

## ABSTRACT

Title of dissertation: IDENTIFYING BARRIERS AND FACILITATORS OF LEISURE TIME PHYSICAL ACTIVITY THROUGH THE EXPERIENCES OF 16-18 YEAR OLD AFRICAN AMERICAN/BLACK GIRLS: A GROUNDED THEORY STUDY

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Among older adolescent African American/Black girls, obesity rates continue to rise between the ninth and 12th grades, whereas among white females, rates decline. Contributing to these high rates is the lack of leisure-time physical activity (LTPA) among youth. Nationwide, 95% of older adolescents (ages 16-18) are not meeting federal guidelines for physical activity. Older adolescent African American/Black girls are less likely to report LTPA when compared to their peers. Current approaches are not adequately addressing reduced LTPA among African American/Black older adolescent girls, requiring a return to the population affected to better understand this problem.

To address this need, the current grounded theory dissertation study aimed to develop a grounded theory model of barriers and facilitators to LTPA among older adolescent African American/Black girls. Enrolled in the study were 16 African American/Black girls ( $N=16$ ) aged 16-18 ( $M=16.7$ ) years. Nine participants were classified as exercisers and seven as non-exercisers. All participants attended high school in Prince George's County, Maryland. Each participant took part in an in-depth individual qualitative interview, conducted at a private, quiet location of their choice.

Using constructivist grounded theory methods (CGT), analysis of the interview data occurred across four phases: open, focused, axial, and theoretical coding.

CGT analysis resulted in a behavioral process theory explaining barriers and facilitators of LTPA among African American/Black older adolescent girls, grounded in youths' own experiences. The theory, anchored by the core category of Choosing to Engage in LTPA, has five related categories: Being Autonomously Motivated, Perceiving Control Over Time, Knowing About Exercise, Experiencing the Influence of Others, and Receiving Messages About One's Body. Each theoretical category includes multiple properties and dimensions, such as understanding the benefits of LTPA outside of weight loss, believing exercise is fun, and having confidence in the ability to exercise. Multiple influences across family, community, and societal systems shaped participants' attitudes and beliefs.

The results of this study contribute to a growing body of research on physical activity among older adolescents. These findings can inform the development and testing of feasibility in an afterschool LTPA intervention, as well as school physical education curriculum and policy.

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AMERICAN/BLACK GIRLS: A GROUNDED THEORY STUDY

By

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## **Dedication**

This dissertation is dedicated in memory of my grandmother (Nonnie), whose love, encouragement, and persistence brought me to where I am today. I also dedicate this dissertation to my two daughters, Abigail and Alexa who have given me grace and encouragement during this time. I love you girls, forever and always.

## **Acknowledgements**

This dissertation study would not have been possible without the support of the girls who participated in this study and were willing to share a piece of their lives with me, thank you. To Ms. Alexis Jefferson and the other “leading ladies,” I am blessed by your kindness. Thank you for bringing me into your world.

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Lastly, to my husband Toby and our two amazing daughters, Abigail and Alexa-I know these past four years have not been easy but know that without the three of you, this would not have been possible. Toby, you stepped up when I needed you, and I am eternally grateful for your love, patience, and support.

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# **Chapter 1: Introduction**

## **Problem Statement**

Reducing sedentary behavior in adolescents is a national priority as evidenced by Healthy People 2020, which has set a goal to increase the proportion of adolescents who meet the current federal physical activity guidelines (Healthy People 2020 [Internet], 2020). Living a sedentary lifestyle is associated with reduced metabolic function, increased triglyceride levels, and reduced insulin sensitivity, each of which if prolonged increase one's risk for cardiovascular disease (Tremblay et al., 2010). Increasing physical activity can reduce one's relative risk of early death by 20-35% and even the slightest increase in physical activity can reduce risk of diabetes and cardiovascular disease (Warburton et al., 2006).

Older adolescent girls (16-18 years) engage in significantly less physical activity than boys of the same age (Katzmarzyk et al., 2016; National Physical Activity Alliance Plan, 2018). Only 12.2% of girls in grades 9-12 meet the federal guidelines for aerobic physical activity and muscle strengthening activity (Healthy People 2020 [Internet], 2020). As adolescents progress through high school, rates of physical activity decline with less than one-quarter of ninth grade girls and just over 12% of 12<sup>th</sup> grade girls engaging in regular physical activity, a more dramatic decline than male students (US Department of Health and Human Services, 2013). This reduction is a trend that continues post-high school graduation and into adulthood (US Department of Health and Human Services, 2013). African American/Black, urban adolescent girls are 1.5 times as likely to report not being physically active (Basch, 2011). Adolescents from rural communities are more likely to be on sports teams but have greater challenges outside of

these venues for achieving physical activity (McCormack & Meendering, 2016; Moore et al., 2014).

Despite the current application of theoretically based interventions to address a sedentary lifestyle among adolescents, little progress has been made in changing physical activity behaviors (Barr-Anderson et al., 2014; Reed et al., 2015). Obesity rates among older adolescents has continued to rise but an even greater increase has been documented among African American/Black girls (22% versus 14.1% of non-Hispanic white adolescents) since the 1960's with lack of physical activity having significant impact (Robert Wood Johnson Foundation, 2019). The continued rise of obesity among older African American/Black adolescent girls coupled with evidence of systematic reviews is evidence that current interventions are not effective at changing obesity-related behaviors (Bagherniya et al., 2018; Baker et al., 2015; Hudson, 2008). Application of theoretical constructs is inconsistent across interventions and not well tested making it difficult to understand the most impactful constructs to change (Bagherniya et al., 2018). Theoretical constructs applied are often applied using dated research; more continuing formative research is needed on sub-populations to better identify and define the process of behavior change from the individual's perception. The application of exploratory research, such as in this study, can be used to identify a set of theoretical constructs that are relevant to the population in a given time and space (Davis et al., 2015). Health behavior theories often do not explain the process or interaction between the constructs. The use of qualitative methods, such as grounded theory, facilitates understanding of behavioral processes (i.e. how we choose to engage in a behavior) through the lived

experience of participants, allowing us to more mindfully apply theoretical constructs (Lawrence & Tar, 2013).

Much of the research to date on physical activity behaviors is heavily focused on girls younger than 16 and primarily is aimed at addressing the transition between childhood and early adolescence (Reed et al., 2015). Community engaged investigation into the facilitators and barriers to physical activity in older adolescent African American/Black youth is needed. Using community engaged research will help us understand and develop interventions that are grounded in and resonate with a community's experience with the behavior. This study explores these barriers and facilitators of LTPA among exercising and non-exercising participants living in Prince George's county from the perspective of the older adolescent, African American girls.

### **Research Question**

Previous studies primarily focus on the behavioral process of physical activity as experienced by younger African American/Black youth (ages 5-12) or as they transition from older adolescence to young adulthood. The current grounded theory study aims to augment the knowledge base around physical activity research by exploring an understudied population currently being underserved by existing physical activity interventions. Using constructivist grounded theory methods, this study generated a theoretical framework to better contextualize and inform development of culturally appropriate interventions.

The primary research question in this study is: *What behavioral process theory explains incorporation of physical activity among older adolescent (ages 16-18) African American/Black girls?* The sub-questions to be explored in this study are specific to this

population and include: (1) *What are the barriers older adolescent African American/Black girls encounter related to engagement in leisure-time physical activity,* (2) *What are their facilitators to engagement in leisure-time physical activity among older adolescent African American/Black girls?*, and (3) *How do older African American/Black girls perceive leisure-time physical activity?*

### **Public Health Implications**

This dissertation study has many implications for public health research, practice, and policy. The results of this grounded theory study can inform the development of future interventions to increase physical activity in older African American/Black adolescent girls. The theoretical model developed provides insight into the factors that enable or interfere with physical activity engagement and can assist with the development of culturally and age-appropriate interventions. Current theoretical approaches in this age group show low to moderate effects; positive impacts have been demonstrated predominately in highly controlled clinical trials that hold challenges when replicated within the actual community setting (Pearson et al., 2015). Additionally, the theoretical model can be tested quantitatively in future studies to examine barriers, facilitators, and perceptions of leisure-time physical activity among similar sub-populations.

These findings can inform the development of physical education curriculum and policy. The results indicate that high school students need exposure to lifetime physical activities that are easy to incorporate in small spaces, with little to no equipment, and are low to no cost. These approaches are relevant to the national health objectives set in Healthy People 2020 (PA-3; PA-3.1; PA-3.2; PA-3.3) to increase the proportion of adolescents who meet current federal guidelines for aerobic physical activity and muscle-

strengthening activity (Healthy People 2020 [Internet], 2019). Further, these findings can support policy and advocacy efforts for mandating physical education across the four years in high school. Relevant to the national health objectives set in Healthy People 2020, the findings of this study support the goal (PA-4; PA-4.3) to increase the proportion of public and private high schools that require daily physical education (Healthy People 2020 [Internet], 2019).

## Key Terms and Acronyms

**Table 1**

*Key Terms & Definitions*

| Term/Acronym                                  | Definition                                                                                                                                                                          |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical Activity                             | Any body movement that increases energy expenditure outside of the basal (rest) rate (U.S. Department of Health and Human Services, 2008).                                          |
| Leisure Time Physical Activity (LTPA)         | Physical activity that occurs outside of working, transportation, and household chores (2018 Physical Activity Guidelines Advisory Committee, 2018).                                |
| Moderate to Vigorous Physical Activity (MVPA) | Refers to the effort level of physical activity, when asked on a scale of 1-10 the level of effort, a 5-6 should be indicated (U.S. Department of Health and Human Services, 2008). |
| Older Adolescents                             | For the purposes of this study, older adolescents are defined as ages 16-18, still enrolled in high school.                                                                         |
| Barriers                                      | Possible obstacles and challenges to taking action, in this study the action is LTPA (Glanz et al., 2015)                                                                           |

| Term/Acronym         | Definition                                                                                                                                                                                                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Facilitators         | Attributes of the physical and/or social environment that increase the likelihood of action (LTPA) (Glanz et al., 2015)                                                                                                                           |
| Grounded Theory      | This rigorous qualitative research method results in researchers developing conceptual or theoretical frameworks of a process, action, or interaction among participants (Charmaz, 2014; Creswell & Poth, 2018)                                   |
| Open coding          | The first step of coding in grounded theory, open coding is the process of reviewing an interview transcript line-by-line to create codes (Charmaz, 2014).                                                                                        |
| <i>In vivo</i> codes | The coded lines from the data (identified during open coding) that use the participants words or phrases allowing the researcher to preserve the meaning of the participants' words and voice (Charmaz, 2014).                                    |
| Focused coding       | The second step of coding in grounded theory, focused coding uses the <i>in vivo</i> open codes to create broader codes that subsume related open codes and allows the researcher to conceptualize the data (Charmaz, 2014).                      |
| Axial coding         | The third step of coding in grounded theory, axial coding takes the broad concepts identified in the focused coding step and develops and sorts information into categories and subcategories making connections between the two (Charmaz, 2014). |
| Theoretical coding   | The last step in coding in grounded theory, theoretical coding examines the relationships between categories and leads to the development of a theory of represented in a diagram (Saldana, 2016).                                                |
| Audit trail          |                                                                                                                                                                                                                                                   |

| Term/Acronym            | Definition                                                                                                                                                                                                                                                                                                                 |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Used to track the research process and theoretical decisions made during analysis, the audit trail enhances rigor and transparency (G. A. Bowen, 2009).                                                                                                                                                                    |
| Member checking         | Conducted typically towards the end of the analytic process, member checking is the presentation of results back to the participants to confirm agreement in the researcher's interpretation (Charmaz, 2014)                                                                                                               |
| Memo writing or memoing | Connecting the data collection and analytic phases, memo writing is used to document emerging ideas and concepts throughout the study (Charmaz, 2014).                                                                                                                                                                     |
| Reflexivity             | Conducted throughout the research process, reflexivity is the process of the researcher exploring the relationship between their interests, positions, and assumptions and the research. A process where researchers explore how their interests, positions, and assumptions can influence their research (Charmaz, 2014). |

## **Chapter 2: Literature Review**

This study identified the barriers and facilitators to physical activity through intensive interviews exploring the behavioral process of physical activity among older adolescent, African American/Black girls. This chapter focuses on overweight and obesity in older adolescent African American/Black girls, the relationship between physical activity and overweight/obesity, and health outcomes associated with being overweight/obese. This section introduces barriers and facilitators to physical activity from current literature, including current school physical activity policies/guidelines, with a cultural focus on African American/Black older adolescent girls and explores the developmental facilitators and barriers in this population.

