stores, their school, and the community organization.

**Connecting at School**

**Physical activity.** Early adolescents described how connecting with their friends, teachers, and coaches at school influenced their physical activity beliefs and behaviors. During the mapping activity, six adolescents identified their previous and current schools as locations for their physical activity. Eleven adolescents reported that their physical activity was facilitated at school by recess, physical education class, weight lifting class, and organized sports. Six adolescents cited their teachers for physical education, health education, and other classes as their main promoters of physical activity in the school. One male adolescent said, “Like, my teacher be saying, if you sit down three hours, that’s no better than smoking a pack of cigarettes.” Physical education classes were offered as electives for adolescents. Curriculum teachers were identified as sources of physical activity promotion because of the exercises embedded within the assigned homework.

Ten adolescents referenced their coaches as a major source of physical activity promotion. One early adolescent specifically referenced coaches who were “fun” and “creative” as being particularly motivating for their physical activity. They described how “fun” and “creative” coaches at school introduced new and different ways of engaging in physical activity.
Eight early adolescents described their physical activity during their physical education (PE) classes. These eight adolescents cited push-ups, sit-ups, back bends, cone ball, “bull’s eye” game, jogging, and jumping jacks as their physical activity during their physical education classes. Two early adolescents described increased physical activity at school during recess (e.g., tag, football, airplane game). However, early adolescents’ physical activity was limited by the availability of physical education classes, which were offered to students as an elective and only on certain days of the week (e.g., Monday and Tuesday).

Three male adolescents and one female adolescent enjoyed engaging in pull-ups, push-ups, curl ups, and turn-up exercises during weight lifting courses as an elective at school. When asked why she completed these exercises, one early adolescent said: “They help your core get stronger and it really works the muscles in your stomach.”

When they discussed their artifacts during the interviews, four early adolescents described their participation in organized sports at school (e.g., track, basketball, and football), which they perceived as facilitating their physical activity. Seven early adolescents were using their physical activity at the community organization to prepare for anticipated participation in organized sports at school.

Four early adolescents believed that standardized testing and homework at school was a barrier to their physical activity. One early adolescent discussed how standardized testing affected her physical activity by saying, “... testing really discourages you because when it was around [Criterion-Referenced Competency Tests] time I didn't want to do nothing [physical activity]. I really didn't. After I got done with the test I was like, "I'm just going to relax all day [laughter].” Another early adolescent referenced not being able to go to a local park due to the intensity of his homework.
demands. One early adolescent reconfirmed similar difficulties she felt in balancing the demands of school and her physical activity:

You have to make time studying. You have to do your homework, and all the other stuff they assign you to do, and projects and essays and all of that. And I don't think they [parents] have time to be physically active, because they do all these different other stuff.

However, another early adolescent, who referenced exercise specifically, did not view homework as a barrier to his physical activity because his little brother’s homework incorporated physical exercises for the practice of spelling words. Furthermore, this early adolescent referenced teachers at schools as incorporating physical exercises in daily lesson plans:

. . . So if he had to spell the word, poor like p-o-o-r, folk, folk was short, so they came up with something like that inside the school, they do some type of exercise [jumping jacks] while do their work at the same time.

**Healthy eating.** Early adolescents described how connections at school influenced their healthy eating beliefs and behaviors. During the mapping activity and discussion of artifacts, all but two early adolescents described school as a location for their healthy eating. Early adolescents also identified their previously attended schools (e.g., their elementary and or middle school) as sources of their healthy eating during the mapping activity.

During the interviews, adolescents identified their current school as facilitating their healthy eating by providing healthy foods. All early adolescents provided examples of their healthy eating at their school such as: carrots, apples, bananas, strawberries, oranges, string beans, corn, peaches, green beans, salad, grilled chicken, coleslaw, ham sandwich, strawberry apple sauce, beans, broccoli, mashed potatoes, pineapple, peas, wheat bread, collard greens, fruits, and vegetables. Broccoli with cheese served at
school was a favorite for one female early adolescent. Two early adolescents enjoyed eating baked potatoes with bacon bits, cheese, lettuce, croutons, and ham from the salad bar on Wednesdays at school.

During their interviews, all but one male early adolescent described health class at school as a source of learning about healthy eating. Three early adolescents cited learning about MyPlate, the food pyramid, and food labels during health class. Two early adolescents described the staff members at school as facilitators for their healthy eating. One male early adolescent specifically referenced speaking with his school counselor about healthy eating and bullying. A female early adolescent stated that the lunchroom workers and teachers encouraged her to eat healthier on a daily basis.

Two female early adolescents cited barriers to healthy eating at school. One of these two female early adolescents stated that she did not eat lunch at school due to discovering a piece of hair and a bug in her food. She reported that school lunch was healthy, but she did not like to eat fish prepared at school. The other female early adolescent referenced not eating wheat bread at school because it tasted like “dirt.” Another early adolescent, who brought in a can of peas for the discussion of artifacts, indicated that she preferred peas and that more peas should be served at school.

Although the school served healthy foods during mealtime, early adolescents were presented with other opportunities at school to eat less healthy food options. One early adolescent referenced eating hot chips at the concession stand during lunch on Friday afternoons at school. The concession stand referenced by the early adolescent was introduced and operated by a teacher who sold snack food items to raise money for a charter bus for transportation on field trips.

**Connecting with the Community Organization**

**Physical activity.** Early adolescents described how connecting with the community organization influenced their physical activity beliefs and behaviors. Early
adolescents utilized the community organization for physical activity at least two to three hours daily during the school year and approximately eight hours daily during the summer. During their interviews, eleven early adolescents discussed the physical activity that they engaged in at the community organization, including football, basketball, exercising on mats (e.g., push-ups, toe touches), dancing to favorite songs (e.g., The Nae Nae/Whip by Silento), kickball, cone ball, and using exercise machines. One early adolescent enjoyed boxing at the community organization, but stated that the community organization no longer offered boxing as a physical activity option. Another early adolescent expressed particular interest in a physical activity that she completed at the community organization that incorporated art. The researcher observed a group of the early adolescents who lived in close proximity to the community organization utilizing the open space between the community organization and their residence to play football.

While conducting her fieldwork, the researcher observed physical activity facilitators within the community organization. For example, visual promoters of physical activity, such as banners and signs, were dispersed throughout the community organization. These visual promoters were provided by the community organization’s national office to advertise their national healthy eating, physical activity, and self-esteem promotion program.

The researcher also identified the enthusiastic director and staff members at the community organization as facilitators of the early adolescents’ physical activity. The director was rarely in his office because he was interacting with the early adolescents during their physical activities. For example, he was often found in the gym coaching the early adolescents during basketball. As the early adolescents completed their physical activity or ate their snacks, the staff members at the community organization were often observed walking around or standing while instructing. Staff members also were
frequently heard shouting encouraging phrases (e.g., “you can do it!”) to the early adolescents as they played basketball.

Seven early adolescents who were not currently involved in organized sports at school or the recreation department were enthusiastic about participating in basketball and track at the community organization. One early adolescent discussed her participation on the track team at the community organization called “Girls on the Run” as a facilitator for her physical activity. This early adolescent expressed excitement when she was provided with a T-shirt for participating on the track team at the community organization.

Early adolescents identified three barriers to physical activity at the community organization. The first barrier was broken equipment. Early adolescents referenced broken exercise equipment on the sidelines of the gym at the community organization as impeding their physical activity. On a number of instances, adolescents, staff, and the director of the community organization were observed voicing their frustrations with a broken basketball goal that no longer could be adjusted for the height of players. The researcher also observed a broken ski ball game. None of the broken items at the community organization were repaired over the duration of the fieldwork.

The second barrier to physical activity that early adolescents identified was bullying at the community organization. Throughout the duration of the researcher’s fieldwork, the staff and director at the community organization implemented an informal anti-bullying campaign. During her fieldwork, the researcher observed the director of the community organization and staff members gathering groups of students organized by grade level to informally discuss bullying in the gym.

The third barrier to physical activity that early adolescents identified at the community organization was inappropriate clothing for physical activity. The researcher observed that female early adolescents often did not change into appropriate clothing for
physical activity when they arrived at the community organization from school. Although members of the community organization were provided with lockers to store their belongings, many female early adolescents kept their purses, jackets, and coats on their bodies as they participated in dancing and used the exercise equipment. On the other hand, male early adolescents often arrived at the community organization with sports shorts to wear while they played basketball. The researcher observed that female early adolescents were not able to move their arms and legs freely because they were not wearing the appropriate attire for physical activity (e.g., loosely fitting shorts/pants, t-shirts). They appeared stiff and were not able to run as fast as the male early adolescents due to tight fitting clothing. One female early adolescent struggled to reach for the basketball as it was passed to her because she was preoccupied with keeping her purse close to her body.

**Healthy eating.** Early adolescents described how connecting with the community organization influenced their healthy eating beliefs and behaviors. During her time at the community organization, the researcher observed that the community center provided early adolescents with healthy structured snacks and dinner after school. Additionally, early adolescents highlighted the importance of the community organization as a facilitator of their healthy eating. During their mapping activities, eight early adolescents identified the community organization as a location of their healthy eating. During their interviews, all but two early adolescents reported eating healthy foods at the community center, including apples, oranges, corn, string beans, yogurt, baked chicken, bananas, peaches, pineapples, fruit/cereal bars, meats, salad, vegetables, and fruits. During an interview, one early adolescent articulated the importance of the community organization as a promoter of his healthy eating behaviors by putting healthy foods “on his plate.”

The researcher also observed that the cooks at the community organization promoted the early adolescents’ healthy eating. The director and cooks at the
community organization indicated that they were required to provide all snacks and dinner according to the same national standards as local schools. The cooks were willing and eager to discuss the foods they served for the early adolescents with the researcher. They welcomed the researcher into the kitchen and provided detailed descriptions of foods. During an interview, one early adolescent emphasized the importance of the cooks as promoters of her healthy eating by providing her with healthy foods to eat. Another early adolescent enjoyed eating fruits and vegetables, but was particular about the temperature at which the fruits and vegetables were served. For example, the early adolescent thought that fruit cups should be served cold and cooked vegetables should be served hot. This early adolescent mentioned that sometimes fruit cups were served warm and that cooked vegetables were served cold at school.

Another early adolescent described a previous staff member at the community organization who taught a cooking class where she tasted healthy foods. This early adolescent described the healthy foods that she tasted at this cooking class: “never thought that a healthy food could taste so good.” Another early adolescent referenced seeing the USDA sponsored MyPlate nutritional guide at the community organization as helping them to know appropriate portion sizes.

During her fieldwork, the researcher observed two barriers to the early adolescents’ healthy eating. First, the researcher observed adolescents bringing Hot Cheetos, Girl Scout Cookies, and Hot Funyuns to the community organization. One early adolescent described eating chicken nuggets and pizza as examples of healthy foods that she consumed at the community organization. Furthermore, the researcher identified Little Debbie Snack Treat wrappers, pizza boxes, Twix candy wrappers, root beer cans, and Sprite cans in the trash can inside and around the playground at the community organization. The researcher observed that the staff and early adolescents would bring cupcakes into the community organization to celebrate special occasions.
Regardless of the occasional consumption of Hot Cheetos and cupcakes at the community center, the researcher also observed adolescents eating healthy foods during their snack time and dinner at the community organization. Second, three early adolescents were reluctant to eat dinner at the community organization. One of these early adolescents indicated that she did not consume the vegetables that the community organization provided on the dinner plates because she thought that the vegetables tasted “nasty.”

**Connecting Within the Community**

When questioned about physical activity and healthy eating in their community (in places other than their school and community organization), early adolescents described aspects of physical activity and healthy eating that were in close proximity to their home. In their discussions, early adolescents discussed grocery stores, convenience stores, parks, tracks, and trails that were very close to their home. Furthermore, early adolescents identified their friends and family members’ homes within their community as locations for their physical activity and healthy eating practices.

**Physical activity.** Early adolescents described how connecting within their community influenced their physical activity beliefs and behaviors. Early adolescents described local parks and recreation services as components of their community that promoted their physical activity. Early adolescents also identified tracks located at schools as a location of their physical activity. Early adolescents emphasized the importance of these features of the community that were developed to promote physical activity. During the interviews and mapping activity, ten early adolescents identified the two local parks, one of which featured recreational organized sports, as facilitators of their physical activity within the community. Early adolescents described features of these parks that promoted physical activity, including cleanliness, resources (e.g., organized sports equipment), access (e.g., sidewalks and proximity to home), and
lighting at night. One early adolescent who enjoyed playing basketball preferred one of the local parks more than the other one because it had a basketball court.

Coaches within the community at the local recreational department promoted physical activity through organized sports such as football, baseball, and softball. One early adolescent discussed playing basketball with the recreation services. Another early adolescent played softball and participated in cheerleading for football at the recreation services in past years, but was not currently involved in organized sports at the recreation department at the time of the study.

Winning was important to the early adolescents and motivated their participation in organized sports teams at the community organization. A male early adolescent smiled as he discussed winning a medal for his participation in a recreational sport. A female early adolescent excitedly described winning first place in softball for the previous two years. Another male early adolescent said: “winning is important because you get special treats.” However, one male early adolescent emphasized that winning is not as important as being part of a team.