### **Obesity & Overweight Measures**

Body Mass Index (BMI) is not the focus of this study, however it is important to note how obesity and overweight as measured. Primarily, research uses BMI to ascribe one to obese or overweight status. BMI is calculated through dividing an individual's weight in kilograms by their height in meters squared. When determining weight status category of teenager, an age and sex specific percentile for BMI is used. Definitions of weight status include: underweight (less than the 5<sup>th</sup> percentile); normal or healthy weight (5<sup>th</sup> to 84.99<sup>th</sup> percentile); overweight (85<sup>th</sup> to 94.99<sup>th</sup> percentile); and obese (equal to or greater than 95<sup>th</sup> percentile (Centers for Disease Control, 2018a). There is recent criticism over the use of BMI as a predictor of health yet, much of the current research presented here still uses BMI and more holistic measures of weight status are needed to provide a more clear picture of individual health status (Dodgen & Spence-Almaguer,

2017). Using BMI is challenging since often it is self-reported by the individual increasing the change for less than accurate results and additionally BMI does not account for weight differences as a result of muscle mass or fat mass (Himes, 2009). Lastly, BMI does not account for genetic, racial/ethnic differences in body type and fat distributions (Carroll et al., 2008).

### **Obesity & Overweight in Youth**

The Youth Risk Behavioral Surveillance Survey (2017) indicates that 12.1% of high school girls are obese, significantly less than high school boys (17.5%) (Centers for Disease Control, 2018b). Whereas boys trend towards higher rates of obesity, high school girls are significantly more overweight (16.8% versus 14.4%) (Centers for Disease Control, 2018b). Of these, girls are more likely to describe themselves as overweight and to be engaging in behaviors to manage their weight (Centers for Disease Control, 2018b). Among these high school girls, the prevalence of overweight declines from ninth to 12<sup>th</sup> grade with the exception of African American/Black girls (Centers for Disease Control, 2018b). Rates of overweight African American/Black girls trends from 20.8% to 22.9% from ninth to 12<sup>th</sup> grade, their white peers see a reduction from 14.3% to 11.7% (Centers for Disease Control, 2018b). A similar pattern is seen among obesity rates in these populations with obesity rates rising among African American/Black girls from ninth to 12<sup>th</sup> grade and declining rates among white girls (Centers for Disease Control, 2018b).

## **Physical Activity & Overweight/Obese Youth**

### ***Physical Activity Among High School Youth in the United States***

Current recommendations for physical activity for adolescents indicate that adolescents should be engaging in at least 60 minutes of moderate to vigorous physical activity every day (U.S. Department of Health and Human Services, 2008). The majority of the 60 minutes should be engaging in aerobic activity with at least three days each of muscle and bone strengthening activities, such as weight training, running, or playing basketball (U.S. Department of Health and Human Services, 2008, p. 3). In the United States, only 5.1% of adolescents aged 16-19 meet federally recommended physical activity guidelines of obtaining moderate or vigorous physical activity for at least one hour each day compared to 42.5% of children ages 6-11 (Katzmarzyk et al., 2016; US Department of Health and Human Services, 2008). Among these, boys (26%) are more likely to meet physical activity guidelines than girls (16.9%) (Katzmarzyk et al., 2016). This reduction in physical activity is partially attributed to reductions of participation in school sponsored activities, such as team or club sports among girl adolescents, leading to an increased sedentary lifestyle, other barriers and facilitators are discussed below (Eime et al., 2013; Howie et al., 2016). This decline continues as older adolescents transition to young adulthood, post high school graduation, resulting in increases of Body Mass Index (BMI) (Deforche et al., 2015; Li et al., 2016b).

The prevalence of physical inactivity among African American/Black youth is higher than their peers. Prevalence rates of engaging in moderate to vigorous physical activity for at least 60 minutes, at least five days per week is lowest among African American/Black girls, with only 29.9% reporting this level of physical activity compared

to 38.8% in white girls and 36.9% in Hispanic girls (Kann et al., 2018). When compared to their boy peers, over half of adolescent boys engage in this level of physical activity (Kann et al., 2018). Levels of physical activity among girls declines from grades 9 to 12. In ninth grade, 45.3% of girls are engaging in moderate to vigorous physical activity five or more days a week compared to 32.2% of 12<sup>th</sup> grade girls (Kann et al., 2018). This decline was also noted by Rockette Wagner et. al., (2017) observing that study participants in the 12<sup>th</sup> grade took significantly fewer daily steps overall and significantly fewer daily steps outside of school (leisure-time) than those in the ninth grade. Most of the activity for these girls occurred during the school day, walking to and from classes. On nights and weekends step counts significantly dropped (Rockette-Wagner et al., 2017).

Physical activity in adolescence is a predictor of physical activity later in life (Crozier et al., 2015). Studies examining the impact of sports and LTPA in adolescents on adulthood physical activity show that adolescent girls who participate in sports and other physical activities have higher rates of LTPA in adulthood (Jose et al., 2011; Mäkelä et al., 2017).

### ***Health Outcomes and Physically Active Older Adolescents***

Physically active youth typically demonstrate more positive outcomes related to sleep, diet, and academic performance. Sleep health is correlated with physical activity. Youth who engage in physical activity at or above recommended levels generally get more minutes of sleep per night (Philbrook & El-Sheikh, 2016). A study examining the impact of LTPA at moderate to vigorous levels on sleep found that obese participants who engaged in 180 minutes of MVPA after school had better quality sleep and longer

duration of sleep (Mendelson et al., 2016). Developmentally, older adolescents need 8-10 hours of sleep a night for optimal functioning (National Sleep Foundation, 2019), yet only 25.4% are getting 8 or more hours of sleep and sleep duration declines from 9<sup>th</sup> to 12<sup>th</sup> grade (Kann et al., 2018).

Adolescents who engage in LTPA are more successful academically than their non-LTPA peers (Aaltonen et al., 2016). A systematic review of randomized control trials that measured the impact of physical activity on academic performance found that in nearly each study, academic performance among physically active adolescents was higher than non-physically active peers (Lees & Hopkins, 2013). Academic performance is of concern among older African American/Black adolescent girls as the Black-White achievement gap persists with significant gaps in reading and math achievement (de Brey et al., 2019).

### ***Physical Education and High Schools***

Contributing to the overall levels of physical inactivity and consequentially higher rates of overweight and obesity among youth are the lack of policies related to physical education at this level. Leisure time physical activity (LTPA) is focused on in this study as there are few policies regarding physical education and physical activity in the nation's high schools. In the United States, only 2.1% of high schools mandate physical education (Healthy People 2020 [Internet], 2019). Participation levels in offered physical education classes varies by gender, boys are more likely to register, attend and participate in physical education classes at this age than girls (Palakshappa et al., 2015).

Among younger adolescent African American/Black girls (ages 13-14), participation in physical education classes is related to greater levels of LTPA (Duncan et

al., 2015). Preferences for individually based activities such as aerobics, dance, and tennis that are often not a part of physical education classes prohibit girl participation and effort in physical education classes (Hannon, 2008). This lack of exposure may reduce overall ability and self-efficacy to engage in LTPA.

The impact of engaging in physical education in high school on later physical activity in adulthood are mixed. A longitudinal cohort study following participants over 12 years from adolescence to adulthood found that although adolescent girls participated less in physical education classes, they were more likely to engage in LTPA in adulthood than adolescent boys who had participated in physical education classes (Palakshappa et al., 2015). A possible explanation being that adolescent girls are learning outside of school various approaches to physical activity that are less structured and more easily built into one's routine however, our understanding of these activities in adolescence is limited (Poobalan et al., 2012).

### **Health Outcomes and Obesity/Overweight Youth**

The impact of adolescent overweight/obesity (OV/OB) has been well documented. Increased risk of co-morbidities such as diabetes, cardiovascular disease, stroke, and hypertension is common among longitudinal studies of adults who were OV/OB in adolescence (Reilly & Kelly, 2011). For girls specifically, OV/OB can result in early onset of one's menstrual period, reduced fertility, an increased risk of Polycystic Ovarian Syndrome (PCOS), and other menstrual disorders (Elizondo-Montemayor et al., 2017). Psychological health is also impacted later in life by adolescent OV/OB. In a study examining the relationship between current depression and weight status in high school, women who were overweight in high school were twice as likely to experience

depression than those who were men and/or of healthy weight (Carter et al., 2015). This relationship was even stronger for women who were overweight at both time periods in the study (high school and age 65), with these women being three times as likely to experience depression (Carter et al., 2015).

Short term impacts of OV/OB in adolescence include physical and psychological problems. Girls who are OV/OB in adolescence have a higher risk of low self-esteem and have a greater risk of psychological morbidity (onset of mental illness), a risk that increases in age (Reilly et al., 2003). Socially, overweight adolescents tend to seclude themselves from their peers which can lead to greater rates of isolation, low self-esteem, and depression (Ramos et al., 2018). Adolescent girls who are OV/OB are also more likely to report poor general health and to report physical limitations in their day to day life (Swallen, 2005).

### **Developmental Milestones and Considerations of Older Adolescents**

Adolescent girls experience many developmental milestones between the ages of 14-18. These milestones reflect physical, social, and biological changes expected to occur during this time frame. For girls these milestones include, cessation of physical changes, onset of a regular menstrual cycle, exploration of sexual identity through relationships and sexual experience, possible conflict with parents, widespread concern over appearance, increased peer pressure, and continued brain maturation and development (American Academy of Pediatrics, 2019). Related to thinking and learning, adolescent girls begin to have more defined work habits, demonstrate concern about future plans (work, school), and can more efficiently rationalize their choices (Centers for Disease Control, 2019b).

It is important to reflect on these developmental characteristics of older adolescent girls and the impact this may have on physical activity behaviors. Major shifts in development coincide with transitions in educational status, such as children going from elementary to middle school and adolescents moving from middle to high school. Unique to older adolescents is the stabilization of cognitive, affective, and physical transitions in the latter years of high school, meaning changes in the body and emotional control are no longer changing swiftly (Cole et al., 2001). Girls at this age have achieved puberty and have likely finished physically maturing (Centers for Disease Control, 2019a).

Motor development occurs through the life course and impacts one's ability to engage in physical activity (IOM (Institute of Medicine), 2013). Lack of motor development or slowed motor development growth that occurs in childhood prior to adolescence may impact one's skill level and consequentially self-efficacy to engage in physical activity (Lubans et al., 2010; Robinson, 2011). Children and adolescents who are less skilled report engaging in less physical activity and have higher rates of overweight and obesity (Graf et al., 2004; Robinson, 2011).

Self-perceived physical appearance or body image at this age is reported to reach the highest levels across the childhood and adolescent period (Cole et al., 2001). Ethnic differences in self-perceived physical appearance may explain some of the low physical activity levels among older African American/Black adolescent girls. African American girls tend to have and maintain higher, positive levels of self-perceived physical appearance from middle to high school compared to white girls whose self-perceived physical appearance declines during the same time frame (Epperson et al., 2017;

Mikolajczyk et al., 2012). Additionally, in studies examining the relationship between body image and BMI, African American/Black girls consistently have significantly higher BMI's and the highest rates of body satisfaction (Mikolajczyk et al., 2012; Webb et al., 2014).

Further adding to the differences between adolescent boys and girls is age of menarche (first onset of menstrual period). For girls, the average age of menarche is age 12-13 (*Menstruation in Girls and Adolescents: Using the Menstrual Cycle as a Vital Sign—ACOG*, 2015.). It is at this critical developmental period that a significant decline in physical activity occurs among adolescent girls (Beal et al., 2016) however, little research has been conducted to examine the exact impact this has on LTPA.

Socially, girls at this age are interested in romantic relationships, are exploring their sexuality, and spend more time with friends than family (Centers for Disease Control, 2019a). In this context, adolescents tend to engage in homogeneous group and within these groups, they tend to take on the behaviors of one another (Institute of Medicine (IOM) & National Research Council (NRC), 2011). If, as these groups are formed, members of the group are not physically active, this may reinforce sedentary behaviors among the individuals in the group.

Capitalizing on the shift to autonomous control in older adolescents, this is an ideal time to reinforce and reintroduce physical activity as a positive behavior for the life course. As adolescents come closer to adulthood, their ability to self-regulate behavior and make choices for themselves is developed (Institute of Medicine (IOM) & National Research Council (NRC), 2011). As they age, adolescents reach the point where they can

manage their thoughts and feelings to make choices that are adherent to their goals and values (Murray & Rosanbalm, 2017).

There are several factors that impact self-regulation in adolescents. Adolescents who have long term, high quality social relationships are more adept at self-regulation (Farley & Kim-Spoon, 2014). Environment also has an impact on self-regulation. At the home level, parents who are involved and aware of their adolescent's activities are more likely to help develop positive self-regulation in adolescents, helping them make healthy choices and resist peer pressure to engage in risky behavior (Farley & Kim-Spoon, 2017).

One's neighborhood environment can also impact self-regulation. Living in a neighborhood that is lacking social connectedness and has high rates of violence/low perceived rates of safety has been attributed to lowered ability self-regulate emotions and behavior (Devenish et al., 2017). Rates of engagement in risky health behaviors rises if healthy self-regulation skills are not developed in adolescence and rises even more so when youth are living in poverty or unsafe homes/communities (Murray & Rosanbalm, 2017). Related to LTPA, adolescents who engage in self-regulation strategies such as goal setting, exercise technique imagery, and high levels of perceived person control of physical activity engaged in more LTPA overall (Matthews & Moran, 2011).

During this time, older adolescents are challenged with the transition from being children cared for by others to assuming adult responsibilities. These responsibilities and navigating the period between adolescence and adulthood compete for time in these youth's lives (McNeely & Blanchard, 2009). Challenges that older adolescents are navigating include spending time with peers, working outside the home, caring for younger siblings, and managing school work (Ott et al., 2011). Augmenting this

challenge to manage time to engage in physical activity, are low perceptions of severity and susceptibility of the negative health impacts of low physical activity and/or being overweight (Park, 2011).

### **Barriers & Facilitators to Physical Activity**

This section will introduce several of the barriers and facilitators of PA found in the literature. This perspective will be discussed in the context of culture, community, interpersonal, and intrapersonal factors that impact physical activity.

#### ***Culture***

**Facilitators.** Ethnic identity (one's sense of self and identity as a member of an ethnic group) is associated with greater levels of physical activity. Those who engage in understanding their culture and taking strides to identify with their culture demonstrate a greater inclination to be physically active (Woolford et al., 2016). This greater inclination to engage in healthy behaviors such as physical activity may be the result of increased self-esteem and overall better mental health which promotes self-worth motivating the individual to engage in self-care (Hughes et al., 2015). Ethnic identity, in general, has been found to be a protective factor to chronic disease across ethnic groups (Lim et al., 2016).

**Barriers.** One way for African American/Black youth to identify culturally is through hair and hair styles. Across studies, the impact of cultural hairstyles has been shown to negatively impact physical activity levels (Bowen & O'Brien-Richardson, 2017; Boyington et al., 2008; Woolford et al., 2016). African American/Black older adolescent girls often have transitioned their hair from juvenile styles (natural) to an adult style of hair (typically straightened) (Woolford et al., 2016). As younger adolescents this

is less of a barrier as the impact of sweat on hair is minimal. However, for older adolescents who are using natural and chemical means of straightening their hair, there is the concern over hair becoming difficult to manage (Woolford et al., 2016). African American/Black girls have reported not exercising or exercising with low exertion in an effort to maintain their hair (Boyington et al., 2008; Woolford et al., 2016).

Body image and perceptions of the “ideal” body among older adolescent African American/Black girls and white girls differ and may contribute to overall prevalence of MVPA. It has been well documented in studies that African American/Black girls have a preference for larger body sizes and a lower desire for thinness which may contribute to less participation in physical activity (Baruth et al., 2015; Chen & Wang, 2012; Padgett & Biro, 2003). Cultural differences in body satisfaction are also well documented with African American/Black girls generally reporting higher levels of body satisfaction (Chen & Wang, 2012; Padgett & Biro, 2003; Robbins et al., 2017). When asked to rate oneself, white girls are more dissatisfied with their body demonstrating greater discrepancy between themselves and the idea body. In contrast, African American/Black girls show less discrepancy between their self-rated body image and desired body (Chen & Wang, 2012; Robbins et al., 2017). When asked to rank the healthiest body silhouette ranging from skinniest to heaviest, African American/Black girls consistently reported the ideal body to be in the middle to heaviest range (middle being the most healthy according to researchers) (Chen & Wang, 2012). This perception of the ideal body image being one that is heavier may contribute to older adolescent African American/Black girls changing their physical activity patterns to better fit the ideal body type (Awad et al., 2015). In a systematic review of studies examining the barriers to physical activity among African

American/Black girls, a common thread was found related to body image (Joseph et al., 2015). African American/Black girls often indicated that they did not engage in physical activity for fear of losing their current body shape (full and curvaceous) (Joseph et al., 2015).

### ***Neighborhood & Community Characteristics***

**Facilitators.** Living in a suburban/urban environment typically includes living in neighborhoods with greater access to sidewalks and other walkability features. Living in a walkable neighborhood is associated with increased LTPA (de Sa & Ardern, 2014). Access to facilities and programs is directly related to greater engagement in physical activity (Philbrook & El-Sheikh, 2016). Having access to space to engage in physical activity is associated with greater levels of weekly physical activity among adolescents, yet only 31.7% of schools in the nation provide these spaces on school grounds outside of school hours (Healthy People 2020 [Internet], 2019). Community capital (money, resources, qualified personnel, community support) also impacts whether health programs/interventions are developed. Communities who have capacity (human and fiscal) to implement community health programs and interventions with intensity are more likely to offer programs aimed at reducing the prevalence of childhood obesity (Schultz et al., 2018). Capacity can be demonstrated by budgets dedicated in organizations to health promotion and having local support for focused and dedicated time towards improving the health of the community.

**Barriers.** Low perceived neighborhood safety is a well-documented barrier to physical activity in African American/Black older adolescent girls (Barr-Anderson et al., 2014; Boyington et al., 2008; Payán et al., 2019). Concerns over sexual assault, robbery,

or stalking have been shown to be impactful to LTPA among this age group (Payán et al., 2019). Fears of being perceived by officials as loitering in a public space were expressed in a set of focus groups conducted in Los Angeles (Payán et al., 2019). A separate study conducted among African American/Black women living in Washington DC used a virtual lab to identify the impact that crime has on LTPA. This study identified that although neighborhood crime is a predictor of low LTPA, there are baseline characteristics (i.e. motivation to exercise, ability to balance family/work commitments, social support, access to space) that must be in place for women to engage in LTPA despite the lowered crime rates (Powell-Wiley et al., 2017). Parental perception of safety in one's neighborhood may also serve as a barrier to physical activity among older African American/Black adolescent girls. In a study comparing adolescent and parental perceptions of neighborhood safety, low perceived parental safety was significantly associated with less engagement in LTPA (Esteban-Cornejo et al., 2016).

Community demographics impact the number and intensity of interventions provided by local health departments and related organizations targeting physical activity behaviors. Schultz et. al (2018) found that communities with a higher percentage of African American/Black citizens (like Prince George's) tend to implement fewer and less intense community health interventions. The size of a given county also plays a role on the intensity and likelihood of change as a result of community health initiatives with smaller communities being able to provide more focused interventions (Schultz et al., 2018). Larger counties and those with a large rural population are less likely to host intense, successful interventions (Schultz et al., 2018).

Urban and suburban environments have access issues related to physical activity. Having access to space and provision of equipment needed for physical activity is a significant barrier (Ward et al., 2006). Not having access to physical activity facilities within one mile of one's high school in a community is associated with significantly less LTPA (Trilk et al., 2011). A lack of walkability in one's neighborhood may also impact LTPA in older African American/Black adolescent girls (de Sa & Ardern, 2014). Having access to parks and community center facilities is also integral to physical activity behaviors of youth (Van Hecke et al., 2016).

### ***Socioeconomic Status***

**Facilitators.** Studies have demonstrated family income and parental education as predictive factors of physical activity in adolescents (Institute of Medicine (IOM) & National Research Council (NRC), 2011). A study by Gordon-Larsen et. al., (2000) found that adolescents who have a mother with a graduate or professional degree are more likely to engage in MVPA. Income has a similar relationship to physical activity as parental education. One study discovered that adolescents whose parents were classified as middle to high class had increased likelihood of engaging in physical activity (Gordon-Larsen et al., 2000). Another study by Langlois et. al., (2017) found that high social status (perceived by the adolescent and parent/guardian income) was associated with greater participation in MVPA, sports, walking, and active commuting. In this study, girls who came from such a background were more likely than boys to engage in physical activity (Langlois et al., 2017).

**Barriers.** Adolescents who come from a low income (less than \$26,000 a year) home are less likely to engage in physical activity (Gordon-Larsen et al., 2000). Another

study found that adolescents who come from generally low income school districts engage less in physical activity overall (Quon & McGrath, 2015). Further, adolescents who perceive themselves to have lower SES report engaging less in MVPA and LTPA (Quon & McGrath, 2015).