Six early adolescents identified tracks located at schools in their community as facilitators of their physical activity. These six early adolescents referenced walking and completing other physical activity at the tracks. They often utilized the tracks for walking with friends or family members, most often their mother, grandmother, and aunts after school and during weekends. Early adolescents reported that talking with their friends and family members while walking increased their motivation to walk around the track.

During their interviews and mapping activity, ten early adolescents identified the other local community organization, which featured physical activity but not nutrition, as a location of their physical activity. These ten early adolescents were brought to the other community organization by one of their parents. Two of these ten early adolescents used the resistance band and treadmill while engaging in physical activity at
the other community organization. One early adolescent expressed interest in joining the other community organization and stated that her parents planned to register her there.

Two early adolescents described two barriers to their physical activity within their community. The first barrier was weather patterns that influenced outdoor play. Harsh winter and hot summer weather were factors that discouraged early adolescents from completing their outdoor physical activity. The second barrier was the proximity to local parks. The proximity of the parks to the early adolescents’ homes varied. One early adolescent living outside the inner city of the urban cluster found it difficult to exercise and be physically active at these parks due to commuting issues. Two early adolescents stated that they did not go to any parks or places in the community besides their school and the community organization to be physically active.

Healthy eating. Early adolescents described how connecting within their community influenced their healthy eating beliefs and behaviors. During the interviews and mapping activity, early adolescents reported eating at local fast food, buffet style, and Chinese restaurants when their mothers did not have time to cook meals or when there was a special occasion such as a birthday. One early adolescent enjoyed eating green beans, lima beans, and potatoes at the local buffet style restaurant. Another early adolescent referenced coloring on a menu containing healthy eating information at a large chain restaurant in the nearby urban area as promoting his healthy eating behaviors. However, one early adolescent could not think of any healthy food that she ate in the community.

All early adolescents perceived the marketing and availability of unhealthy foods within the community as a barrier to their healthy eating. Five early adolescents referenced purchasing junk foods from convenience stores. One early adolescent articulated her struggles between choosing healthy versus unhealthy foods at a convenience store as having an angel on one shoulder and the devil on the other
shoulder. Early adolescents felt pressured by the availability and presence of unhealthy foods at local stores within their community (e.g., discount superstores, dollar stores). Another early adolescent believed that healthier foods were more expensive than unhealthy options at their local discount superstore. One early adolescent articulated having junk food in their line of sight (“seeing it”) as a barrier to their healthy eating.

In sum, early adolescents reported that community connections were important to their physical activity and healthy eating practices. Positive influences for physical activity could be found at their current school and previous schools, community organizations, parks, and tracks used for walking. For positive influences on their healthy eating within the community, early adolescents cited local restaurants, schools, and the community organization. At the same time, early adolescents noted that there were barriers to physical activity and healthy eating in the community, including safety and access issues, broken equipment, bullying, and easy access to unhealthy food choices.

**Peer Influences**

**Influences of Peer Beliefs**

Early adolescents described their peers’ beliefs about physical activity and healthy eating. They provided a more positive description of their peers’ beliefs about physical activity than their peers’ beliefs about healthy eating. Early adolescents reported that the beliefs of their peers sometimes promoted their physical activity, but often discouraged their healthy eating behaviors.

**Physical activity beliefs.** For the early adolescents, peer interaction most frequently occurred at home, school, and other places within their community. During their interviews, nine early adolescents reported that some or all of their peers’ beliefs about physical activity were positive. One early adolescent described her peers’ beliefs saying, “They think it’s important. Because these school activities and exercising helps you get better and healthy. And it'll strengthen you. When you get sick, you won't be that
sick because of you exercising and eating healthy and all of that.” The researcher observed early adolescents’ friends encouraging participation in dancing, basketball, and other physical activity at the community organization.

However, positive beliefs about physical activity were not evident among all of the early adolescents’ peers. Four early adolescents described some of their peers’ negative beliefs about physical activity. One early adolescent believed that certain peers did not think that physical activity was necessary because of their weight status. For example, if a friend was of a normal or low weight, then the peer believed that they did not need to be physically active. Another early adolescent expressed that some of her peers were reluctant to be physically active unless forced to be active by adults. One early adolescent believed that his peers did not think that physical activity is good at all (e.g., “not fun and exhausting”). Three other early adolescents were either unsure of or did not provide any information about their friends’ beliefs of physical activity.

**Healthy eating beliefs.** The beliefs of early adolescents’ peers about healthy eating were less positive than their peers’ beliefs about physical activity. Only five early adolescents perceived that some or all of their peers’ beliefs about healthy eating were positive because of the need for increased protein intake, sustaining health and maintaining a healthy weight.

Seven early adolescents perceived some or all of their peers as viewing healthy eating negatively. Five early adolescents described negative perceptions of their peers. They reported that their peers had inconsistent healthy eating behaviors, disliked the taste of healthy foods and preferred the taste of unhealthy foods, had to be forced to eat healthy by their mother, were not open to trying new healthy foods, and perceived healthy eating as a waste of time.

The researcher observed that early adolescents’ peers negatively influenced their healthy eating behaviors by bringing junk food into the community organization and
discouraging adolescents from eating healthy food options provided by the cooks at the community organization (e.g., dinner and snacks including fruits and vegetables). For example, when the cooks included a banana with a cereal bar as the snack, the early adolescent would not eat the banana, but would seek out Hot Cheetos from their peers. The researcher observed early adolescents at the community organization encouraging other adolescents to eat Hot Cheetos each time she observed snack hour for the duration of the study. The other early adolescents would crowd around one adolescent holding a bag of Hot Cheetos, begging the early adolescent to share. The researcher later discovered that Hot Cheetos were purchased from school vending machines.

One early adolescent perceived her peers as being supportive of healthy eating by encouraging appropriate portion sizes and decreased caloric intake:

Well, my friend, she helps me out, because if she sees I'm eating too much she's like, Hey, you should slow down. She helps me out like that, and we help each other out like that kind of way. If she's eating too much, I'm saying, Can you please slow down? You just shoved a whole bunch of food in your mouth and didn't even chew [chuckles].

Two other early adolescents were unsure of their peers’ nutrition and healthy eating beliefs. Four early adolescents reported a lack of discussion about healthy eating, often due to prioritizing discussions of homework.

Influences of Peer Activities

Ten early adolescents preferred to participate in physical activity with other individuals, especially their peers, siblings, and cousins of similar ages. One early adolescent stated that establishing friendships promoted his participation in physical activity. Early adolescents discussed how connecting with their peers during dance, teamwork, and play influenced their physical activity.
Dancing. The female early adolescents’ passion for dancing was evident in their facial expressions and the enthusiasm in their voices while they were dancing. Five early adolescents felt that dancing with other individuals in the community organization and other settings was a motivator toward their physical activity. One early adolescent articulated that dancing to the beat of the music was important and motivated them to want to dance more. Many female early adolescents felt that they were motivated to be more active when they were in group settings for step dancing, dancing on sidelines, and praise dancing. One early adolescent articulated how step dancing promoted her physical activity by saying, “. . .we came up with the steps team at our school. We danced for different talent shows, pep rallies, different shows. . .I always want to just be part of something where stepping is involved.”

The researcher observed some of the female early adolescents engaging in praise dancing at the community organization. One early adolescent described praise dancing as a form of dancing where individuals, usually females in this instance, wear all black and paint their faces white as if miming. The researcher observed this type of dancing at the community organization. During praise dancing, the researcher observed early adolescents dancing to gospel music using their hands in a similar fashion to a mime in sync with the music.

On the day that early adolescents and other members of the community organization were engaged in the praise dancing performance, the researcher observed near silence at a normally noisy community organization. The director, staff, and every student member of the community organization watched intently as the female early adolescents completed their performance in the gym. The praise dancers were serene, and they concentrated intently on performing each of their moves to the words of the song with precision. One early adolescent discussed how praise dancing at the community organization and church motivated her to be more active:
. . . But instead of miming to some regular song, we mime to church music. So we call it miming, we do paint our face white, black lipstick and the black stuff. And we do put on our gloves and have the same outfits on it. . . .

Another early adolescent discussed the songs that motivated them to dance as a form of physical activity at school and on her own time:

. . . on my own time I would do stuff like Cupid Shuffle, and I don't know what's it - Little Man Anthem Part two and one. That's really when you run, jump and stuff like that. . . it really breaks the mood down for you, but then again it's like words in songs in your head.

**Teamwork.** All but two early adolescents referenced the importance of being physically active as part of a team. They provided examples of how their peers and teammates motivated them. One early adolescent described being part of a team comprised of their friends as promoting their physical activity: “Well, we’re supposed to work in a team and if it’s a team that you don’t want those people to play your team on, you might not want to play. But if it was your friends, you might want to play.”

One early adolescent reported that when his teammates “bragged and tried to boost them up” that it helped him want to be more physically active within the team setting in organized sports. This early adolescent did not view “bragging” as negative and discouraging, but rather as motivating him as a team member to improve his participation in organized sports. This early adolescent said, “Usually, somebody says, I can do this, and you can’t. Stuff like that. Not to discourage the other person, but to encourage them to keep trying and they will get it one time.”

**Play.** One of the main facilitators of physical activity was early adolescents’ need to conceptualize exercise and physical activity as “play.” Ten early adolescents clearly identified “play” as the preferred activity over the idea of “exercising.”
Well, exercise is not really having fun, and physical activity is having fun. You're both getting exercise, but with exercise, let's say for a treadmill, you have to walk on a treadmill for a couple of minutes and you'll burn something. But if you play, it doesn't really matter how long you play, you're still going to burn something in a certain amount of time but you're having fun. So to you it doesn't matter, you're having fun. You could go play out there for two hours and won't even care. But if you're walking, just walking, you're just bored. In 30 minutes, you're like, "I want to get off this thing."

Playing games was a motivator toward physical activity for three early adolescents. One early adolescent felt encouraged to participate in physical activity as “play” when the director of the community organization would create new games involving different methods of exercise (e.g., a game combining jump roping and soccer). Another early adolescent was encouraged to be active by playing dodge ball; he had fun hitting people with the ball and laughing about it. Yet another early adolescent believed that playing games (e.g., Band Hero) on a gaming station that involved body movement such as moving one’s arms and legs promoted physical activity.

Two other early adolescents referenced being encouraged to be more active through outdoor play. During the mapping activity, all early adolescents described their outdoor play. Examples of their descriptions included sliding down the slides and swinging on the swing set at the elementary school, general play and sports at the local park, running up and down a hill behind their relative’s house (e.g., grandpa and grandma), walking outside with their cousin, and playing tag at the local nature trail.

Seven early adolescents identified objects that facilitated their play during discussion of the artifacts. One of these seven early adolescents identified an apple as increasing her ability to play by increasing body growth and helping the body “be good.”
Although one early adolescent did not bring her dog into the community organization for discussion, she identified her dog as facilitating her outdoor play (e.g., running after the dog and general play with the dog). The seven early adolescents described jump ropes, soccer balls, and basketballs as facilitators of play.

Two early adolescents specifically referenced bullying as a barrier impeding their physical activity, although they could not clearly explain why this was the case. This is one example of a way that bullying may have manifested itself as a barrier to physical activity at the community organization and school involved sports. Six female early adolescents described feeling that their male peers played too rough during basketball. These six female adolescents indicated that their male peers would not include them in basketball games by intentionally playing “too rough” and not passing the ball to the female adolescents.

In sum, early adolescents described their peers as having an influence, both positive and negative, on their physical activity and healthy eating behaviors. On the positive side, peers provided friendship and entertainment while participating in dance, team sports and play. However, early adolescents also described some of their peers as believing physical activity was unnecessary due to their weight status or having to be forced by adults to be more active. Some peers believed that healthy eating was important for their overall health. On the negative side, the majority of peers discouraged healthy eating and sometimes engaged in bullying.

**Electronic Media Influences**

Early adolescents referenced the use of electronic media as both facilitators and barriers to their physical activity and healthy eating during their interviews. As used here, electronic media is defined as a form of communication designed to deliver information to a large number of individuals using electronics rather than print (Electronic Media, 2015). Early adolescents reported that their electronic media use was highly regulated or
prohibited at school and at the community organization where they spent most of their time. Therefore, the early adolescents primarily used electronic media at home.

**Physical Activity**

Early adolescents talked about how they enjoyed using various forms of electronic media, mainly cable television and the internet, to learn about physical activity. Eight early adolescents described electronic media (television, internet, social media, smart phones, and gaming cubes) as encouraging their physical activity. Five of these eight adolescents referenced basic and cable television as a facilitator of their physical activity. Certain cable providers were used by one early adolescent to access fitness channels in lieu of purchasing exercise equipment for home use:

> . . . we got Xfinity, so we go on demand, [search on demand]. They always got fitness channel you want to burn your abs, your calves or just your arms. It's just, click on it, it's right there. It tells you how many minutes you're doing it or not. The people on there is like, "Oh you're doing a great job," and stuff like that.