### ***Social Support***

**Facilitators.** Physical activity among parents of older African American/Black adolescent girls is one motivating factor in LTPA and MVPA. Having parents who engage in MVPA is a greater indicator for girls' participation in MVPA than having access to at home exercise resources and support (Bauer et al., 2011). The type of parental support may indicate whether adolescent girls' motivation to engage in LTPA and MVPA increases. Parental emotional support (i.e. parental encouragement to be active) is associated with lower rates of MVPA and LTPA, a phenomenon possibly explained by how the adolescent perceives the support provided by the parent (Huffman et al., 2018; Wilson et al., 2011). These findings are mixed across studies with parental emotional support also being found to have little to no impact on LTPA (Lawman & Wilson, 2014). Conversely, parents who have an authoritative parenting style (having moderate control and high warmth) and provide tangible home support (at home resources for physical activity) significantly increase engagement of LTPA (Wilson et al., 2011). Less specific general social support from parents has been found to be a predictor of physical activity in adolescent girls (Lee et al., 2018). Lee et. al., (2018) found that children of parents who, from early childhood to adolescence, provided high levels of

general social support were more likely to participate in sports after school and continue to engage in physical activity post-high school.

Peers who want to be physically active facilitate physical activity in their relationships (Barr-Anderson et al., 2014). Peers, cousins, and siblings are a source of support and motivation when they are also engaging in physical activity but often are not the reason why one engages in physical activity (Steeves et al., 2016). One study examining the interaction between self-efficacy and social support identified that social support from peers is a predictor to physical activity and a buffer to intention when self-efficacy is low (Hamilton et al., 2017). Further demonstrating the importance of peer support in LTPA was found in a study examining LTPA in 8<sup>th</sup> graders who indicated peer support to be more important than that of others (Sevil et al., 2018).

**Barriers.** The impact of social and familial support in older African American/Black adolescent girls is mixed. A study by Steeves et. al., (2016) found that healthcare providers and teachers may provide information on physical activity, they are not influential on African American/Black adolescent girl's engagement in physical activity. Adult African American girls have indicated that girl role models in their life engage in physical activity and encourage them to be engage in LTPA, however, adolescent girls want to identify their own direction for the behavior rather than mimic someone else (Boyington et al., 2008). Another study found that logistical and emotional support can be a predictor for MVPA among adolescent African American girls. These types of support lose significance when accounting for parent modeling and access to

resources (i.e., if parental modeling and resources are lacking physical activity is not impacted) (Bauer et al., 2011).

### ***Time and Other Responsibilities***

**Facilitators.** As previously identified, the role of family and friends can be instrumental in the uptake of LTPA in older adolescent African American/Black girls. In this context, if important others are engaging in LTPA and deem it as fun and important, older adolescent African American/Black girls may also make the time for LTPA (Humbert et al., 2006). Homes that have access to resources for physical activity (i.e. DVD's, equipment, etc.) allow for increased likelihood of free time being used for physical activity (Pate et al., 2011). In a study examining the impact of an in home adolescent led intervention found that youth with good time management skills, self-motivation, and rules in the family to be active had higher rates of LTPA (Foley et al., 2019).

**Barriers.** A key barrier brought up in early conversations with my community liaisons (Personal communication, March 16, 2019) indicated a lack of time and needing to balance the multiple roles one plays in life as a key barrier to LTPA. Further discussion with the community liaisons indicated that the need to do well in school, having to work to support their family, and other responsibilities at home such as taking care of siblings were other reasons for not having the perceived time to be physically active (Personal communication, March 16, 2019). Reporting a lack of time as a barrier for LTPA has been cited in multiple studies; what has not been explored is the impact of multiple roles among older adolescent African American/Black girls on LTPA. The impact of work on high school students has been examined in a limited capacity. In a

study using data from the National Health and Nutrition Examination Survey (NHANES) researchers found that girls who did not work while in high school engaged in 1.7 times as much LTPA as those who did work, in males the relationship was opposite (Domelen, 2015).

### ***Self-Efficacy***

**Facilitators.** Self-efficacy, a common construct in health behavior theories is defined as a person's capability to control her behavior and her confidence in that ability (Glanz et al., 2015). High levels of self-efficacy are associated with greater intentions to engage in physical activity (Hamilton et al., 2017). Having a sense of competency in a sport or recreational activity during adolescence is attributed to increased physical activity among adolescent girls (Jose et al., 2011).

**Barriers.** Having low levels of self-efficacy are a barrier to physical activity, with those reporting low self-efficacy needing more support to engage in physical activity (Hamilton et al., 2017). In a study exploring the relationship between the stages of change and constructs of the Health Belief Model in African American/Black college women, participants who were staged in the pre-contemplation/contemplation stages had significantly lower (nearly half) levels of self-efficacy than those in the maintenance stage (Juniper et al., 2004). These results were also found in a study examining African American youth ages 11-18 (Shaver et al., 2019).

Contributing to low self-efficacy in older adolescent African American/Black girls may be lack of prior experience with physical activity. Given the limited exposure in school physical education and lack of parent role model, these young girls may not see the positive outcomes associated with the behavior (Parschau et al., 2013). Perceptions of

competence, a domain of self-efficacy, seems to play a role in keeping girls from engaging in physical activity. A study conducted by Krahnstoever Davison et. al., (2010) indicated that low perceived skills and abilities to engage in physical activity are a leading reason for the reduction in physical activity during adolescence.

### **Study Purpose**

Few studies have examined the behavioral process (i.e., how we choose to engage in a behavior) of physical activity among older adolescent African American/Black girls (Barr-Anderson et al., 2014; Dwyer et al., 2006). There are several quantitative studies that identify multiple factors associated with physical activity in adolescent African American/Black girls, but few provide insight as to why these barriers exist (Winkler et al., 2017). With this time being one of transition into young adulthood (Lenz, 2001), a greater understanding is needed of the mechanisms that facilitate physical activity engagement among older adolescent African American/Black girls. As demonstrated earlier, adolescents who are physically active upon transition out of high school and into young adulthood are more likely to be active adults and have fewer negative health outcomes as a result (Crozier et al., 2015).

The current theoretical and intervention approaches to increasing physical activity in adolescents and specifically older adolescent are not sufficient (Pearson et al., 2015; Voskuil et al., 2017). Through examination of the research, intervention effects are modest at best and more investigation is needed into the barriers and facilitators for older African American/Black adolescent girls (Voskuil et al., 2017). A systematic review conducted by Pearson et. al (2015), identified that learning from girls who are currently active and engaging in physical activity is needed and can help provide in depth

description of current theoretical constructs when designing interventions for this age.

Using grounded theory can assist in defining and taxonomizing theoretical constructs for racial/ethnic populations (Michie & Johnston, 2012). Use of this approach can help us refine and define our current behavior change theories for older African American/Black adolescent girls.

Common theories used in physical activity research among youth include the Theory of Planned Behavior, Self-Efficacy Theory, the Transtheoretical Model, Social Cognitive Theory, and Self-Determination Theory. It is difficult to assess the utility of these theories in intervention application due to the lack of consistent definition of the constructs, lack of validity in measuring the constructs, and insufficient use of theory to develop interventions (Davis et al., 2015). None of these commonly applied theories were developed for the explicit use of changing physical activity behaviors, rather they have been adopted for physical activity. Rhodes and Nigg (2011) argue the need for theory development for physical activity behaviors. They ascertain that physical activity shares many characteristics with other behaviors but is unique because of the need to repeat the action several times in a given week and over the course of a lifetime, the time requirement for each instance of physical activity, the biological impact on the body, the intense need for environmental support, and the diverse set of motivational impacts that tend to change daily with each engagement in physical activity (Rhodes & Nigg, 2011). These theories, when applied in interventions, often target individual factors of behavior change and lack social and environmental contextual understanding (Davis et al., 2015; Glanz & Bishop, 2010). Studies are needed to clearly conceptualize, operationalize, and assess the cultural contexts (Kumanyika, Whitt-Glover, et al., 2014). With culture

changing over time and space, continuous exploration of theoretical constructs is needed to keep theories current and adaptable.

Augmenting this need are the lack of theories developed specifically for the African American/Black adolescent girl population. Theories related to physical activity fail to help us understand the current experiences that African American/Black older adolescent girls have with physical activity. In a keynote presentation at the Society for Public Health Education conference (2019), Dr. Shikiri Kumanyika identified the need to think about the obesity and physical activity problem among African Americans outside of our traditional behavior change theories. The few theoretically based studies including African American/Black girls ages 16-18 have had little to no impact on physical activity behavior and stress the importance of further research into the barriers and facilitators specific to older African American/Black girls (Pearson et al., 2015; Resnicow et al., 2000). Expanding a greater understanding of their experiences and the processes of these experiences from exercising and non-exercising older African American/Black adolescent girls can lead us to impactful interventions that make lasting change.

Current interventions tested are complex in nature and lack the ability to translate and disseminate into communities. Adapted interventions often lack alteration to attend to the needs of the community's social, economic, and political environment (Kumanyika, Swank, et al., 2014). A prime example of the challenge in scaling and disseminating evidence based interventions is found in the CATCH (Coordinated Approach to Child Health) program (aimed at changing diet and exercise behaviors in elementary school children) that took over 20 years to go from an efficacy trial to being widely disseminated in Texas schools and YMCA's across the country (Reis et al., 2016).

Review of theoretically based interventions conducted in Black and white populations show that Black participants have significantly smaller weight loss than their peers (Wingo et al., 2014). Adherence to interventions is one explanation however, the lack of cultural relevance in these theoretically based interventions leads to the need to learn more about the cultural and contextual factors that are different for older African American/Black adolescent girls (Kumanyika, Whitt-Glover, et al., 2014). Aspects to be explored include the impact of the family dynamics, how perception of body image impacts engagement in LTPA, and motivating factors for weight loss behaviors, and the interaction. Intervention components are often competing with a saturation of unhealthy food advertisements in primarily African American/Black communities (Kumar et al., 2015).

Socio-ecological frameworks have been useful in guiding physical activity interventions however, they lack the ability to provide specificity to the influences and interactions for population subsets (Buchan et al., 2012; Davis et al., 2015). The use of socio-ecological frameworks to address physical activity often remain close to the intra and interpersonal impacts to behavior change, still relying on constructs of individually based health behavior theories (George et al., 2020). At the school level, most interventions attempt to impact physical activity by increasing opportunities during the school day (Kellou et al., 2014). Few interventions address post-school opportunities for physical activity especially among older adolescent populations. Identification of the environmental facilitators and barriers among older African American/Black adolescent girls is needed. Understanding their perceptions provides context that is not consistent across geographic and ethnic boundaries (Taylor et al., 2018).

Some qualitative exploration into these cultural and contextual factors has been conducted with adolescent African American/Black girls, however these studies have been focused on one construct such as beauty or social support (Awad et al., 2015; F. Bowen & O'Brien-Richardson, 2017; Dwyer et al., 2006; St. George & Wilson, 2012; Woolford et al., 2016). Past qualitative exploration of physical activity among early adolescent African American/Black girls explored specific subsets of barriers and facilitators (i.e. parental roles, impact of cultural practices with hair). Exploration of how older African American/Black adolescent girls choose to engage in LTPA prior to clinical intervention development can increase intervention efficacy in practical environments through improved fidelity (Graham et al., 2016).