Three of these eight early adolescents referenced cable television channels (Discovery Channel, The Science Geek, PBS Kids) as facilitators of their physical activity. The Disney Channel was referenced as a physical activity facilitator with commercials that promote exercises during program breaks. One Disney Channel show, “Liv and Maddy,” was specifically referenced as containing content that promoted physical activity. Another early adolescent was encouraged by their television viewing to walk instead of driving with their mother to the grocery store. Yet another early adolescent suggested that adults create a television show that incorporates physical activity for children their age.

Three early adolescents cited television commercials as motivating them to become more physically active. One of these three early adolescents felt inclined to join
the gym when she saw advertisements for a local community sponsored gym in a larger neighboring urban community. Another one of these three early adolescents learned about exercising from commercials on television that he described as “exercise commercials.”

Four early adolescents referenced social media sites (e.g., Facebook, Instagram) as facilitators of their healthy eating. Three early adolescents identified both Instagram and Facebook as promoters of their physical activity. Advertisements and invitations to “follow” individuals associated with healthy eating were the main promoters of healthy eating reported by three early adolescents. One early adolescent reported that Facebook was the primary facilitator of their healthy eating. Another early adolescent posted photos of herself, her sister, and her uncle lifting weights together on Instagram. However, one early adolescent described both Instagram and Facebook as distracting her from physical activity. This early adolescent reported becoming more sedentary while viewing her friends and family members’ posts on both Instagram and Facebook instead of going outdoors to play.

Ten early adolescents used the internet to search for information related to physical activity (e.g., apps, Google, YouTube). Three of these ten early adolescents used “apps” on their phone to access daily exercises and track their physical activity progress. One of these three early adolescents referenced using an app called “Daily Workouts” to access exercises each day. Another early adolescent who did not have a smart phone provided an example of an application that promoted physical activity:

. . . they [social media cites like Facebook] have sponsors from those websites, like those healthy sponsors they have, so like every now and then they'll send out a message saying, "Hey if you do five push-ups and then send it to one person then you're going to get everybody healthy," and stuff like that. Just do a daily exercise or something, and they send it
to you like that. And they have those apps like that for people who are really devoted to losing weight. See, I would have one of those apps but I don't have a phone yet.

One early adolescent disagreed with the internet being a source of information for physical activity by stating that the information on the internet is not accurate.

Less frequently, early adolescents identified gaming as a facilitator of their physical activity. Two early adolescents referenced using gaming cubes (e.g., Xbox and PlayStation) as a form of physical activity:

Because we got all these different games. We got Biggest Loser [custom workouts, daily planning, and healthy eating guidance]. We have Dance Central. We have Dance Four, Two, Three, and One - Just Dance. And we got, Wii Fit because we got a Wii and an Xbox. And all the PlayStations - all those games. Because my brother's a game fanatic. So, if I want to go in there and do something I always go in his room.

Another early adolescent referenced playing Band Hero with his mother as physical activity when he moved his arms and legs while playing the game.

Two early adolescents perceived television as a barrier to their physical activity. They described being tempted to watch television instead of being physically active, and they described feeling “lazy” after they watched television. One of these two early adolescents associated her “laziness” caused by watching television with “getting fat.” The other early adolescent reported that unhealthy eating caused their laziness and increased television viewing, and reported “feeling nothing” as he watched television and became “lazier.”

Healthy Eating

During the interviews, early adolescents described television as both a facilitator and barrier to their healthy eating. Seven early adolescents confirmed television
advertisements as promoting their healthy eating behaviors. One of these seven early adolescents reported that sports and movie stars positively influenced their healthy eating: “Because when you see those people doing it, you start thinking about - you should do as they're doing, one day you could be like them.” Another one of these seven early adolescents had an increased desire to eat fruits and vegetables after seeing advertisements for fruits and vegetables on television.

One early adolescent observed the President of the United States and First Lady promoting healthy eating information and behaviors on television. She stated that the First Lady influenced the President to eat more healthy foods. Additionally, she reported that Tamar Braxton, a reality television star who the early adolescent perceived as eating healthy foods, made her want to eat healthy foods.

Television programs were less frequently referenced as facilitators of healthy eating. One early adolescent said, “It made me want to eat healthy foods like her [Liv and or Maddy]. I wanted to try some new, healthy stuff because I really just eat the usual stuff.” This early adolescent reported seeing “Liv” eating healthy foods to promote healing from an injury. This early adolescent referenced the “Liv and Maddy” show as promoting their healthy eating in the following way:

Sometimes there’s a butler on a TV show. He tries to get those four kids with their rich parents to eat some healthy foods, but they spend time on their tablet at the breakfast table - their tablet and their phone - and they don't even know what the food is.

Another early adolescent cited a rap music video as inspiring their healthy eating behaviors in that the rapper’s girlfriend was preparing a healthy noodle dish with green vegetables.

However, three early adolescents perceived television as negatively influencing their healthy eating. One early adolescent said that she ate junk food (e.g., potato chips)
while watching television. Another early adolescent stated that he did not discuss healthy eating with his friends because he was distracted by thoughts of television and sports. Furthermore, one early adolescent stated that he would change the television channel if he saw an advertisement related to healthy eating.

The internet was one of the main sources of information related to healthy eating for the early adolescents. Eleven early adolescents used the internet (e.g., Google) to search for information related to healthy eating. Early adolescents searched for general information related to healthy eating using the internet. One early adolescent stated that her grandmother was the first person to teach her how to use the internet to search for cooking recipes. These eleven early adolescents referenced using tablet devices and smart phones to access the internet.

Early adolescents also identified social media as a source of information for healthy eating. Nine early adolescents cited Facebook and or Instagram as forums for discussions and dissemination of information related to healthy eating. However, early adolescents were worried about using Facebook and Instagram due to fears of online predators seeking their phone numbers and addresses.

In sum, electronic media were influences, both positive and negative, on the physical activity and healthy eating behaviors of the early adolescents. For physical activity, electronic media offered early adolescents access to exercise tips, programs, motivation, and games. On the other hand, some electronic media seemed to encourage early adolescents to be sedentary. For healthy eating behaviors, television appeared to offer a mix of positive and negative influences, from positive role models in television shows to negative messages in commercials. However, the internet and social media appeared to offer positive opportunities to search for information about healthy eating.
Developing a Sense of Self

Early adolescents described how their physical activity and healthy eating behaviors contributed to their self-development. In discussions of their self-development, early adolescents provided information that conveyed the importance of autonomy, recognition and respect, as well as sensory perception, on their physical activity and healthy eating behaviors. Early adolescents discussed how taste, visual appearance, smell, texture, and temperature affected their sensory perception and consumption of healthy foods. Early adolescents’ quest for self-development influenced their physical activity and healthy eating beliefs and behaviors in their interactions with their peers and families in their home, school, and community organization.

Autonomy

Early adolescents’ participation in physical activity was facilitated by their need for autonomy. Five early adolescents proudly stated that “no one” controlled their physical activity and that they could initiate physical activity independently anytime. At the same time, outside motivation was an important factor for early adolescents. One early adolescent stated, “. . .if I feel inspired or somebody encourages me then I can do it. But if I encourage myself, then it won't help that much, but I can control how much I exercise or do physical activity.”

Early adolescents were highly motivated to initiate and continue physical activity when provided with the opportunity to select their physical activity. The researcher observed that many early adolescents expressed frustration when their teachers at the school and community organization forced them to participate in physical activity that the school or community organization selected on their behalf. All but one male early adolescent preferred basketball, and all female early adolescents preferred dancing on the sidelines as their daily physical activity at the community organization. One female
early adolescent said, “Me being with my friend, us dancing – it just feels like the whole world stops because the beat of the song gets me. The rush – it does something to me.”

The researcher observed that the staff at the community organization would limit the number of days (e.g., Monday, Wednesday, and Friday) that early adolescents could complete their preferred physical activity in order to rotate students through the gym. The community organization attempted to diversify early adolescents’ physical activity by introducing different structured activities (e.g., cone ball, dodge ball, kick ball). The researcher observed that early adolescents showed a lower level of enthusiasm for physical activity introduced by their teachers at the community organization as opposed to their own preferred physical activity. Furthermore, when teachers at the community organization attempted to diversify early adolescents’ physical activity by offering the adolescents a choice of three physical activities, the researcher observed that early adolescents selected their preferred activities. However, five early adolescents reported enjoying new physical activities, including dodge ball, “airplane game,” cone ball, jumping rope, and a game incorporating art and physical activity, when introduced in the community organization and school setting during physical education class.

**Recognition and Respect**

During the interviews, three early adolescents reported that they felt more motivated to participate in physical activity when they were rewarded or felt respected. One early adolescent boasted about receiving two medals for playing basketball with the recreation department at a local park. He was motivated to achieve the same level of success in basketball the next year due to receiving the medal. He also was motivated to participate in physical activity at the community organization to get in shape and practice for the next year of basketball at the recreation department in order to win another medal. One female early adolescent reported that the male early adolescents could be seen on social media doing push-up exercises with their shirts off. This early adolescent
said, “... I always see boys on Instagram. They're videoing themselves doing push-ups, like, I've got to get my body right for the summer and stuff [laughter].”

The researcher observed that many of the early adolescents’ physical activities (e.g., basketball and dancing on the sidelines) were centered on recognition. As early adolescents danced or played basketball at the community organization, they often looked to see if individuals within the community organization were watching them. Furthermore, every day that the researcher was at the gym for her participant observations, female early adolescents were using a laptop computer for selecting songs for dancing on the sidelines of the basketball game. One of the most commonly played songs, “Watch Me,” was by a rapper named “Silento.” The chorus of the song repeated the words: “...Now watch me whip (Kill it!); Watch me nae nae (Okay!); Now watch me whip whip; Watch me nae nae (Can you do it?); Now watch me. ...” Although the rapper seemed to intend for his audience to “watch him” in order to mimic his dance routine, the researcher observed early adolescents interpreting the lyrics as an opportunity to promote viewing by an audience. Furthermore, the researcher observed that, for two early adolescents, physical activity was strongly facilitated by the need to be recognized by their teachers and coaches at the community organization and school and by their adult family members, peers, and siblings of similar ages.

**Personal Growth**

Four early adolescents thought that their current physical activity promoted their growth later in life, which was an important component of their self-development. Early adolescents emphasized the importance of healthy eating to promote their mental functioning, which they identified as an important aspect of personal growth. However, early adolescents also associated healthy eating with promoting their physical health and strength.
Male early adolescents felt strongly about playing basketball, which was conveyed in their discussions about basketball and in the researcher’s observations of their attentiveness while playing basketball at the community organization. Four male early adolescents perceived their current participation in basketball as a beginning step to reach the goal of becoming a professional basketball player as an adult at either the college or national level. One early adolescent was inspired to be more physically active by playing basketball, which he viewed as improving his life circumstances. This early adolescent said, “He [Dwayne Wade] grew up in a neighborhood where people got shot and killed. And like he’s in the NBA now and that’s why he inspired me.” Five female early adolescents discussed the importance of their physical activity for weight loss, which was an important component of personal growth for them. One early adolescent viewed weight loss promoted by increased physical activity as a facilitator for “trying new things.”

**Sensory Perception**

Early adolescents discussed developing their personalized and independent sensory perception of healthy foods. Many early adolescents felt that their sensory perception of certain nutritious foods (e.g., vegetables) was a barrier to their healthy eating. Early adolescents described the taste, visual appearance, smell, texture, and temperature as affecting their healthy eating behaviors.

**Taste.** All early adolescents preferred the sweet, salty, and or spicy flavors as well as the “juiciness” of healthy foods. Similarly, early adolescents described their affinity for unhealthy junk foods as being associated with taste. One early adolescent indicated that their friends would not eat healthy foods because they disliked the way they tasted. Some early adolescents stated that they disliked certain healthy foods, such as bananas that do not “taste right,” “nasty” tasting peaches, “plain” tasting broccoli at a local country-style buffet, and a smoothie that tastes like “sour strawberries and sugar.”
Many early adolescents did not like the taste of broccoli. One early adolescent indicated that they would not consume raw broccoli if it was served to them without toppings or seasoning and would throw the piece of broccoli in the garbage. Another early adolescent liked fruits that were their favorite color (e.g., red), but disliked cherries.

Some early adolescents explained that ranch dressing added to healthy foods (e.g., salads, carrots) made these foods taste better and made it more likely that they would eat them. One of these early adolescents referenced adding croutons to salads so they could eat more. Other early adolescents stated that they enjoyed the sweet flavor of certain healthy foods such as creamed corn and peaches.

Early adolescents’ mothers, grandmothers, and aunts were important in the development of their individualized sense of taste for healthy foods. Early adolescents preferred the taste of healthy foods prepared in unique ways by their mothers: cooked carrots, squash with American cheese topping, corn creamed with butter, vegetables with hot sauce, green beans with baked chicken and salt to increase flavors of “sweetness” and “juiciness,” and greens beans and cabbage cooked with bacon.