This study aims to use constructivist grounded theory to develop a descriptive theoretical understanding of the facilitators and barriers of LTPA in this understudied population. The use of this approach will allow for the participants to identify their barriers, facilitators, and motivators for LTPA, an approach that has not been used among older African American/Black adolescent girls. Using constructivist grounded theory methods can provide a greater understanding of the complex interactions that impact LTPA in older African American/Black adolescent girls, building upon and adding cultural context to current theoretical frameworks (Harley et al., 2009).

Using a grounded theory approach, I am able to significantly contribute to new knowledge that can serve as a foundation for interventions targeting this older African American/Black adolescent girls. Further identification of LTPA barriers and facilitators among older African American/Black adolescent girls will allow for interventions to be developed that may reduce disparities in academic performance between urban minority

youth and their peers (Basch, 2011). Through this study, I gained a greater understanding of the unique barriers older African American/Black adolescent girls face as well as examined what behavioral processes lead to the adoption and maintenance of physical activity (Harley et al., 2009). The next chapter of this dissertation discusses the methodological approach of grounded theory and how the study was implemented.

## **Chapter 3: Methods**

### **Restatement of Purpose**

The central research question for this study was “What behavioral process theory explains incorporation of physical activity among older adolescent (ages 16-18) African American/Black girls?”. The purpose of this dissertation was to explore the experiences and perceptions of older adolescent African American/Black girls to understand the barriers and facilitators to physical activity. Explored in this study are areas related to perceptions of time, role balance, self-efficacy, culture, community, and school factors.

### **Reflexive Statement**

I come from a largely white, low to middle class, town full of blue-collar workers, an area vastly different from where I live and work now. Growing up in a small town with very little to do, my mother and grandmother encouraged me to get involved in many activities. First, there was chorus and band and as middle school came around, sports became an easy activity I could participate in once the school day was over. For me, sports and other after school activities were an escape from the reality of home. Home for me was a source of conflict. As a child, I experienced challenges being a step-daughter to my mother’s partner, often observing physical and substance abuse. Being home was a punishment, I was often experiencing emotional abuse from my step-father, leaving me vulnerable and feeling inadequate. Insecurities as to who I was and wanting to belong were brought on knowing my biological father lived in the same small town where I lived yet refused to be a part of my life. Engaging in afterschool activities helped me to feel like I belonged. Throughout these years, I was never the “best” athlete, often

not making varsity squads, but it was something I still enjoyed. During off seasons, my friends and I would try to engage in some sort of physical activity whether it be hiking, swimming, walking, or visiting the small local gym for a group fitness class and weight session. As I moved on to college, I was determined to not gain the “freshman 15” (I was successful, I gained the 15 and an additional 10 on top) so I attempted to make it to the gym when I could only to feel overwhelmed and frustrated at how far away the gym was from my dorm. At this point physical activity really declined for me. As time went on, my exercise levels varied depending on where I was in life, but in some way, exercise was always a part of it. Personally, I have seen so many benefits (aside from weight loss/maintenance) in being active regularly. My stress levels are lower, my energy higher, and my ability to manage time improved. These benefits are what keep me coming back to adding in physical activity.

As I got into the field of community health, I realized I wanted to help others become active in their lives. I set out on a path to become a community health educator, first with my sights set on corporate wellness, eventually settling into college health promotion, and now teaching and administration in higher education. One thing has been consistent in each of these paths: the desire to get people to be more active. I have worked with young adults and working professionals alike to set goals to increase weekly physical activity through my work with the University Health Center. As an undergraduate, I taught group fitness classes to further intertwine my passions for teaching and activity. Even today, as I advise undergraduate and graduate students, one of the first things I speak with students about is my passion for physical activity and how it helped and continues to help me through the stressful times in life.

Moving from small town Maine to Maryland has been an enlightening experience, one for which I am forever grateful. Living just outside of Washington, DC I am exposed to more cultures and lifestyles than I would have ever been exposed to living in Maine. Living here has woken a curiosity about others' lives, upbringings, beliefs, and cultural practices that I did not know existed. Working specifically with African American youth is turning into a passion as I become more aware of the privilege I currently have and had growing up (despite not feeling that way at the time). Providing a chance for all to have opportunities to be the healthiest person possible begins with small changes and physical activity can be one of those changes. Being active is a mainstay in my life now as an adult. My consistency ebbs and flows but I recognize it as a huge part of my life and my ability to manage my work/life balance and mental health.

These personal and professional experiences will be of benefit in my interactions with participants. Being able to empathize with their struggles with fitting in exercise along with celebrating those moments when physical activity is easy will be a way to encourage participants to more deeply describe and open up about their experiences. Considering my past experiences, it may prove to be challenging when interacting with participants as I may find it tempting to attempt to help the participants overcome their barriers or recognize any defeating self-talk that may be present. Consistently reminding myself that I am here to learn and listen rather than help in the moment will be important. Already, these points of view have impacted the creation of this study and will continue to impact the analysis of the data obtained from the interviews. These experiences have shaped my perceptions of what barriers are present across time in one's life and how they can be overcome.

Important to consider is the impact my racial identity as a white woman has on the study. Automatically, as a white woman interviewing African American/Black girls, power differentials are introduced. It is possible, as I engaged in the interview process, that social desirability bias was inflected in the participant's responses, specifically when discussing ideal bodies. The use of constructivist grounded theory methods to analyze the data allows me to lend a voice to these girls, providing an opportunity to re-present their experiences. As I engaged in this research, I took exceptional care to present the participants' voices. Throughout this process, I have been keenly aware of the need to "make good" on my promises to the participants. To do this, I continue to maintain contact with the participants to inform them of where I am in the process and included them in the final analytical steps.

It is important to note that in my previous work, I embraced the concept of health at every size. Health at every size embraces body diversity, and the impact lived experiences have on body weight. This approach recognizes that food is to be used to fuel the body and exercise should be enjoyable. It also acknowledges that one can be healthy and be clinically overweight or obese. Having this perception, I can reduce the bias of thin equating to health and host a safe space for the participants related to body positivity.

I understand that I have certain preconceptions/beliefs about physical activity through my experiences as a teen and now adult and that these may have impacted how I perceive information received from the girls in these interviews. As a continued process, reflexive journaling was a significant aspect of my research project. The reflexive journal was a space where I worked out those beliefs and set them aside away from the memoing process where the data lived and transformed into theory. The reflexive journal process

continued through the duration of the study to continuously reflect on my biases and separate them from the analytic process. Through the process of peer debriefing, regular meetings with my dissertation committee, and checking in with participants (member checking) I engaged in reflexivity discussing the context of my personal experiences and their relationship to the data. This journaling assisted me in minimizing bias in the study and to use my experiences in the analytic process.

## **Research Design**

I used constructivist grounded theory methods as the empirical approach (Charmaz, 2014; Creswell & Poth, 2018). Grounded theory is a (typically) qualitative research approach that aims to generate a theory as the culminating result, moving beyond describing a problem but rather providing an explanation of a process as learned by a number of individuals (Creswell & Poth, 2018). Grounded theory emerged in the late 1960's, during a period when qualitative research methods were exposed to high scrutiny as sophisticated quantitative methods began to gain dominance in research worldwide (Creswell & Poth, 2018). Sociologists Barney G. Glaser and Anselm L. Strauss founded grounded theory as a qualitative approach focused on the analysis process as a result of a study on death and dying in hospitals. Glaser and Strauss provided a theoretical analysis of the social processes associated with dying (Charmaz, 2014). The initial aim of Glaser and Strauss's approach was to construct theoretical explanations for social processes. They presented a set of constructs essential to the use of grounded theory as a methodology which include (Charmaz, 2014):

- Collecting and analyzing data concurrently

- Forgoing preconceived hypotheses (deductive approach); instead construct codes and categories from the data (inductive approach)
- Engaging in constant comparison (continuously reviewing data and new codes) and work towards development of theory throughout each stage of analysis
- Using memo writing as a mechanism to explain the categories identified including their connections to one another and identify gaps in the data
- Sampling to gain theoretical saturation (no new categories or sub-categories emerge) rather than population representativeness
- Using the literature ex post facto to illuminate the theoretical findings

This initial grounded theory methodology is heavily steeped in positivism and in the 1990's, Dr. Kathy Charmaz, among others, began to shift the approach to "constructivist" grounded theory. Positivist approaches focused on research that could be generalizable, replicable, and objective. Having a positivist perspective, researchers attempted to quantify the human experience (Charmaz, 2014). The current study employs a constructivist approach.

Constructivist grounded theory views the research process as a series of interactions between and among both participants and researchers alike, acknowledging the process as subjective and rooted in sociocultural experiences (Creswell & Poth, 2018). This approach acknowledges, through the process of reflexivity, how the researcher constructs the theory and interprets the data, a dramatic difference from quantitative research and positivist grounded theory approaches (Charmaz, 2014).

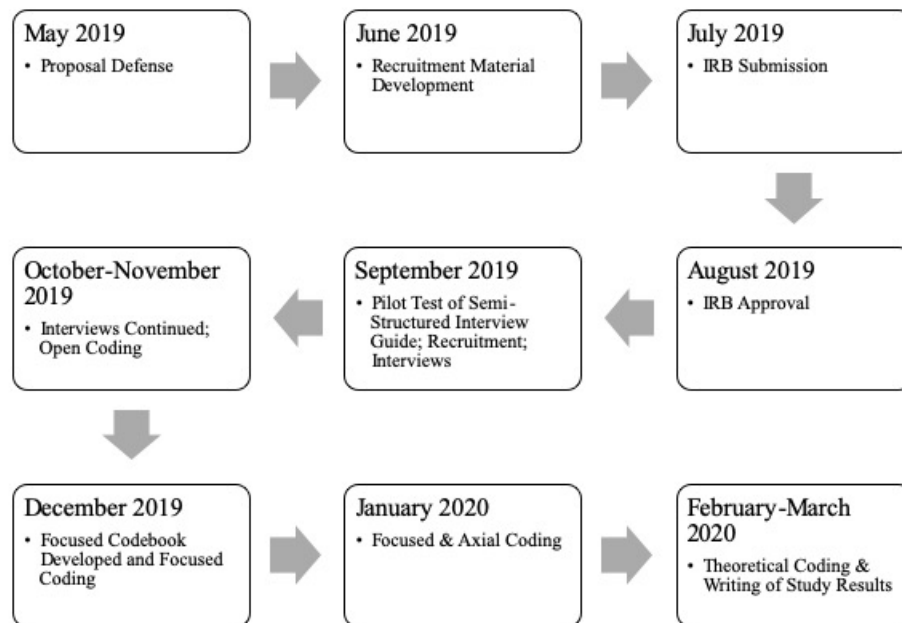
Constructivist grounded theory is an iterative process that uses inductive reasoning to examine the data in order to form analytical categories culminating with an explanatory model (Charmaz, 2014). This study followed the steps as outlined in the text by Charmaz (2014) and included conducting the data collection and analysis simultaneously, analyzing actions and processes (behavioral and psychosocial), using comparative methods throughout the process, using data to develop conceptual categories leading to theory construction all while engaging in the process of theoretical sampling, as needed (Charmaz, 2014). The steps will be discussed later in this chapter.

### **Data Collection Procedures**

Prior to recruiting participants or collecting data from participants all research protocols and materials were reviewed and accepted by the University of Maryland's Institutional Review Board (see approval letters in Appendix A). The sections below provide a detailed account of the procedures followed. A timeline of the dissertation research can be found in Figure 1 (page 39).