**Visual appearance.** The visual appearance of certain healthy foods (e.g., vegetables) influenced early adolescents’ healthy eating behaviors. Four early adolescents stated that they would not eat certain healthy foods that were not visually appealing, such as “plain looking” salad, “yucky looking” squash, “tree” like broccoli, and broccoli and Brussels sprouts appearing as if they were “just picked out of the garden.” One adolescent refused to consume broccoli and Brussels sprouts even with the addition of toppings such as ranch dressing and cheese. This early adolescent suggested deep frying broccoli to encourage consumption by battering and frying it to increase the crispiness and to conceal its appearance. One early adolescent referenced not eating a fruit because it was red, which was her least favorite color. Other early adolescents described enjoying different colors of apples (e.g., red, green, yellow).
**Smell, texture, and temperature.** A few early adolescents referenced the importance of the smell, texture, and temperature of healthy foods. One early adolescent disliked peaches because of their smell (e.g., “stinky”). This early adolescent also stated that not wanting to try certain healthy foods prevented them from eating more healthy foods. Another early adolescent disliked radishes due to their texture and taste, which prevented this early adolescent from increasing their consumption of radishes. This early adolescent said, “I don't know. One time it just gave me a weird feeling. Sometimes, it's hard. Sometimes, it's soft. It just feels weird.”

One early adolescent stated that they preferred to eat apples that were cut up in their Happy Meals from McDonald’s because it released the “juiciness” and decreased the “dryness” of the apple’s skin. This early adolescent further articulated the importance of cutting up healthy foods that contain seeds (e.g., apples). This early adolescent said, “Yeah, and it means you don’t choke on it. There is like seeds and stuff.” Many early adolescents referenced “juiciness” in their discussions of fried chicken as well as other fruits (e.g., pineapples). Second to taste, “juiciness” was the most frequently discussed sensory perception that affected early adolescents’ healthy eating behaviors.

In sum, early adolescents described how their physical activity and healthy eating beliefs and behaviors were related to their need for autonomy, recognition and respect. Early adolescents also discussed how taste, visual appearance, smell, texture, and temperature affected their sensory perception and consumption of healthy foods. Early adolescents’ quest for self-development influenced their physical activity and healthy eating beliefs and behaviors in their interactions with their peers and families mainly in their home, school, and community organization.

**Summary**

Early adolescents all recognized physical activity and healthy eating as beneficial for promoting their health and improving the quality of their lives. Early adolescents
recognized the benefits of physical activity and healthy eating due to the positive
influences of their home, school, and community organization. The benefits that early
adolescents identified were increases in bone health, immune function, energy, weight
loss, physical strength, positive mental attitude, and overall health. Early adolescents
also identified physical activity as beneficial for increasing connectivity with other
individuals within their environment. Female early adolescents perceived physical
activity as beneficial for weight loss. All but one early adolescent perceived healthy
eating as beneficial for increasing energy levels so they could connect with others during
their physical activity.

The most common facilitator of physical activity and healthy eating at home was
the influence of early adolescents' families – both immediate family (i.e., mother, father,
siblings) and extended family (i.e., cousins, aunts, uncles, grandparents). Early
adolescents described how their family members themselves (especially their mother,
grandmothers, and aunts) as well as family participation in organized sports and other
family practices influenced their physical activity and healthy eating behaviors. During
their interviews, early adolescents described how their father, uncles, and male cousins
positively influenced their physical activity. Overall, early adolescents described their
mother as the most influential family member with respect to their physical activity and
healthy eating behaviors. At the same, there were some reports of family behaviors that
were barriers to physical activity and healthy eating, including family responsibilities,
stressors, and unhealthy eating habits.

Early adolescents also learned to recognize the benefits of physical activity and
healthy eating as they connected with other individuals in their school and community
organization. They described their school, the community organization, and other places
in their community as influencing their physical activity and healthy eating behaviors.
The community organization was the main facilitator of early adolescents’ physical
activity in their immediate environment outside their home. Early adolescents’ school and the community organization facilitated their healthy eating behaviors. Early adolescents referenced the two local parks, the other community organization, and a nature trail when discussing their community-related physical activity. At the same time, early adolescents noted that there were barriers to physical activity and healthy eating in the community, including safety and access issues, broken equipment, bullying, and availability of unhealthy food choices.

Outside of the home, early adolescents’ peers influenced how they valued physical activity and healthy eating. Early adolescents talked about their friends’ beliefs about physical activity and healthy eating. They described their friends’ beliefs about physical activity more positively than their friends’ beliefs about healthy eating. In certain cases, the researcher observed that the beliefs of early adolescents’ friends promoted their physical activity and discouraged their healthy eating behaviors. Peer influences on early adolescents’ physical activity and healthy eating were embedded in the early adolescents’ school, community organization, and other places in the community.

As they grew more connected with their home, school, community organization, and other places in the community, electronic media began to influence early adolescents’ physical activity and healthy eating beliefs and behaviors. Electronic media allowed them to connect with a larger community outside their immediate environment that was limited to their home, school, and community organization. Early adolescents reported electronic media as promoting their physical activity. The electronic media cited by early adolescents included television, internet, social media, smart phones, and gaming cubes. During the interviews, early adolescents described how television was both a facilitator and also a barrier to their healthy eating. The internet was a major source of information related to healthy eating for early adolescents. Early adolescents also identified social media as a source of information for healthy eating.
Finally, early adolescents described how aspects of their self-development influenced their physical activity and healthy eating behaviors. Their need to become more autonomous and receive recognition and respect seemed to be major factors influencing their physical activity and healthy eating behaviors. Early adolescents also discussed how the taste, visual appearance, smell, texture, and temperature affected their sensory perception and choices about healthy eating.
CHAPTER 5
DISCUSSION OF THE FINDINGS

The purpose of this ethnographic study was to explore the physical activity and healthy eating beliefs and behaviors of early adolescents in an urban cluster in the southeastern part of the United States. Early adolescence is a period of development when individuals are formulating their lifelong beliefs and behaviors regarding physical activity and healthy eating. Gaining a better understanding of influences on early adolescents’ beliefs and behaviors regarding physical activity and healthy eating during this critical period of their development will assist healthcare professionals with tailoring health education to promote lifelong healthy beliefs and behaviors.

The study addressed one central research question and two research sub-questions. The central research question of the study was: What are the physical activity and healthy eating beliefs and behaviors of early adolescents in an urban cluster in the southeastern part of the United States? The first research sub-question was: What are the facilitators of physical activity and healthy eating for early adolescents in an urban cluster in the southeastern part of the United States? The second research sub-question was: What are the barriers to physical activity and healthy eating for early adolescents in an urban cluster in the southeastern part of the United States?

The researcher used participant observation and semi-structured interviews with the use of artifacts and a mapping activity to obtain rich descriptions of early adolescents’ physical activity and healthy eating beliefs and behaviors. Six themes were generated from data analysis: (a) recognizing benefits of physical activity and healthy
eating, (b) family influences, (c) connecting with the community, (d) peer influences, (e) electronic media influences, and (f) developing a sense of self. This chapter includes an interpretation of findings as they relate to current literature and the conceptual framework; strengths and limitations of the study; implications of the study for nursing theory, practice, policy, and research; and conclusions drawn from the study.

**Interpretation of the Findings**

**Recognizing Benefits of Physical Activity and Healthy Eating**

*Recognizing Benefits of Physical Activity and Health Eating* refers to early adolescents' beliefs and behaviors regarding how physical activity and healthy eating are beneficial to them. All early adolescents recognized the benefits of physical activity and healthy eating. During their interviews and mapping activity, early adolescents identified their home, school, and the community organization as major sources of learning about the benefits of physical activity and healthy eating. Early adolescents described their beliefs about the benefits of physical activity and healthy eating, including increased bone health, immune function, energy, weight loss, strength, mental health, and overall health status. These findings support the work of other qualitative researchers, who also have found that early adolescents are knowledgeable about the benefits and importance of physical activity and healthy eating (Crofton, Markey, & Scannell, 2011; Evans, Wilson, Buck, Torbett, & Williams, 2006; Jefferson, 2006; Martins, Marques, Sarmento, & Carreiro da Costa, 2015; Riggs, 2013; Tuagalu, 2011).

Additionally, Martins, Marques, Sarmento, and Carreiro da Costa (2015) found that urban adolescents aged 13-18 years recognized physical activity as beneficial for health promotion and increased mental and physical health.

In this study, early adolescents linked the benefits of healthy eating to their participation in organized sports. Early adolescents, especially males, emphasized the importance of healthy eating to increase muscle and physical strength for organized
sports. This finding supports findings from earlier research. Evans, Wilson, Buck, Torbett, and Williams (2006) found that early adolescents who participated in organized sports were more likely to eat healthy to increase muscle and energy levels. Callaghan, Mandich, and He (2010) found that early adolescents perceived healthy eating as beneficial for increasing their energy levels, life span, and overall well-being. They also found that adolescents believed healthy eating decreased their risk for chronic diseases such as hypertension and heart disease.

In this study, early adolescents’ knowledge of the benefits and importance of physical activity and healthy eating was connected with environmental influences at the community organization. First, early adolescents all attended a community organization that provided them with structured physical activity for at least one hour per day and healthy eating during snack time and dinner. Snack time and dinner were a reliable and consistent opportunity for healthy eating for the early adolescents. Additionally, the community organization was implementing a health promotion program that targeted physical activity and healthy eating education at the time that the study was being conducted. This program was designed to increase early adolescents’ knowledge and health promoting behaviors regarding physical activity and healthy eating.

**Family Influences**

*Family Influences* refers to early adolescents’ perceptions of the influences, both positive and negative, that families had on their physical activity and healthy eating beliefs and behaviors. Family included early adolescents’ mothers, fathers, siblings, and extended families. Early adolescents explained how their family and home environment influenced their physical activity and healthy eating behaviors. Mothers, aunts, and grandmothers emerged as one of the most pervasive influences of early adolescents’ healthy eating and, to a lesser degree, physical activity beliefs and behaviors. Early adolescents most frequently referenced their mothers, aunts, and grandmothers as
positive influences on their physical activity and healthy eating behaviors. They described their mothers, aunts, and grandmothers as promoting their physical activity by emphasizing the importance of weight loss and providing transportation to places where they could complete their physical activities. Previous qualitative studies have described the importance of family parental units as a key determinant of health for obesity prevention, physical activity, and health promotion in adolescents and children ranging in age from 6 to 18 years (Berge, Arikian, Doherty, & Neumark-Sztainer, 2012; Boutelle, Feldman, & Neumark-Sztainer, 2012; Christiansen, 2013; Jefferson 2006; McIntosh 2010). One study by Miller and Branscum (2012) showed that mothers have an important role in promoting healthy eating by grocery shopping and family meal planning. However, no previous research has described the importance of the influences of mothers, grandmothers, and aunts together in promoting both physical activity and healthy eating in early adolescents.

When asked who made it easier for them to be physically active and eat healthy foods, all early adolescents cited their mothers. Maternal and child health initiatives have identified mothers as resources for health promotion (U.S. Department of Health & Human Services, 2016). While conducting a program evaluation of a maternal and child health program in the same community in which the study was conducted, the researcher identified mothers of infants and young children two years old and under as the primary facilitators of their children’s health. The researcher also identified that the mothers were concerned about their children’s diet and actively sought to improve their children’s diet to improve their health.

When they were asked about people who made it easier for them to eat healthy foods, early adolescents also cited their grandmothers as important facilitators of their healthy eating. The early adolescents often preferred to eat at their grandmother’s house. Early adolescents reported that they were more likely to eat healthy foods at their
grandmother’s house instead of the school and community organization because they preferred their grandmother’s cooking to the cooking at school and the community organization. Furthermore, three early adolescents stated that their mother could not cook as well as their grandmother and that they enjoyed eating at their grandmother’s house. These findings suggest a contradiction of earlier findings by Wong (2012), who noted that obese Chinese early adolescents stated their grandparents may have unknowingly promoted their obesity status by encouraging them to eat more and not placing restrictions on their eating behaviors. Notably, however, the early adolescents in this study did not reference the quantity of food they ate at their grandmother’s house.

Early adolescents’ schedules at home negatively influenced their healthy eating habits. They reported eating “a lot” of junk foods at home after school and on the weekends. A few early adolescents stated that their mothers often could not prepare dinner at night because of time constraints related to being too tired, watching television, caring for the children, or working. This finding is consistent with findings by Berge et al. (2012), who identified time constraints as a barrier to family mealtime in a study of family members 8-61 years of age.

Families facilitated early adolescents’ physical activity at home, but personal responsibilities sometimes acted as a barrier to physical activity. For example, early adolescents based their current or anticipated participation in organized sports on their family history of organization sports. Furthermore, family gatherings in which physical activities, such as games, were featured promoted early adolescents’ physical activities. However, early adolescents’ physical activities at home during the week were limited by their after school responsibilities. Similarly, other studies have shown that adolescents reported that their physical activities were limited by their after-school responsibilities, including sibling care (Hannay et al., 2013; Swanson et al., 2013; Tuagalu, 2011).
Connecting Within the Community

Connecting within the Community refers to early adolescents’ beliefs and behaviors regarding the ways they engaged with what they defined as their community. Early adolescents’ perception of their community included their family members’ homes, school, and the community organization. Early adolescents’ schedules during the week were limited to their home, school, and the community organization. Their daily interactions with the community were highly controlled by their parents or guardians. Early adolescents described attending family gatherings on the weekends at their family members’ homes within the community. They also frequented local restaurants, retail stores, parks, and the other local community center on the weekends and, less frequently, after school.

Early adolescents described their preferred structured and unstructured physical activities in connection with the community. Many early adolescents reported that they enjoyed what they referred to as “play” as their preferred unstructured physical activity. Early adolescents would choose play that involved their peers and home when they had freedom to select their choice of physical activities. Many early adolescents reported that they enjoyed basketball, football, and softball as their structured forms of physical activity. However, community life also raised barriers to engaging in physical activity. As seen in other studies, early adolescents’ physical activities in this study were limited by their responsibilities at home such as homework and taking care of siblings (Hannay et al., 2013; Swanson et al., 2013; Tuagalu, 2011).

Early adolescents described the influences of their school on their physical activity and healthy eating behaviors. When asked about the facilitators of their physical activity and healthy eating behaviors, early adolescents in this study identified organized sports and physical education, health education, and weight lifting classes at school. Additionally, early adolescents identified their teachers and coaches at school as
resources for their physical activity and healthy eating knowledge. These findings are consistent with findings from earlier studies, which have identified the importance of schools as an environment for educating and promoting physical activity and/or healthy eating (Bucher Della Torre, Akre, & Suris, 2010; Jefferson 2006; Wong, Sit, Tarrant, & Cheng, 2012). Jefferson (2006) found that teachers at school were an important resource for healthy eating information. Bucher Della Torre (2010) noted the importance of programs aimed at promoting physical activity and healthy eating in schools, based on findings from early adolescents and adult key stakeholders in the study who advocated for specific features of such programs. Specifically, they advocated for improvements in the lunchroom aesthetic, increased physical activity during class time and learning, and the integration of physical activity and healthy eating messages into classroom learning. They also suggested using a health class as a dissemination tool for programs that promote physical activity and healthy eating.

When early adolescents in this study were questioned about the main facilitators of their physical activities at school, they cited organized sports teams, physical education, and weight training classes. Organized sports, especially basketball and football, were the main facilitators of physical activity for male early adolescents at school. On the other hand, early adolescents also described barriers to physical activity at school. Not all male and female early adolescents qualified for organized sports teams. Furthermore, if they were not signed up for physical education or weight lifting classes at school, many early adolescents were sedentary for the majority of the school day.

Early adolescents identified connections between physical activity in school and in the community organization. In the community organization, many early adolescents’ physical activities were facilitated by their anticipation of participation in organized sports at school, even those early adolescents who were not likely to qualify for organized
sports teams at school. The community organization provided early adolescents with alternative opportunities for physical activity in the form of organized sports teams that did not exclude members. That is, there were no try-outs; any of the community organization members who wanted to participate could do so. Furthermore, the organized sports teams at the community organization functioned as practice for members who either anticipated trying out for organized sports at school or were unsuccessful in their first attempt at doing so.

One of the main barriers to early adolescents’ healthy eating was the availability of unhealthy foods within their homes and at grocery, budget, and convenience stores in the community. Although early adolescents recognized the disadvantages of unhealthy eating, they noted that they often did not eat healthy foods when unhealthy foods were readily available. Similarly, a recent study found that the availability of unhealthy food options in early adolescents’ environment was a barrier to their healthy eating because it increased the desire to eat the unhealthy foods over healthy foods (Heidelberger & Smith, 2015). In fact, research has established the negative impacts associated with the availability of unhealthy foods in the community on adolescents’ healthy eating (Caspi, Sorensen, Subramanian, & Kawachi, 2012; Fleischhacker, Evenson, Rodriguez, & Ammerman, 2011).

**Peer Influences**

*Peer Influences* refers to influences that early adolescents perceived their peers had on their physical activity and healthy eating beliefs and behaviors. The influence of peer relationships on physical activity and healthy eating has been previously established in research (Baily-Davis, 2013; Christiansen, 2013; Evans, 2006; Krolner, 2011; Neymark & Wagner, 2006; Shahanjarini et al., 2010; Verstraeten et al., 2014; Wong, 2012). In this study, early adolescents described their peers as their friends, other
early adolescents of the same age, siblings, and cousins. They also described the significance of their peers’ beliefs regarding physical activity and healthy eating.

The early adolescents talked about how their peers positively influenced their physical activities by encouraging play and participation in organized sports. Five early adolescents perceived their peers as having positive beliefs about healthy eating. For example, these five peers reported that they were more likely to eat unhealthy foods in the company of their peers. These findings are important because Evans (2006) showed that peer role modeling of healthy behaviors may be an important strategy in increasing healthy eating in early adolescents.

Seven early adolescents reported that some of their peers had a negative influence on their healthy eating. These adolescents described their peers as preferring the taste of unhealthy foods over healthy foods. Additionally, the researcher observed peers of early adolescents encouraging unhealthy food consumption during snack time at the community organization. Similarly, Evans (2006) found that early adolescents felt pressured by their peers to consume junk foods. Christiansen et al. (2013) found that adolescents aged 10-14 years purchased the same unhealthy foods at the same locations as their peers.

Early adolescents frequently used the terms “fun” and “play” in their responses to interview questions. They used the term “fun” to describe enjoyable physical activity and educational experiences that were implemented through humor. They used the terms “play” and “fun” to describe physical activity that incorporated games and/or outdoor activities. Early adolescents described enjoying types of physical activity that included teamwork such as organized sports, especially basketball, and dance. In fact, the researcher observed early adolescents laughing and smiling while participating in physical activities with their friends at the community organization. These findings
support those of Berge (2012) regarding the importance of fun as a facilitator of physical activity and healthy eating.

Many early adolescents identified their siblings and cousins as their primary playmates at home. In this way, early adolescents' playmates who were relatives facilitated their physical activity. Early adolescents cited the importance of having playmates for encouraging their physical activity. One early adolescent referenced a lack of playmates and another early adolescent referenced parental permission as barriers to their physical activities with peers. Similarly, other researchers who interviewed early adolescents have shown the lack of playmates and parental permission to go outdoors as barriers to outdoor play (Lee et al., 2015).

**Electronic Media Influences**

*Electronic Media Influences* refers to the influences that early adolescents reported electronic media had on their physical activity and healthy eating beliefs and behaviors. Early adolescents cited television, internet, and smart phones as examples of electronic media. They discussed how the media influenced their physical activity and healthy eating, and they talked about using the internet and social media on their smart phones to view healthy foods and find daily exercises. This finding supports that of an earlier qualitative pilot study. When asked to provide feedback that would help design a future health promotion intervention to target teens, adolescents 12-18 years of age recommended the usefulness of electronic media for sending text messages containing health promotion information (Hingle, Nichter, Medeiros, & Grace, 2013).

Early adolescents described how television programs and, to a lesser degree, commercials facilitated their physical activity and healthy eating. They emulated the behaviors of people, especially celebrities, who they saw being physically active or eating healthy foods on television. They talked about copying the positive healthy eating that they saw on television, but they did not describe how viewing negative eating
behaviors on television affected their personal eating habits. In contrast to these findings, Karimi-Shahankanari et al. (2010) found that early adolescents 12-18 years of age perceived television commercials as increasing their temptation to eat unhealthy junk foods.

**Developing a Sense of Self**

*Developing a Sense of Self* refers to early adolescents' descriptions of how their physical activity and healthy eating beliefs and behaviors were influenced by their developmental need of becoming an independent individual during early adolescence. This theme includes discussions of concepts of autonomy, recognition and respect, personal growth, and sensory perception. Early adolescents discussed how their need for self-development guided their physical activity and healthy eating behaviors, although they did not use these words. The adolescents referenced beliefs and behaviors that the researcher connected with autonomy, recognition and respect, personal growth, and sensory perception as they discussed their physical activity and healthy eating beliefs and behaviors connected with their self-development.

It was important for the early adolescents to establish or further develop control and autonomy over their physical activity and healthy eating behaviors. Early adolescents emphasized the importance of giving and receiving respect and being recognized while completing their physical activities. They discussed being respected and respecting others while being physically active in a team during basketball. This finding is consistent with findings in other studies. For example, Lee et al. (2015) found that it was important to give early adolescents a “voice” in choosing their preferred types of play to promote their physical activities. Likewise, Hingle et al. (2013) found that it was important to eliminate authoritarian tones, such as “you should” and “you need to,” when promoting and attempting to modify physical activity and healthy eating behaviors in adolescents 12-18 years of age. Instead, early adolescents in the study by Hingle et al.
(2013) suggested using less assertive and direct words, such as “try” or “consider,” when promoting physical activity and healthy eating.

Early adolescents discussed the influences of taste, visual appearance, smell, texture, and temperature on their sensory perception and consumption of healthy foods. Similarly, other studies have found that taste influences healthy eating behaviors in adolescents ranging in age from 10 to 18 years (Callaghan, Mandich, & He, 2010; Crofton, Markey, and Scannell, 2011; Evans 2006; Shahanjanni, 2010). Many early adolescents would determine whether they would eat fruits and vegetables based on their visual appearance. For example, one early adolescent would not eat a vegetable because it looked “yucky,” while another early adolescent preferred to eat fruits that were her favorite color. Other studies also found that the visual appearance of healthy foods influenced early adolescents’ decision whether to eat them (Evans, 2006; He et al., 2012; Krolner, 2011; Potter et al., 2011). For example, Potter et al. (2011) found that early adolescents preferred fruits over vegetables, were particular about the appearance of fruits and vegetables, wanted to try a variety of different fruits and vegetables, and preferred dips for vegetables.

**Strengths of the Study**

The main strength of this study is that the researcher incorporated different strategies to enhance conversation with the early adolescents. The researcher used artifacts and a mapping activity to engage the early adolescents in conversation about physical activity and healthy eating. A mapping activity has been used successfully in another study with adolescents 11-13 years of age (Kirby, Levin, & Inchley, 2013). The researcher observed that the early adolescents became tired and increasingly less interested in the interviewing process during the beginning of their second interview. The researcher implemented the mapping activity at the beginning of the second interview and the discussion of artifacts at the beginning of the third interview. The timing and
incorporation of the mapping activity and discussion of the artifacts rejuvenated the early adolescents’ interest level and reengaged them in the interview process. Two early adolescents requested to take their map home to show their family.

Additionally, this study used qualitative methods to explore early adolescents’ beliefs and behaviors regarding both physical activity and healthy eating. No other studies were identified that explored early adolescents’ beliefs and behaviors of both physical activity and healthy eating using ethnography in an urban cluster. It was helpful to explore early adolescents’ beliefs and behaviors regarding both of these concepts together because the researcher discovered, through the adolescents’ responses to open-ended questions during the interviews, that the two concepts were interconnected. As the adolescents provided their responses about eating healthy foods, they connected their responses to the importance of eating healthy foods for participating in organized sports or physical activity. Furthermore, by exploring these two concepts together, the researcher was able to gain insight into how the early adolescents were being taught about physical activity and healthy eating together in health promotion programs in the school and at the community organization.

**Limitations of the Study**

The major limitations of this study are related to the focus on a small group of early adolescents who all attended one community organization. First, only the early adolescents were interviewed, and they were only observed at the community organization. Early adolescents’ parents and the community organization director and staff members were not interviewed. Early adolescents were not observed at home or in their school, and schoolteachers and school staff members were not interviewed. Second, the sample included almost exclusively African Americans, with one mixed race participant and no Caucasians. This limits generalization of the findings.
The addition of information from parents, the director and staff members at the community organization, schoolteachers and school staff members, and early adolescents of other racial groups to the study could have provided a richer picture of the various influences on the beliefs and behaviors of the early adolescents. Interviews and observations with these individuals could have produced a better understanding of the physical activity and healthy eating beliefs of the individuals who were responsible for the early adolescents at home, in their school, and at the community organization. Understanding the physical activity and healthy eating beliefs of these individuals could help provide a better understanding of how the physical activity and healthy eating beliefs and behaviors of the early adolescents were influenced.

**Implications for Nursing Theory**

Bronfenbrenner’s model was found to be a useful framework for this study. Initially, the researcher planned to focus on Bronfenbrenner’s first and second foundational principles, which state that development occurs between individuals and other individuals, objects, and symbols in the immediate environment and that these are affected by the consistency of the interactions in the immediate and extended environments (Bronfenbrenner, 1994). The first principle of the ecology model states that human development is based on behavior occurring through human interactions with living and non-living matter – i.e., person, objects, and symbols (Bronfenbrenner, 1994). The second principle of Bronfenbrenner’s (1994) ecology model states that the form, power, content, and direction of proximal processes differ based on characteristics of the environment.

When interpreting the findings of this study, the researcher found it helpful to focus on Bronfenbrenner’s concepts of the microsystem and mesosystem. Bronfenbrenner (1994) defined the microsystem as follows:
...a pattern of activities, social roles, and interpersonal relations experienced by the developing person in a given face-to-face setting with particular physical, social, and symbolic features that invite, permit, or inhibit engagement in sustained, progressively more complex interaction with, and activity in, the immediate environment. (p. 39)

Bronfenbrenner (1994) defined the mesosystem as "the linkages and processes taking place between two or more settings containing the developing person" (p. 40). The microsystem is helpful in understanding the relationship between the developing early adolescents and their immediate environment, including the home and school environments (Bronfenbrenner, 1994). The concept of the mesosystem was useful in understanding the interplay between the environments of the home and school, home and the community organization, and school and community organization (Bronfenbrenner, 1994).