**Figure 1**

*Dissertation Timeline*

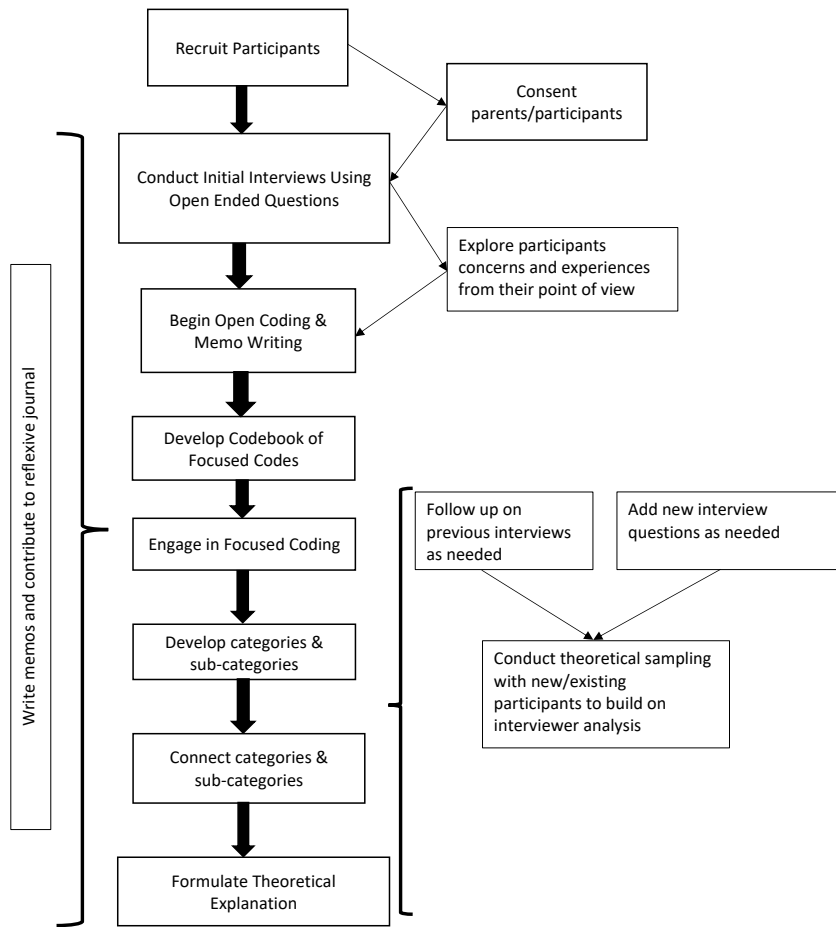


**Sample**

Sixteen girls were interviewed for this study. Participants in this constructivist grounded theory study were 16-18 years old African American/Black cisgender girls living in an urban/suburban area within Prince George's County, Maryland. Inclusion criteria were that participants must identify as African American/Black girls, be between the ages of 16-18, live in Prince George's County and be currently enrolled in a high school in Prince George's County. Participants were recruited regardless of current physical activity status. Excluded from the study was any participant in current treatment for an eating disorder; this was assessed during the initial eligibility phone call (Appendix B). A diagram for the processes of this study can be found in Figure 2 (page 40).

**Figure 2**

*Study Processes*



**Recruitment Strategy**

Recruitment for this constructivist grounded theory study used the social media platform Instagram, flyers, and targeted emails. Social media use among adolescents is widespread with 95% of all adolescents having access to or owning a smartphone (Anderson & Jiang, 2018). Of the various social media options, Instagram is one of the most preferred and widely used by adolescents (Anderson & Jiang, 2018). An Instagram page was developed for the study where the flyer (Appendix C) was posted. Instagram advertisements were purchased to further boost the reach of the flyer outside of the initial

networks. Purchased advertisements were posted via the Instagram algorithm to post to users who were between ages 16-18 and were geographically tagged as being in Prince George's County. Emails were sent to members of the Prince George's County Health Department, Healthy Eating and Active Living workgroup for dissemination among their networks (a full list of members can be found in Appendix D). Having served as an advisory member of the Healthy Eating and Active Living workgroup, I received permission from the Prince George's County Health Department to use this list for recruitment. Recruitment emails were sent to the University of Maryland Parent-Family Affairs and the University of Maryland's Summer Women in Engineering Program's listserv and distributed among the Girl Scouts of the Nation's Capital and Girl Scouts of Central Maryland troop leaders who lead troops in Prince George's County. Flyers were posted in Prince George's County libraries and community centers and taken as part of community outreach events with the University of Maryland's CHAMP lab. Outreach was conducted with organizations that provide services to teen girls in Prince George's County. I presented to teen groups about the study with the help of a community partner. Snowball sampling was conducted by asking interviewees to provide fliers to peers who may be interested in the study.

Of the individuals expressing interest in the study (n=25), nine (36%) were recruited from community information sessions, five (20%) responded to the Instagram advertisement, five (20%) were referred by other friends in the study, four (16%) responded as a result of an email to a listserv they are on related to the University, and two (8%) responded from the girl scout email.

## **Setting**

Table 2 (pg. 43) presents demographic information of Prince George's County. Prince George's County has one of the highest percentages of Black/African American citizens when compared to the state as a whole (62.23% versus 30.22% for the state) (Prince George's County Health Department, 2020). Out of the 24 counties in Maryland, Prince George's County ranks 11<sup>th</sup> highest in terms of health outcomes (i.e. length and self-reported quality of life) (County Health Rankings, n.d.). Contributing to this ranking are the high rate of chronic diseases which account for 60% of the deaths in Prince George's County (Prince George's County Health Department, 2017). Being overweight and obese are preventable risk factors to chronic disease (National Institute of Diabetes and Digestive and Kidney Diseases, 2015). Prince George's County has one of the highest rates of obesity in the state (Prince George's County Health Department, 2016). In Prince George's County, 17.4% and 15.1% of high school students are classified as overweight or obese respectively (Prince George's County Health Department, 2017). Overall in the state of Maryland, 14.9% of high school students are overweight and 15.1% are obese (Prince George's County Health Department, 2017).

**Table 2***Prince George's County Demographics*

| Race/Ethnicity                                         | %        |
|--------------------------------------------------------|----------|
| Black/African American <sup>1</sup>                    | 64.6     |
| White <sup>1</sup>                                     | 26.8     |
| American Indian <sup>1</sup>                           | 1.1      |
| Asian <sup>1</sup>                                     | 4.6      |
| Native Hawaiian or Other Pacific Islander <sup>1</sup> | 0.2      |
| Hispanic or Latino <sup>1</sup>                        | 18.5     |
| White, not Hispanic or Latino <sup>1</sup>             | 12.7     |
| Other                                                  |          |
| Average household size <sup>2</sup>                    | 2.8      |
| Median Household income <sup>1</sup>                   | \$85,302 |
| Persons below Poverty <sup>1</sup>                     | 8.6      |
| Families below poverty with children <sup>2</sup>      | 4.21     |

1. (United States Census Bureau, 2018)

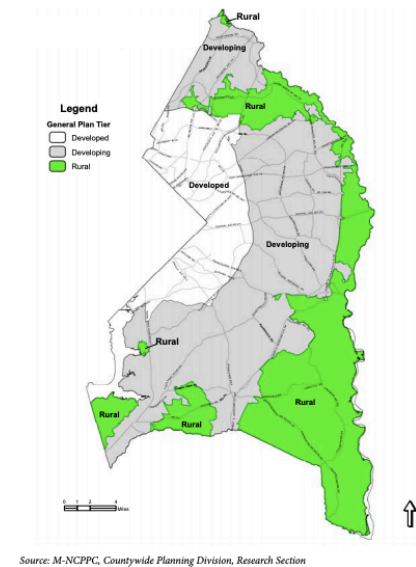
2. (Prince George's County Health Department, 2020)

It is important to understand the geographic and socioeconomic landscape of Prince George's County and how it relates to this study. Typically described as a highly affluent county, Prince George's County is also home to those in poverty with 8.6% of its residents living in poverty (United States Census Bureau, 2018). The median annual income of Black/African American families is higher than the state average of all families (\$85,302 vs. \$68,999) (Prince George's County Health Department, 2020). An additional dimension of diversity in the county is the geographic landscape of the county. Under the Prince George's County Approved General Plan rural subsections of Prince George's County are designated using a tiered system. The three tiers "developed", "developing", and "rural" describe the allowance of growth permitted in various areas of

Prince George's County (Figure 3). For the purposes of this study, the developed and developing tiers will be labeled urban and suburban respectively.

**Figure 3**

*Urban and Rural Landscapes of Prince George's County*



Developed areas are largely bordering Washington, DC and consist of commercial strip plazas, widespread access to public transportation, and a mix of single family and multi-family homes. Developing areas make up the largest land space in Prince George's County and are areas where large amounts of growth are expected to occur or are already occurring. The rural tier accounts for less than 1% of the residential and commercial growth in Prince George's County. It is in these areas where land is being preserved and very low density is maintained in respect to home development. The rural tier consists of the areas that border the Patuxent River, Calvert and Charles County as well as areas east of Route 301 and 50 (John Hanson Highway) (Charmaz, 2014; Creswell & Poth, 2018). This study recruited participants from the urban and suburban areas as it was expected that participants from the urban and suburban development tiers

have similar barriers and facilitators to leisure-time physical activity than those in the rural designation.

## **Data Collection**

Prior to beginning data collection, all procedures were reviewed and approved by the University of Maryland College Park's, Institutional Review Board. Data were collected over a period of two and a half months in Fall 2019. The primary data method used was in-depth interviews using a semi-structured interview guide (Appendix E). Current literature and preliminary informal meetings with members of the target population and other community members informed the development of the interview guide. Prior to conducting the interviews, the semi-structured interview guide was pilot tested with two community liaisons of the target population who resided outside of Prince George's County. Interviews were conducted in public settings often occurring in a library or coffee shop wherever participants felt comfortable. Interviews ranged between 45-90 minutes in length with most interviews lasting approximately 50 minutes.

Participants were compensated for their time. At the end of the initial interview, participants received \$25. Incentives accounted for time spent with the interviewer, travel time, and travel costs incurred (see ethical considerations below). All participants who expressed interest in the study and met the inclusion criteria were provided with an electronic or hard copy of teen-appropriate nutrition (inclusive of eating disorder resources) and stress management resources (Appendix F). Each interview was audio-recorded on two devices and transcribed verbatim using an undergraduate research assistant or professional service. Any identifying information on the recordings was omitted from the transcription (i.e. names, school name). To protect confidentiality each

participant chose a pseudonym which was used to identify their interview transcript. Detailed transcription instructions were provided to the undergraduate research assistant to provide guidance on verbatim transcription. The undergraduate research assistant and I were responsible for cleaning the transcriptions prior to analysis to ensure their accuracy.

### ***Informed Consent & Study Enrollment***

Interested participants contacted me through email, phone call, or text messaging to express interest in the study. Those who participated in the information sessions completed a sign-up sheet and I later contacted them via email, direct message or text message to schedule the interview. With permission from the participant, determination of eligibility was conducted via a phone call or text message (Appendix B). Participants who remained interested (and were under age 18) were asked to provide a parent's name and email address to begin the informed consent procedures. Parents were emailed a study consent form and asked to return the form only if they objected to their daughter's participation in the study within one week of receipt.

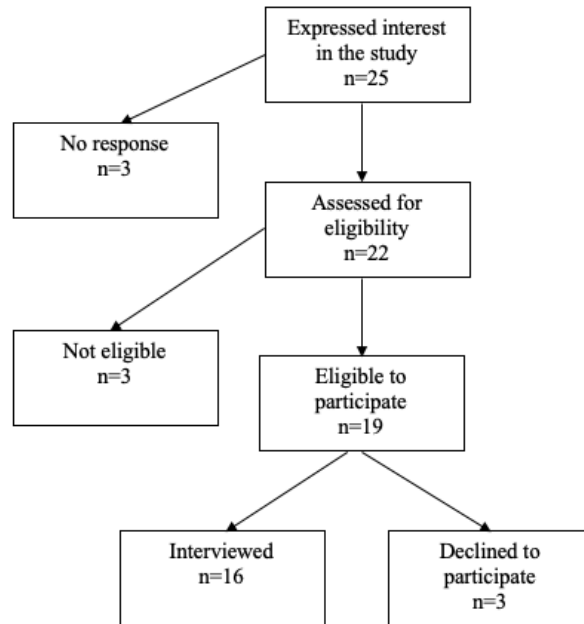
To obtain consent of the participants, a waiver of formal parental consent was requested and granted from the institutional review board (IRB) (Appendix A). Given the age of the participants and the minimal risk related to the study of psychosocial barriers to physical activity, waiving formal parental consent provides a greater likelihood of reaching sampling goals reducing barriers to participation. This study posed minimal risk as participants were being asked to reflect on their current behaviors, perceptions, cultural beliefs, and motivations related to physical activity. The questions being asked during the intensive interview were not developed to cause discomfort in participants outside of what is expected in day to day life.

Participant assent was obtained at the start of the interview using the Youth Assent Form. The interviewer read the assent form with the participant to ensure understanding and the participant was asked to check the box indicating understanding. Participants that met the inclusion criteria and were 18 years of age completed their own informed consent form and parental consent was not required. Consent forms were written in plain language at an 8<sup>th</sup> grade level to ensure understanding. The opt-out consent form for parents included contact information for me in the event questions need to be answered. Each participant was provided a copy of the assent form upon completion of the interview.

Twenty-five individuals expressed interest in the study either for themselves or their daughter (Figure 4 page 48). Of the 25 who expressed interest, three did not return calls to be screened for eligibility. Twenty-two individuals were screened for eligibility. Three (13.6%) were not eligible to complete the study due to age or not attending a Prince George's County High School and 19 (86.4%) individuals were eligible to schedule interviews. Three (15.8%) of the eligible individuals declined to participate in the study. One individual indicated she was too busy and advised by her mother not to participate; one failed to return text messages to schedule the interview; and one responded that her parent would not allow her to participate.

**Figure 4**

*CONSORT Flowchart of Participants*



**Data protection.** Each participant was asked to complete a demographic information form and a semi-structured interview. Prior to the interview, the participant was asked to choose a pseudonym that was used to label the interview data along with the date, time, and location of the interview. Participants completed the demographic survey at the completion of the interview. The demographic survey contained the participants pseudonym and legal name. Other than this pseudonym, no other identifying information was kept with the interview data and these two documents were maintained separately. The key variable linking these two data sets are the pseudonym. These keys, and the demographic information were maintained separately in encrypted Box directories, each also password protected and only available to the researcher. These steps were employed

to protect the identity of each of the participants in the study, all information was used to help inform the analysis as needed.

### ***Interview Setting***

Interviews were conducted in locations convenient for the participant. Private, quiet space was reserved and mutually agreed upon between myself and the participant. One interview was held in a private room at a public library, four interviews were conducted in a private office in the School of Public Health, three were held in a library at a local high school, and eight were conducted in private spaces at local coffee shops.

### ***Theoretical Sampling***

In accordance with constructivist grounded theory methods, theoretical sampling informs the data collection process as initial interviews are coded and analyzed. Theoretical sampling occurs as the data are analyzed and initial ideas emerge (Charmaz, 2014). Theoretical sampling involves examining the data repeatedly, engaging in constant comparison ensuring rich, thick description of the categories. It involves reviewing the research memos to critically identify gaps and categories that have failed to reach saturation (the point in which no new patterns or categories are emerging) (Charmaz, 2014). It was anticipated that theoretical sampling would occur across the latter stages of analysis and coding (described below).

Theoretical saturation was achieved with a sample size of 16. In addition to no longer receiving new information and in consultation with auditors during the peer debriefing process, it was determined that the theoretical categories were saturated. Charmaz (2014) recommends continuing interviewing until theoretical saturation is

reached. At interview twelve, I noticed I was no longer hearing new information or creating new data codes related to the research question. Continuing through to interview sixteen allowed me to confirm that I had reached saturation in each of the categories constructed.

## **Data Analysis**

Data were analyzed using constructivist grounded theory methods in NVivo for Mac 12 software (QSR International, n.d.). Data were systematically coded and categorized in an iterative, four step process: open coding, focused coding, axial coding, and theoretical/selective coding (Figure 2, pg. 40) (Charmaz, 2014). Throughout the data collection and analysis process, I engaged in research memoing. The research memo process provides a mechanism for recording inferences and relationships in the data at each step of the analytic process (sample memos can be found in Appendix G). Preconceived codes were not used, rather, codes were identified through the iterative process of coding consistent with grounded theory (Charmaz, 2014). I maintained a reflexive journal for the duration of the study (sample entries can be found in Appendix H). The reflexive journal is a space where I recorded my personal thoughts, perceptions, and reactions to the research process in an attempt to keep this bias out of the analytic process (Charmaz, 2014).

### ***Analytic Step One: Open Coding***

Open coding is the process of reading, line by line, each interview transcript and attaching a short name (code) to sections of text that are relevant to the research question and building a theoretical model of psychosocial barriers and facilitators to physical

activity among African American older adolescent girls. Throughout this phase of the coding process it was essential that I, as the researcher remained open to new ideas, actions, and categories. Prior beliefs or theories about the topic and population were set aside. These are addressed during the reflexive journaling process however, maintaining closeness with the data and what the participants are saying guided the analysis process.

During the open coding phase, I used *in vivo* codes whenever possible. In this case *in vivo* codes refer to the participant's words to form initial codes to assist in preserving the participant's (implicit) meaning of the words as well as providing a point of reference for review of future and past transcripts (Charmaz, 2014). Using my initial consult with my community liaisons as an example, open codes were: *"I want to start before I go to college, I may have more time then"*; *"High school is a lot harder, I have to prioritize"*; and *"I started to once but had to pick up more money"*.

In this phase, I examined the data and code for actions. This approach is useful in preventing premature conceptual analysis and allows for one to be open with the data (Charmaz, 2014). Lines that present an action or process will be open coded for this study. Open coding was conducted on the first eight interviews resulting in 1052 open codes. I conducted the open coding on the first four interviews completed for each category of exerciser (i.e. four exercisers, four non-exercisers). For this study, exercisers were identified as participants who reported currently engaging in at least three days of LTPA per week.

As the open coding process culminated, the eight interviews I open coded were reviewed and compared looking for codes that were present across interviews and demonstrate significance to the research question. During this part of the process, I

developed a codebook that contained focused codes (described below) to guide the next phases of analysis (Appendix I).

### ***Analytic Step Two: Focused Coding***

Codebooks in grounded theory studies are developed during the initial analysis process and updated throughout to allow for the codes to reflect the meanings and perspectives of the participants (Charmaz, 2014). For this study, the codebook was developed after the first eight interviews were open coded (Appendix I). The codebook was updated at each stage of the coding process to reflect the focused, axial, and theoretical codes identified.

The codebook contained each code framed to reflect the stage of analysis. Each code has a brief description of what the code means and its properties (Saldana, 2016). As understanding of the codes deepen, inclusion and exclusion criteria were added along with excerpts of data that fit the code and those that do not (Saldana, 2016). Coding and analysis in grounded theory is a highly interactive process that requires revisiting the data and making comparisons between the data and developed codes to provide a deeper understanding and ability to assign meaning to the data (Charmaz, 2014). As the codebook was updated, I documented changes in the research memo.

Using the codebook, all interviews ( $N=16$ ) were focus coded. These focused codes had broader names built upon the open codes. For example, using the above open codes as an example, a broader set of focused codes were written as “*Seeing exercise as fun*” or “*Competing priorities.*” Focused codes allow for further analysis and conceptualization of the data collected during interviews (Charmaz, 2014). Further, as with the open coding process, the focused coding process involved repeat review of the

data. During this time, new concepts emerged requiring the return to previously focus coded data with the additional themes (Charmaz, 2014). These new codes were documented in the research memo as well as updated in the codebook requiring a return to the previously coded interviews. Thirty-four categories or concepts were identified that guided this process. Through the use of research memos, initial comparisons and relationships between codes were made as this part of the process concluded (Charmaz, 2014).

### ***Analytic Step Three: Axial Coding***

Axial coding is the process of answering the “when, where, why, who, how, and with what consequences” of the core process of the study, informed by and extending the previous coding phases (Charmaz, 2014). These relationships are represented as categories and properties providing structure for the codes identified allowing for the data to be brought back together in a systematic manner (Charmaz, 2014). During this phase of coding, I reviewed and engaged in constant comparison with the 34 focused codes. I started to identify categories that were representative of the data. For each category I diagrammed the causal conditions of the phenomenon (category), actions that result from the phenomenon, the intervening conditions that influence the actions, and the consequences or outcomes associated with this phenomenon were detailed (Creswell & Poth, 2018) all relating to the explanatory process of engaging in physical activity (Figure 5: Axial Coding, pg. 54; Appendix J).

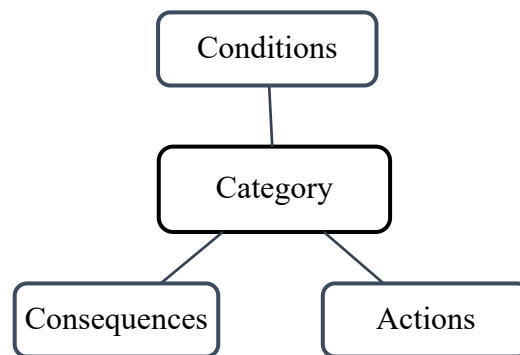
During the axial coding phase, based on the data analyzed thus far, I decided whether theoretical sampling needed to occur in order to ensure saturation of each of the categories. Theoretical sampling is the process of returning to previous participants or

recruiting new participants to answer questions or expand on previously asked questions to fully understand the emergent theoretical categories. Theoretical sampling assists in reaching saturation, the point where the data being collected is no longer providing new theoretical insights and no new patterns emerge from the data (Charmaz, 2014).

Additional sampling was not needed at this stage because all categories identified were saturated.