In future studies of early adolescents’ physical activity and healthy eating, Bronfenbrenner’s concepts of the exosystem, macrosystem, and chronosystem could be useful. The exosystem is defined as:

...the linkages and processes taking place between two or more settings, at least one of which does not contain the developing person but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives. (p. 40)

The macrosystem is defined as:

...the overarching pattern of micro, meso, and exosystems characteristic of a given culture or subculture, with particular reference to the beliefs systems, bodies of knowledge, material resources, customs, life-styles, opportunity structures, hazards, and life course options that are embedded in the micro, meso, and exosystems. (p. 40)
The chronosystem is defined as “change or consistency over time not only in the characteristics of the person but also of the environment in which that person lives” (p. 40).

The exosystem could be used to explore the interplay between two or more environments, one that the early adolescent does not reside in but that impacts their physical activity and healthy eating behaviors. For example, the exosystem could be used to explore the interplay between early adolescents’ home environment and their parents’ work environment to evaluate how the interaction of these two environments affect their physical activity and healthy eating behaviors. The component of the macrosystem could be used to further explore early adolescents’ physical activity and healthy eating beliefs and behaviors situated in different immediate and remote environments. Exploring the macrosystem involves an in-depth look into culture to understand the social and psychological intricacies that influence early adolescents’ beliefs and behaviors to better understand their barriers and facilitators of physical activity and healthy eating (Bronfenbrenner, 1994). The component of the chronosystem could be used to better understand how early adolescents’ physical activity and healthy eating beliefs and behaviors are influenced by the changes that occur within early adolescents and their home, school, and the community organization over time.

Implications for Nursing Practice

Two major implications of this study for nursing practice were identified. The first implication relates to the finding that all early adolescents recognized the benefits of physical activity and healthy eating. Nurses should build on early adolescents’ knowledge of the benefits of physical activity and healthy eating by ensuring that continuing health promotion education is provided in health clinics, schools, and community settings that are frequented by early adolescents. For example, other studies found that school nurses had an important role in initiating health promotion
conversations, promoting adolescents’ autonomy and responsibility for healthy eating, and increasing the availability of healthy foods in schools (Neymark & Wagner, 2006; Steele, 2011).

The second implication is that nurses should incorporate early adolescents’ families in continuing health education. The early adolescents’ physical activity and healthy eating beliefs and behaviors were highly influenced by their families. They discussed how their families both positively and negatively influenced their physical activity and healthy eating beliefs and behaviors. The majority of the time, their mothers, aunts, and grandmothers positively influenced the early adolescents to eat healthy foods and be more physically active. However, there were instances where certain family members, such as the fathers, uncles, or grandfathers, did not help them eat healthier. Research should further investigate how to target continuing education to the early adolescents’ family members who negatively influence their physical activity and healthy eating beliefs and behaviors; this research could then inform nursing practice.

**Implications for Public Health Policy**

There are five implications for policy related to this study’s findings. The first implication relates to policy designed to protect early adolescents at the individual level within their home. Although many early adolescents perceived media and technology at home as facilitators of their physical activity and healthy eating behaviors, some adolescents identified the increased screen time as a barrier to their physical activity and healthy eating. Policy makers who focus on community and public health policy should continue to develop and implement policy aimed at increasing the quality of television programs and commercials related to physical activity and healthy eating.

The second implication relates to the development of policy designed to promote health beliefs and behaviors of early adolescents in their immediate environment outside their home. Early adolescents described the influences of their school and community
Early adolescents’ beliefs and behaviors enjoyed their physical education classes and recess at school, which increased their physical activity. Schools and community organizations should further enhance early adolescents’ engagement in physical activities (Chillag, 2013; IOM, 2013). As recommended by the Institute of Medicine, policy should be implemented to guarantee early adolescents’ recess and physical education classes each day (IOM, 2013). Parents, teachers, and physical education and weightlifting coaches should incorporate choice and early adolescents’ preferred form of physical activity, such as dance and teamwork, into their physical activities to encourage participation.

The third implication relates to the continued assessment of early adolescents’ physical activity and healthy eating in schools and community organizations. Continued assessment of early adolescents’ physical activity and healthy eating in schools and community organizations is warranted because these settings were identified in this study as the primary environmental influences on their physical activity and healthy eating behaviors. Presently, some schools are conducting Fitness Gram testing to evaluate the physical activity status of their students (Welk, 2008). The Fitnessgram® is a method of physical activity evaluation and assessment specifically designed for school systems (Welk, 2008). Schools could also consider implementing computer-based tools for assessing healthy eating, such as the Healthy Eating Self-Monitoring Tool (HEST), which is designed to evaluate fruit and vegetable consumption, and the Synchronized Nutrition and Activity Program (SNAP), which is designed to complete a daily recall of physical activity and healthy eating in less than 25 minutes (DiNoia, 2007; Moore, Hillier, Batterham, Ells, & Summerbell, 2014).

The fourth implication relates to the availability of junk foods in retail stores in the early adolescents’ communities. Early adolescents also described the negative influences of readily available junk foods in retail stores in their communities. This
suggests that there would be value in developing policy at the state or national level to increase the access to and selection of healthy foods for all community members, including early adolescents. The issue of marketing foods to early adolescents is complex, and regulation to reduce exposure of early adolescents to unhealthy food products should be considered. Studies have shown that urban convenience stores can be redesigned to market their products so that unhealthy and healthy food options are equally available to encourage early adolescents and others to make healthier eating decisions (Sherman et al., 2015). The marketing of unhealthy foods to adolescents has been recently addressed in research studies (Carter, Edwards, Signal, & Hoek, 2012; Hawkes & Harris, 2011; Mehta et al., 2012). Carter et al. (2012) found that policy helped prevent the marketing of “energy dense and nutrient poor” foods most commonly found at sporting venues (p. 1377). Another approach would be to implement advertising and marketing incentives regarding the sale of healthy foods in retail stores. Federal or state policy implementation may be necessary to incentivize grocery, budget, and convenience stores to transition their marketing strategies. Policy makers might consider tax incentives for businesses and corporations that adopt healthy marketing practices to protect early adolescents.

Finally, the fifth implication relates to increasing funding for community organizations. This study suggests the value of enacting policy to provide or increase funding for community organizations that facilitate physical activity and healthy eating for early adolescents. Throughout the duration of the study, early adolescents frequently described the importance of the community organization as a facilitator of their physical activity and healthy eating. For the organization that was the setting for this study, recent policy has been implemented to increase funding allocated at the federal level. However, funding is only available for branches of the national community organization that apply on an “as needed” basis.
Implications for Future Research

Three major implications for research arise from this study’s findings. The first implication is that more comprehensive ethnographic studies of early adolescents’ physical activity and healthy eating beliefs and behaviors in community organizations in other regions of the country, using different economic and age groups, need to be conducted. This research could also focus on early adolescents of different socioeconomic and racial/ethnic backgrounds who do and do not participate in a community organization’s after-school program that focuses on healthy eating and physical activity. Such studies would contribute to a richer picture of the beliefs and behaviors of early adolescents in a variety of environments. For the same reason, the physical activity and healthy eating beliefs and behaviors of parents, teachers, and other key individuals related to early adolescents’ environment should be included in these studies. This recommendation echoes that of other researchers who have noted the importance of studying environmental determinants that influence physical activity and healthy eating and of conducting ecologically driven studies that investigate imbalances of both physical activity and healthy eating (Economos, Hatfield, King, Ayala, and Pentz, 2015; Story, Kaphingst, Robinson-O'Brien & Glanz, 2008).

The second implication is that additional research on the influence of peer interactions on physical activity and healthy eating beliefs and behaviors in early adolescence is needed. Early adolescents in this study described the influences of their peers on their physical activity and healthy eating behaviors, and oftentimes these were negative influences. The question is how to increase positive influence. Quantitative research has established the use of interventions using peer role modeling to promote physical activity and healthy eating (Bogart et al., 2011; Forneris et al., 2010; Lytle et al., 2004; Wilson, Jones, McClish, Westerberg, & Danish, 2012). However, additional research using qualitative methods could foster a better understanding of the specific
social and psychological features of meaningful peer interactions, which could lead to better design and implementation of interventions targeted at peer behaviors.

The third implication is the need for research investigating the association between early adolescents’ personal development and their physical activity and healthy eating beliefs and behaviors. Early adolescents in this study described how their need to make their own decisions about physical activity and healthy eating, gain respect and recognition from their peers and other individuals, and develop their own palates for healthy foods influenced their physical activity and healthy eating behaviors. This suggests that the desire for autonomy is an important motivational force for early adolescents with respect to their beliefs and behaviors related to physical activity and healthy eating. Future research should further explore how early adolescents’ need to make independent decisions, gain respect and recognition from their peers and other individuals, personal growth, and developing perception of their senses influence their physical activity and healthy eating beliefs and behaviors.

**Conclusions**

This study examined early adolescents’ physical activity and healthy eating beliefs and behaviors in an urban cluster in the southeastern part of the United States. There are three primary contributions of the study to nursing science. First, all early adolescents in this study recognized both physical activity and healthy eating as beneficial to promoting their health and improving the quality of their lives. They identified health benefits of both physical activity and healthy eating that included increases in bone health, immune function, energy, weight loss, physical strength, positive mental attitude, and overall health. Second, early adolescents described their mothers as the most influential family member for their physical activity and healthy eating behaviors. Other studies have emphasized the importance of parents and the family unit as a whole for promoting physical activity and healthy eating. However, no
studies have highlighted the special importance of mothers for promoting both physical activity and healthy eating in early adolescents. Third, the community organization was identified as the main facilitator of early adolescents’ physical activities within their immediate environment outside their homes. Unlike exclusive team sports and physical education courses that were sometimes offered at school, the community organization regularly gave all early adolescents who were members the opportunity to engage in physical activities in a safe environment. These findings suggest three different points of entry that the nursing community can use, separately or together, to encourage physical activity and healthy eating among early adolescents.
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Appendix A
Institutional Review Board Office
Georgia Regents University
1120 15th St., CJ-2103
Augusta GA 30912-7621
Email: IRB@gru.edu
Phone: 706- 721-3110
http://www.gru.edu/research/irboffice/

DATE: January 12, 2015

TO: Miranda Hawks, MSN
FROM: Georgia Regents University (GRU) Committee B

PROJECT TITLE: [690769-2] Early Adolescents’ Physical Activity and Nutrition Beliefs and Behaviors in an Urban Cluster: An Interpretive Ethnography

REFERENCE #: New Project (Response/Follow-Up)

ACTION: APPROVED
APPROVAL DATE: January 9, 2015
EXPIRATION DATE: January 8, 2016
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 6 & 7(a)(b)

Thank you for your submission of Response/Follow-Up materials for this New Project. The Georgia Regents University (GRU) Committee B has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulations.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of January 8, 2016.

The approval includes the following documents:

- Child Assent - Assent Document 10to14 2015_01_06.doc (UPDATED: 01/6/2015)
- Consent Form - Social Behavioral Parent-Guardian consent template 2015_01_06.doc (UPDATED: 01/6/2015)
- GRU - Core Data Form - GRU - Core Data Form (UPDATED: 01/7/2015)
- Letter - Response to Stipulations Letter 2015_01_07 (UPDATED: 01/7/2015)
- Advertisement - ad_template Hawks 2014_12_18.doc (UPDATED: 12/18/2014)
Please note that all research records must be retained for a minimum of three years after the completion of the project. Please refer to the GRU IRB Policy Records Retention on the IRB website.

If you have any questions, please contact the IRB office at 706-721-3110 or irb@gru.edu.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Georgia Regents University (GRU) Committee B's records.
DATE: November 10, 2015

TO: Miranda Hawks, MSN

FROM: Georgia Regents University (GRU) Committee B

PROJECT TITLE: [690769-5] Early Adolescents’ Physical Activity and Nutrition Beliefs and Behaviors in an Urban Cluster: An Interpretive Ethnography

SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED

APPROVAL DATE: November 7, 2015

EXPIRATION DATE: November 6, 2016

REVIEW TYPE: Expedited Review

Thank you for your submission of Continuing Review/Progress Report materials for this project. The Georgia Regents University (GRU) Committee B has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on applicable federal regulations.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of November 6, 2016.

The approval includes the following documents:

• GRU - Continuing Review Form - GRU - Continuing Review Form (UPDATED: 10/21/2015)

All Principal Investigators must comply with the following:

• Conduct the research in accordance with the protocol, applicable laws and regulations, and principles and research ethics as set forth in the Belmont Report.

• Unless consent has been waived, conduct the informed consent process without coercion or undue influence, and provide the potential participant sufficient opportunity to consider whether or not to participate.
  ◦ Use only the most current approved consent form bearing the GRU IRB stamp.
• Provide non-English speaking subjects with a certified translation of the approved consent form in the subject's first language. The translation must be approved by the IRB unless other arrangements have been made and approved by the IRB.
• Obtain approval from the IRB for use of recruitment materials and other materials provided to subjects.
• Obtain approval from the IRB for changes/modification in research.
• Report all reportable events to the IRB within 5 days, per IRB Policy: "Reportable Events."
• Ensure all applicable ancillary approvals are obtained prior to initiating the study. This includes:
  ◦ Medical Center approval if Medical Center resources are used
  ◦ Biosafety Approval, if applicable
  ◦ Radiation Safety Approval, if applicable
  ◦ Chemical Safety Approval, if applicable

Please note that all research records must be retained for a minimum of three years after the completion of the project. Please refer to the GRU IRB Policy Records Retention on the IRB website.

If you have any questions, please contact the IRB office at 706-721-3110 or irb@gru.edu.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Georgia Regents University (GRU) Committee B's records. If the reader of this message is not the intended recipient you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED.
Appendix B
Georgia Regents University
Parent Research Informed Consent Document
EARLY ADOLESCENTS’ PHYSICAL ACTIVITY AND NUTRITION BELIEFS AND BEHAVIORS IN AN URBAN CLUSTER: AN INTERPRETIVE ETHNOGRAPHY

Protocol/Study Title: Early Adolescents’ Physical Activity and Nutrition Beliefs and Behaviors in an Urban Cluster: An Interpretive Ethnography

Name of Principal Investigator (PI): Miranda Hawks, MSN, RN, CNL

PI Address: 987 St. Sebastian Way
Augusta, Georgia 30912

PI Telephone Number: [redacted]

Name(s) of Sub-Investigator(s) (Sub-I): Dr. Julie Zadinsky (Faculty Sponsor)

Invitation to participate in a research study

Miranda Hawks invites your child to participate in a research study about early adolescents’ beliefs and behaviors about physical activity and nutrition.

Description of subject involvement

If you agree for your child to be part of the research study, your child will be asked to speak with the researcher two to three times about his/her thoughts and experiences about physical activity and nutrition at the [redacted]. The interviews will be recorded, but your child’s name and other identifying information will not be included in the recording. After transcribing the interviews, the researcher will keep the audio recordings of the interviews for the duration of the study. The researcher will also observe your child at the [redacted] During the observations, the researcher will observe your child to determine what they are eating and what they are doing to be active. The researcher may also interact with your child during his/her activities at the [redacted]. If your child decides not to participate in the study or withdraws from the study, your child’s participation in or eligibility for the programs offered by the [redacted] will not be affected.

Benefits

Your child may directly benefit from being in this study because he/she may learn from talking about their physical activity and nutrition thoughts and experiences. Reflecting on and discussing their thoughts and experiences may help them better understand how they think and feel about physical activity and nutrition.
Risks and discomforts

There are no risks associated with this study because the data collection is completely anonymous and the topic is not sensitive.

Compensation

Your child will be given a $25.00 gift card to Subway restaurant for participating in this study. Your child will receive the $25.00 gift card after their second interview.

Confidentiality

If the results of the study are published or presented publically, we will not include any information that would identify your child. There are some reasons why people other than the researchers may need to see information your child provided as part of the study. This includes organizations responsible for making sure the research is done safely and properly, including Georgia Regents University (GRU), government offices or the study sponsor, Georgia Regents University College of Nursing.

To keep your child’s information safe, the researcher will store electronic data on the Georgia Regents University secure research drive and will de-identify all data. Hard copy data (i.e., paper copies) will be de-identified and stored in a locked cabinet at an office in Georgia Regents University College of Nursing. Only the researcher will have access to the locked cabinet.

Also, if your child tells us something that makes us believe that your child or others have been or may be physically harmed, we may report that information to the appropriate agencies.

Storage and future use of data

The data your child provides will be stored on the Georgia Regents University secure research drive or in a locked cabinet at an office in Georgia Regents University College of Nursing. The researcher will retain the de-identified data until all of the data have been analyzed and the reports of the study have been written, which is anticipated to be approximately two years after all of the data have been collected. The researcher will retain any information linking your child to the de-identified data only until all data have been collected. The researcher will dispose of your child’s data by shredding the paper documents and deleting electronic files from the computer at the end of the study. The data will not be made available to other researchers for other studies following the completion of this research study and will not contain information that could identify your child.

Voluntary nature of the study

Participating in this study is completely voluntary. Even if your child decides to participate now, your child may change their mind and stop at any time. If your child decides to withdraw early, no further information will be collected from your child. However, any information that has been de-identified cannot be removed from the study because it is not linked to your child.
Contact information

If you or your child have questions about this research, including questions about scheduling or your child’s compensation for participating, you may contact the nurse researcher, Miranda Hawks, at [Contact Information] or her faculty advisor, Dr. Julie Zadinsky, at [Contact Information].

If you or your child have questions about your child's rights as a research participant, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researcher, please contact Georgia Regents University IRB Office at (706) 721-1483.

Consent

By signing this document, you are agreeing to allow your child to be in the study. You will be given a copy of this document for your records and one copy will be kept with the study records. Be sure that questions you have about the study have been answered and that you understand what your child is being asked to do. You may contact the researcher if you think of a question later.

I agree to participate in the study.

_________________________  ____________________________
Child’s Printed Name

_________________________
Parent’s/Guardian’s Printed Name

_________________________  ____________________________
Parent’s/Guardian’s Signature  Date

I acknowledge that I have discussed the above study with the parent and answered all of his/her questions. They have voluntarily agreed to allow their child to participate.

_________________________
Investigator’s Printed Name

_________________________  ____________________________
Investigator’s Signature  Date

Version date: 12/18/14,
02/24/15

Parent’s initials _________
Appendix C
GEORGIA REGENTS UNIVERSITY
CHILDREN’S ASSENT AGE 10-14

Protocol/Study Title: Early Adolescents’ Physical Activity and Nutrition Beliefs and Behaviors in an Urban Cluster: An Interpretive Ethnography

Name of Principal Investigator (PI): Miranda Hawks, MSN, RN, CNL
PI Address: 987 St. Sebastian Way
Augusta, Georgia 30912

Name of Sponsor: Georgia Regents University College of Nursing Center for Nursing Research Seed Grant

I am being asked to be in a research study. The nurse researcher is telling me about the study. I can tell the nurse researcher if I want to be in it or not. The nurse researcher wants me to ask any questions that I have about the study. The nurse researcher will answer my questions.

Ms. Miranda Hawks is the nurse researcher who is doing this study. She is a student at a school in Augusta. This study is a part of her schoolwork.

The purpose of this study is to understand what I think about physical activity and nutrition and to see what I am eating and doing to be active.

During this study, the nurse researcher will watch to see what people my age are eating and doing to be active at the [REDACTED]. The nurse researcher will also talk with me about what I think about physical activity and nutrition.

Our discussion will be recorded so that the nurse researcher can better understand what I am saying. The nurse researcher will look at what I said during our discussion to see what I am saying and how what I say is the same or different as what other people say in the study. My name and other information that could be used to figure out who I am will not be used in the recording or in any other papers that are involved with the study.

I will receive a $25.00 gift card to Subway restaurant at the end of my second interview in the study.

I do not have to be in this study. I can stop any time I want to. If I do stop or if I do not want to be in the study, it’s okay. No one will be mad at me. The nurse researcher and the people at the [REDACTED] will not be mad at me.
I can tell the nurse researcher, my parents, and the Director at the [Redacted] about anything in the study that I don’t like. They will answer my questions or contact the nurse researcher to answer my questions. My parent knows about the study. He or she said that I could be in the study.

I read this paper. The nurse researcher will explain it to me. I will have a chance to ask questions. The nurse researcher will answer the questions so that I can understand. If I have more questions, concerns, or complaints, my parents or I can call Ms. Miranda Hawks at [Redacted]. I will sign this paper if I want to be in this study.

Subject’s Name (print)

___________________________________  ____________________________
Subject’s Signature               Date

Time of Subject’s Signature (00:00)

*Parent or Guardian’s Name (print)

___________________________________  ____________________________
*Parent or Guardian’s Signature      Date

Time of Parent or Guardian’s Signature (00:00)

*The individual above verifies that he/she is the natural parent and/or legal guardian of ________ and as such has the legal authority to consent to the study outlined above.

INVESTIGATOR: I acknowledge that I have discussed the above study with this participant and answered all of his/her questions. The participant has been provided with as much time as they wanted to review this document. They have voluntarily agreed to participate. A copy of this signed document has been given to the participant and the participant’s parent who signed the parent permission form.

Printed name of investigator obtaining consent

______________________________________________ _____________
Signature of investigator obtaining consent   Date

Time of Investigator’s Signature (00:00)

Version Date: 2014 DEC 16, 2015 FEB 9

Subject’s Initials: ____
Appendix D
Your child is invited to participate in the following study:

*Early Adolescents’ Physical Activity and Nutrition Beliefs and Behaviors in an Urban Cluster: An Interpretive Ethnography*

- **Study Purpose:** To explore the beliefs and behaviors of early adolescents (10-14 years) regarding nutrition and physical activity.

- **Requirements:** Early adolescents must have resided in [redacted] for at least one year and be 10-14 years of age at enrollment.

- **Observations and Interviews:** Early adolescents will be observed and interviewed (2-3 times for approximately 1 hour) as part of the study.

- **Interviews:** Interviews will take place at [redacted].
- **Walmart Gift Cards:** Walmart gift cards will be provided for participation in the study.

*For more information, please call Miranda Hawks at [redacted]*
Appendix E
Semi-Structured Interview Guide Introduction

Hi, my name is Ms. Miranda Hawks. I am a nurse who is studying to be a researcher at a school in Augusta, Georgia that is called Georgia Regents University. As part of my schoolwork, I am doing this research study about what people your age think about physical activity and nutrition. So far during this research study, I have been looking at what people your age are eating and doing to be physically active at the [oonu].

Our discussion today is part of my research study. I am here to talk with you about what you think about physical activity and nutrition. I would like to record our discussion so I can put your responses in a written format. I will look at what you said during our discussion to understand more about what you are saying and how your thoughts are the same or different as other peoples’ thoughts in the study. Your name and other information that could be used to figure out who you are will not be in the written papers of the recordings from the interviews. As part of this study, I will ask to talk with you again about these questions. Is it okay with you for me to record our discussion today? [Note the participant’s answer.]

Your mother/father (whoever signed the permission form) knows about you being in the study and the discussions we will have. They said that you could be in the study and that we could talk together today. You can tell your parents and teachers about anything in our talk today that you don’t like. You can tell them anything about the study that you don’t like. They will answer your questions or contact me to answer your questions.

You do not have to talk with me today about physical activity and nutrition. You do not have to continue to be in this study if you don’t want to. You can stop any time you want to. If you do stop or if you do not want to talk with me today or to be in the
study, it’s okay. No one will be mad at you. If you don’t want to continue to be in study, then you can just let me know now.

Do you have any questions about our discussion today or about the study? If you have more questions later, you or your parents can call me anytime. My phone number is on the papers that you and your parents signed at the beginning of the study.

Are you still willing to talk with me about physical activity and nutrition today? [If the participant responds “no,” the researcher will stop here and reevaluate whether the participant wants to continue in the research study.] Great - Thank you for being here with me today to talk about physical activity and nutrition. Let’s get started...
**Semi-Structured Interview Guide**

Reminders for the researcher:
State the participant number (alphanumeric label) before beginning the interview.
Observe and document participant’s sex.
State the interview number (i.e., one, two, or three).
Remind the participants not to reference any individual specifically by name during the interview.

<table>
<thead>
<tr>
<th>Main Question(s): The primary questions to be used in the interview.</th>
<th>Additional Question(s): Questions that will be used as needed to help the participants understand the main questions and or expand on their responses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>How old are you?</td>
<td>When is your birthday?</td>
</tr>
<tr>
<td>What race are you?</td>
<td>Are you Black, White, Latino, or another race?</td>
</tr>
<tr>
<td>Have you lived in this community for at least one year?</td>
<td>When did you move to this community?</td>
</tr>
<tr>
<td>When did you enroll in (or start attending) the <strong>after-school program</strong>? (fill in)</td>
<td>When did you enroll in (or start attending) the <strong>after-school program</strong>?</td>
</tr>
</tbody>
</table>

**NUTRITION QUESTIONS**

<table>
<thead>
<tr>
<th>Question</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does “nutrition” mean to you?</td>
<td>What does the term “healthy foods” mean to you?</td>
</tr>
<tr>
<td></td>
<td>What does “good nutrition” and “bad nutrition” mean to you?</td>
</tr>
<tr>
<td></td>
<td>What does having “healthy nutrition habits” or “unhealthy nutrition habits” mean to you?</td>
</tr>
<tr>
<td>Topic</td>
<td>Questions</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tell me about healthy foods.</td>
<td>What are some examples of foods that are healthy for you?</td>
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<tr>
<td>Tell me about foods that are not healthy.</td>
<td>What healthy foods do you like? Why do you like them?</td>
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<tr>
<td></td>
<td>What healthy foods do you not like? Why don’t you like them?</td>
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<tr>
<td></td>
<td>What foods that are not healthy do you like? Why?</td>
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<tr>
<td></td>
<td>Tell me about the qualities of healthy foods that make you like or dislike them.</td>
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<tr>
<td></td>
<td>What do your friends and family think about healthy foods? Why?</td>
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<tr>
<td></td>
<td>What do others in your community think about healthy foods? Why?</td>
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<tr>
<td></td>
<td>Who do you like eating healthy foods with and when do you eat these foods? Who do you like eating foods that are not healthy with and when do you eat these foods? Why?</td>
</tr>
<tr>
<td></td>
<td>Who controls the types of healthy foods that you eat? How do they control the types of healthy foods that you eat?</td>
</tr>
<tr>
<td></td>
<td>Who controls the foods you eat that are not healthy? How do they control these foods?</td>
</tr>
<tr>
<td>Tell me about the healthy foods that you eat during a typical week (during the school week and weekend).</td>
<td>What kinds of healthy foods do you eat at school during the week? What kinds of healthy foods do you eat during the weekend? At the At home? In your community?</td>
</tr>
<tr>
<td>How does eating healthy foods benefit you?</td>
<td>Do you think that eating healthy foods is important? Why or why not?</td>
</tr>
<tr>
<td></td>
<td>In your opinion, how do your friends and family think that eating healthy foods will benefit them?</td>
</tr>
<tr>
<td></td>
<td>How do others in your community think that eating healthy foods will benefit them?</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>How do you get information about healthy foods?</td>
<td>Tell me how you get information about healthy foods at home. At school. At the . From your friends. Do you get information about healthy foods on social media sites such as Facebook, Twitter, Vice, Onion, Pinterest? If so, how do you use social media to get the information? How often do you go to social media sites to get information? How are these social media site(s) helpful to you? How do you find information about where healthy foods are located in the community? How frequently do you go to these locations to get healthy foods?</td>
</tr>
<tr>
<td>Tell me about the people in your life who are facilitators or barriers to you eating healthy foods.</td>
<td>How do they help you eat healthy foods? How do they stop you from eating healthy foods?</td>
</tr>
<tr>
<td>Tell me about the things in your life that are facilitators or barriers to you eating healthy foods.</td>
<td>How does this help you eat healthy foods? How does this stop you from eating healthy foods?</td>
</tr>
<tr>
<td>Tell me about how easy or hard it is for you to eat healthy foods on a daily basis.</td>
<td>Why?</td>
</tr>
<tr>
<td>Nutrition Mapping</td>
<td>Using the map, Please circle the places where you find healthy foods in your community. How did you find these places? How have the places where you can find nutritious foods in your community changed over the years? Can you easily get to these places? How can you get to these places?</td>
</tr>
</tbody>
</table>
Tell me about the nutritious foods that you find at these places.

Tell me about your favorite nutritious or healthy foods to eat at these places.

Tell me about your favorite location to go to get nutritious or healthy foods.

Tell me about the best place you can imagine where you could go to eat healthy foods.

Tell me about the types of nutritious or healthy foods that you can find in your home . . . in your school . . . in the .

**Nutrition Artifacts**

Tell me what these objects mean to you.

Using the objects that you brought with you,

Tell me about how these objects are related to the healthy foods that you eat on a daily basis.

Tell me how these objects help you eat healthy foods.

Tell me how these objects are barriers to you eating healthy foods.

**PHYSICAL ACTIVITY QUESTIONS**

What does “physical activity” mean to you?

What does “exercise” mean to you?

What does it mean to be physically active?

How do you define “exercise”? How does the definition (or meaning) of exercise differ from the definition (or meaning) of physical activity? What does it mean to “exercise”?

Tell me about your physical activities – that is, the physical activities that you routinely do and that you sometimes do.

What are some examples of your physical activities?

What physical activities do you especially like or dislike? Why?

Are you involved in any sports either at school or outside of school? Tell me about the sports that you are involved with either at school or outside of school.
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell me about the qualities of the physical activities that make you like or dislike them.</td>
<td>What do your friends and family think about physical activity? Why? What does your community think about physical activity? Why? Who do you like doing physical activities with? Why? Who controls the physical activities that you do? How do they control the physical activities that you do?</td>
</tr>
<tr>
<td>Tell me about your physical activities during a typical school week and weekend.</td>
<td>During a typical school week and weekend, what kinds of physical activities do you do? At school? At the</td>
</tr>
</tbody>
</table>
| **Tell me about the people who are facilitators or barriers to you being physically active.** | **How do they help you do more physical activities?**  
**How are they a barrier to you doing more physical activities?**  
**How does this help you do more physical activities?**  
**How is this a barrier to you doing more physical activities?** |
|---|---|
| **Tell me about the things in your life that are facilitators or barriers to you being physically active.** | **Using the map,**  
Tell me why you do or don’t do physical activities at these places.  
Tell me why you do or don’t get information about physical activity at these places.  
How did you find these places?  
Have these places where you can go to do physical activities in your community changed over the years?  
Can you easily get to these places?  
Tell me about how you get to these places.  
Tell me about the physical activities you can do at these places.  
Tell me about your favorite physical activity to do at these places.  
Tell me about your favorite place to go to do physical activities.  
Tell me about the best place you can imagine where you could go to do physical activities.  
Tell me about the physical activities that you do at home . . . at school . . . at the . . . |
| Physical Activity Artifacts                  | Using the objects that you brought with you,                                                                 |
|                                           | Tell me about how these objects are related to the physical activities that you do on a daily basis.          |
|                                           | Tell me how these objects are facilitators to you doing physical activities.                                |
|                                           | Tell me how these objects are barriers to you doing physical activities.                                   |
| What else would you like to tell me about nutrition and physical activity? |                                                                      |

The following clarifying questions will be used as needed:

Please tell me more about what you said.
What else would you like to tell me?
Appendix F
Codes and Their Definitions

1. Benefits of Healthy Eating- Early adolescents’ beliefs and behaviors about how healthy eating is beneficial to them.

2. Benefits of Physical Activity- Early adolescents’ beliefs and behaviors about how physical activity is beneficial to them.

3. Community Healthy Eating Beliefs- Early adolescents’ perception of their community’s beliefs about healthy eating.

4. Community Physical Activity Beliefs- Early adolescents’ perception of their community’s beliefs about physical activity.

5. Effect of Sensory Perception on Healthy Eating- How the early adolescents described that taste, smell, and appearance of healthy foods influenced their healthy eating behaviors.

6. Family Healthy Eating Beliefs- Early adolescents’ perception of their families’ beliefs about healthy eating.

7. Family Physical Activity Beliefs- Early adolescents’ perception of their families’ beliefs about physical activity.

8. Friends’ Healthy Eating Beliefs- Early adolescents’ perception of their friends’ beliefs about healthy eating.

9. Friends’ Physical Activity Beliefs- Early adolescents’ perception of their friends’ beliefs about physical activity.

10. Healthy Eating at Home- The types and quantities of healthy foods that early adolescents reported consuming at home.

11. Healthy Eating at School- The types and quantities of healthy foods that early adolescents reported consuming at school.

12. Healthy Eating at the Community Organization- The types and quantities of healthy foods that early adolescents reported and that the researcher observed them consuming at the community organization.

13. Healthy Eating Barriers at Home- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating difficult or impossible for early adolescents at home.

14. Healthy Eating Barriers at School- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating difficult or impossible for early adolescents at school.
15. Healthy Eating Barriers at the Community Organization- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating difficult or impossible for early adolescents at the community organization.

16. Healthy Eating Barriers in the Community- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating difficult or impossible for early adolescents in their community.

17. Healthy Eating Behaviors at Home- The daily routine and activities involved in early adolescents’ healthy eating at home as reported by early adolescents.

18. Healthy Eating Behaviors at School- The daily routine and activities involved in early adolescents’ healthy eating at school as reported by early adolescents.

19. Healthy Eating Behaviors at the Community Organization- The daily routine and activities involved in early adolescents’ healthy eating at the community organization as reported by early adolescents and or observed by the researcher.

20. Healthy Eating Behaviors in the Community- The daily routine and activities involved in early adolescents’ healthy eating in their community.

21. Healthy Eating Facilitators at Home- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating easier for early adolescents at home.

22. Healthy Eating Facilitators at School- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating easier for early adolescents at school.

23. Healthy Eating Facilitators at the Community Organization- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating easier for early adolescents at the community organization.

24. Healthy Eating Facilitators in the Community- A person, situation, or object that makes starting, continuing, or reinitiating healthy eating easier for early adolescents in their community.

25. Healthy Eating in the Community- Early adolescents’ perception of healthy eating and features of the community related to healthy eating.

26. Healthy Eating Information at Home- Information about healthy eating at home that early adolescents reported.

27. Healthy Eating Information at School- Information about healthy eating at school that early adolescents reported.

28. Healthy Eating Information at the Community Organization- Information about healthy eating at the community organization that early adolescents reported and or the researcher observed.
29. Healthy Eating Information in the Community- Information about healthy eating in their community that early adolescents reported.

30. Healthy Eating Preferences- The types of healthy eating that early adolescents preferred.

31. Healthy Eating Knowledge- The knowledge that early adolescents had about healthy eating.

32. Personal Healthy Eating Beliefs- Early adolescents' individual beliefs about healthy eating.

33. Personal Meaning of Healthy Eating- The meaning that healthy eating had to early adolescents with respect to important aspects of their lives, such as family and health.

34. Personal Meaning of Physical Activity- The meaning that physical activity had to early adolescents in important aspects of their lives, such as family and health.

35. Personal Physical Activity Beliefs- Early adolescents' individual beliefs about physical activity.

36. Physical Activity at Home- Physical activities that early adolescents reported doing at home.

37. Physical Activity at School- Physical activities that early adolescents reported doing at school.

38. Physical Activity at the Community Organization- Physical activities that early adolescents reported and or that the researcher observed them doing at the community organization.

39. Physical Activity Barriers at Home- A person, situation, or object at or connected with the home that makes starting, continuing, or reinitiating physical activities difficult or impossible for early adolescents.

40. Physical Activity Barriers at School- A person, situation, or object at or connected with the school that makes starting, continuing, or reinitiating physical activities difficult or impossible for early adolescents.

41. Physical Activity Barriers at the Community Organization- A person, situation, or object at or connected with the community organization that makes starting, continuing, or reinitiating physical activities difficult or impossible for early adolescents.

42. Physical Activity Barriers in the Community- A person, situation, or object in or connected with the community that makes starting, continuing, or reinitiating physical activities difficult or impossible for early adolescents.

43. Physical Activity Behaviors at Home- Early adolescents' physical activity behaviors at home as reported by early adolescents.
44. Physical Activity Behaviors at School- Early adolescents’ physical activity behaviors at school as reported by early adolescents.

45. Physical Activity Behaviors at the Community Organization- Early adolescents’ physical activity behaviors at the community organization as reported by early adolescents and or observed by the researcher.

46. Physical Activity Behaviors in the Community- Early adolescents’ physical activity behaviors in their community as described by themselves.

47. Physical Activity Facilitators at Home- A person, situation, or object at home that makes starting, continuing, or reinitiating physical activities easier for early adolescents.

48. Physical Activity Facilitators at School- A person, situation, or object at school that makes starting, continuing, or reinitiating physical activities easier for early adolescents.

49. Physical Activity Facilitators at the Community Organization- A person, situation, or object at the community organization that makes starting, continuing, or reinitiating physical activities easier for early adolescents.

50. Physical Activity Facilitators in the Community- A person, situation, or object in the community that makes starting, continuing, or reinitiating physical activities easier for early adolescents.

51. Physical Activity in the Community- Early adolescents’ perception of physical activity and features of the community related to physical activity.

52. Physical Activity Information at Home- Information about physical activity at home that early adolescents reported.

53. Physical Activity Information at School- Information about physical activity at school that early adolescents reported.

54. Physical Activity Information at the Community Organization- Information about physical activity at the community organization that early adolescents reported and or the researcher observed.

55. Physical Activity Information in the Community- Information about physical activity in their community that early adolescents reported.

56. Physical Activity Knowledge- The knowledge that early adolescents had about physical activity.

57. Physical Activity Preferences- The types of physical activity that early adolescents preferred.
Appendix G
Theme Definitions

**Recognizing Benefits of Physical Activity and Healthy Eating:** Early adolescents’ beliefs and behaviors regarding how physical activity and healthy eating are beneficial to them.

**Family Influences:** Influences, both positive and negative, that early adolescents perceived their families having on their physical activity and healthy eating beliefs and behaviors. Family included their mothers, fathers, siblings, and extended families.

**Connecting with the Community:** Early adolescents’ beliefs and behaviors regarding the ways they engaged with what they defined as their community, which they described as including their school, community organization, and family members’ homes.

**Peer Influences:** Influences that early adolescents perceived their peers having on their physical activity and healthy eating beliefs and behaviors. Early adolescents’ peers included their friends, other early adolescents of the same age, siblings, and cousins.

**Electronic Media Influences:** Influences that early adolescents perceived electronic media having on their physical activity and healthy eating beliefs and behaviors.

Electronic media included early adolescents’ television, internet, and smart phones.

**Developing a Sense of Self:** Early adolescents’ descriptions of how their physical activity and healthy eating beliefs and behaviors were influenced by their developmental phase of early adolescence that included developing a sense of self. This theme included discussions of autonomy, recognition and respect, personal growth, and sensory perception.