### **Figure 5**

#### *Axial Coding*



#### *Theoretical Coding*

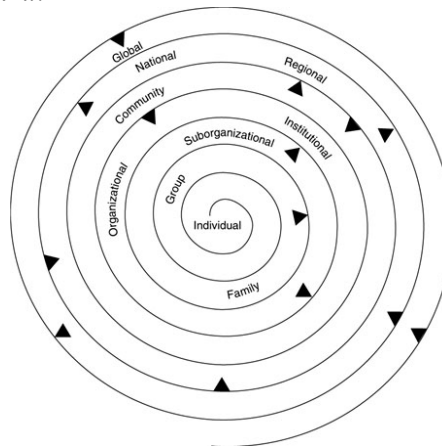
Theoretical coding was conducted once all categories and their properties had been identified. At this point, the data were reviewed to identify what the interviews represented. From this, the theoretical model was developed. As a result of this review, the core category was named and confirmed as representative of the core process under examination in the study (e.g., Choosing to engage in LTPA). It was during this phase that I reviewed the categories and properties diagrammed in the axial coding phase. I began re-organizing and diagramming through collapsing of various codes into broader categories. It was through this process and examination of salient and consistent

categories and relationships that remained in each diagram to explain the experiences these older adolescent girls have with LTPA.

This matrix informed the final statement of theory as a result of the study and inform the story that lies behind the central category of this study (Creswell & Poth, 2018). Inductively, I was able to reconfigure the categories, properties, and dimensions to explain the process of engaging in LTPA for the study participants. Other coding schemas were used to further understand the structure of the emerging theory as needed, for example, examining the *categories and properties* in the context of the Conditional Consequences Matrix (Figure 6) (Corbin & Strauss, 2015) which applies a socio-ecological approach to assessing the relationships between categories and sub-categories. To achieve this, I reviewed the codes and categories placed them within this framework to examine the multiple levels of influence the participants were reporting barriers and facilitators to LTPA.

**Figure 6**

*Conditional Consequences Matrix*



*Note: Figure adapted from Corbin & Strauss (2015). Basics of Qualitative Research, 4<sup>th</sup> edition. Sage Publications.*

## **Ensuring Quality and Trustworthiness**

In the design of this study, many steps were taken to ensure quality and trustworthiness. Creswell and Poth (2018) posit that researchers should take action to ensure validity by employing at least two out of nine validation strategies that reach across the researcher, participant, and reader or reviewer's lens. Validation strategies used in this study included reflexivity, participant collaboration, member checking, external audits, generating rich, thick descriptions, and peer review/debriefing. Charmaz (Charmaz, 2014) establishes three criteria for grounded theory studies-credibility, originality, and resonance-which will be addressed in the following paragraph in how they relate to the strategies presented by Creswell and Poth (2018).

As the researcher, I maintained a reflexive journal to collect personal thoughts, judgements, and biases related to the study. The reflexivity process began through the creation of a reflexive statement included in this dissertation. Collaborating with participants is a vital component of this study. Prior to conducting the study, I recruited girls like the target population to serve as community liaisons. The community liaisons ( $N=2$ ) agreed to review materials developed for the study and to assist in recruitment. Each community liaison went through the interview process to ensure that the interview guide was easy to understand, age appropriate, and appropriate in length. Following the completion of the study, results will be reported to them and to the participants through an in-person meeting and alternatively via a video presentation.

To further enhance the trust of the community during this process, meetings were held with participants to facilitate member checking to ensure my interpretations of the interviews were consistent with their intentions and resonates with the members. Each

participant was notified and asked if they would like to meet in person or over the phone to discuss the results of the study. Half of the participants responded and at the time of this dissertation, member check ins were completed with eight participants.

The research memos previously discussed serve as the audit trail for this study and sample memos are included in the appendix of this dissertation. To employ peer debriefing, Dr. Robert S. Gold (chair) and Dr. Elizabeth Aparicio (qualitative methodologist) met regularly with me to ensure rigor/quality was being met during the data collection and analysis activities and to discuss the research process and findings to reduce primary research bias (Charmaz, 2014). These meetings were documented by each individual and assisted me in the process of analyzing my data to ensure all connections/theoretical assumptions were being met and that the data were sufficient to provide credibility to the claims presented. Upon construction of the final theory, I met with each of my dissertation committee members once to discuss the results of the study and the theoretical implications. Additionally, I met with two other doctoral students who work with the African American/Black community or are engaged in qualitative research methods two to three times during the process to debrief the analytic process and discuss implications of the final theoretical model.

Through the process of this dissertation, rich, thick descriptions of the target population, setting, and findings were used to further establish credibility. These descriptions were enhanced through the completion of research memos and reflexive journal entries immediately after any contact with the participants and/or data to ensure all information is being documented.

## **Data Management**

Interviews were audio recorded on two devices using the application Voice Recorder HD on my iPhone and a digital audio recorder. Two devices were used to document the interview as a preventative measure in the event one did not work properly. A password protected computer and file saved on Box hosted recorded interviews. The original recordings on the iPhone were deleted post transcription and the digital audio recordings will be deleted from the device upon completion of the study. REV, a transcription service for audio files and a CITI trained undergraduate research assistant provided verbatim transcription as interviews were completed. Following transcription, the undergraduate research assistant and I reviewed the interview transcripts against the original interview audio file, cleaning the data for accuracy. Data was coded as each interview was transcribed and cleaned.

## **Ethical Considerations**

Ethical treatment of the participants was considered throughout the planning and implementation of this study. First, participants self-selected to participate in this study and could withdraw at any time. As part of this process, all participants gave informed consent in plain language and parents/guardians of participants under 18 years of age had the opportunity to decline participation in the study for their daughter. Prior to beginning the interview, I read the informed consent form while potential participants followed along on their own copy, give them the opportunity to ask questions after each section. The study was confidential, and participants chose their own pseudonyms for use during the study. Data reporting does not reference identifiable individual data. Incentives were provided for participation in this study. Upon completion of the interview, participants

received \$25. Although this is more than double the minimum wage of \$10.10/hour in the state of Maryland (Minimum-wage.org, 2019), it was meant to further account for travel time and out of pocket costs for transportation. On average, participants spent one-two hours with me. Travel costs possibly incurred by the participants include reimbursement for mileage and bus/metro fare. After discussion with my community liaisons, \$25 was deemed fair yet not coercive. Each participant signed a receipt indicated they had received the \$25 cash incentive. The receipt book was kept in a personal locked drawer separate from the interview data.

It was possible that a participant could have disclosed compulsive exercise behavior during the interview. Although this did not occur, I was prepared to provide a list of resources to aid them in further investigating compulsive exercise. Compulsive exercise is exercising in a way that interferes with normal, day to day activities; exercise that occurs during inappropriate times or places; or when one exercises regardless of an injury or other medical condition (National Eating Disorders Association, 2017). Despite not being recognized by the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) as a standalone medical diagnosis, eating disorder organizations and researchers alike recognize compulsive exercise as an addictive behavior (Lichtenstein et al., 2017). Other symptoms of compulsive exercise include: anxiety and feelings of guilt when one does not exercise; having a rigid exercise regimen; not being comfortable resting; using exercise to manage emotions, purge calories, or give permission to eat; being secretive about when, where and how much one is exercising; and withdrawing from friends/family to engage in exercise (National Eating Disorders Association, 2017). Consequences of compulsive exercise include depression, anxiety, overuse injuries, and

loss of bone density (Lichtenstein et al., 2017; National Eating Disorders Association, 2017). To assess if participants were engaged in this type of behavior, statements made by the participants reflecting items from the Exercise Addiction Inventory were listened for and documented (Szabo et al., 2004). Statements from this inventory include:

- Exercise is the most important thing in my life;
- Conflicts have arisen between me and my family and/or partner about the amount of exercise I do;
- I use exercise as a way of changing my mood;
- Over time I have increased the amount of exercise I do in a day;
- If I have to miss an exercise session, I feel moody and irritable;
- I always end up exercising as often as I did before (Szabo et al., 2004).

Participants who made statements related to more than three of these would have been provided with a printed handout that defined compulsive exercise, identified the signs and symptoms, and been provided resources for screening and assistance.

## Chapter 4: Results

This study examined the experience that older adolescent African American/Black girls have with leisure-time physical activity (LTPA). For this study, I interviewed 16 African American/Black girls between the ages of 16-18 who live in Prince George's County.

This chapter presents the final grounded theory model for this study. The core category (the behavioral process) for this study: Choosing to Engage in Leisure Time Physical Activity is the central component of the theoretical model. Related to the core category are five categories that each have properties and dimensions that define and describe the category. The properties represent the attributes and characteristics of the categories. In contrast, the dimensions provide the continuum ends (the extremes) of the properties using the *in vivo* open codes (Creswell & Poth, 2018). The theoretical categories of this study include: Being Autonomously Motivated, Perceiving Control Over Time, Knowing About Exercise, Receiving Messages About My Body, and Experiencing the Influence of Others. Each of these categories, shared among participants, explains the factors influencing the choice to engage in leisure-time physical activity.

Before describing the theoretical model, I briefly describe the participants, including the social groups to which they belong, whether they are currently engaged in LTPA, and descriptions of their lives outside of school. After these introductions, I provide the perception of leisure-time physical activity and exercise among these participants (sub-question three). Then, I describe the emergent theory (main research

question) inclusive of the barriers and facilitators experienced by the participants (sub-questions one and two).

### **Participant Descriptions**

Participants ( $N=16$ ) ages ranged between 16-18 (mean age=16.7 years) at the time of the study. Fifteen participants ( $n=15$ ) identified as African American/Black, one participant ( $n=1$ ) identified as multiracial (African American/Black, Biracial/Multiracial, Native American or Alaskan Native, and Native Hawaiian or other Pacific Islander). All participants identified as non-Hispanic or Latino. When asked about their sexual orientation, one participant identified as bi-sexual, one participant as “other”, and 14 participants as straight/heterosexual. The majority of participants ( $n=10$ ) were seniors in high school, whereas five were juniors and one was a sophomore. Participant demographics are summarized in Table 3 (page 63).

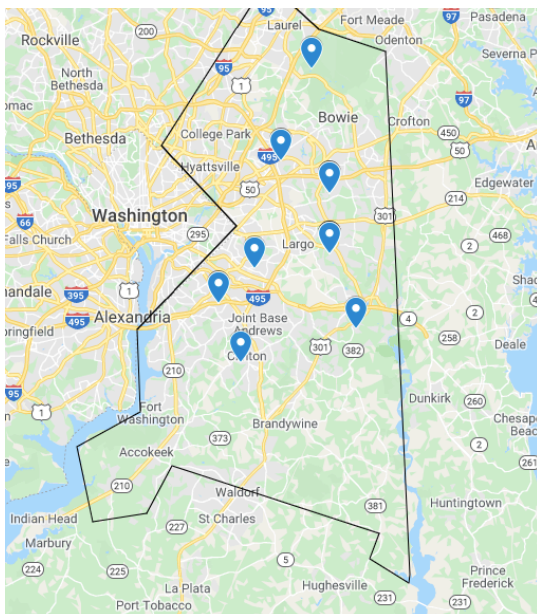
**Table 3***Participant Demographics (N=16)*

|                         | <u><i>n</i></u> | <u><i>%</i></u> | <u><i>Mean</i></u> | <u><i>Range</i></u> |
|-------------------------|-----------------|-----------------|--------------------|---------------------|
| Age                     | 16              | 100             | 16.7               | 16-18               |
| Race                    |                 |                 |                    |                     |
| African American/Black  | 15              | 94              |                    |                     |
| Biracial/Multiracial    | 1               | 6               |                    |                     |
| Ethnicity               |                 |                 |                    |                     |
| Non-Hispanic or Latino  | 16              | 100             |                    |                     |
| Sex                     |                 |                 |                    |                     |
| Female                  | 16              | 100             |                    |                     |
| Gender                  |                 |                 |                    |                     |
| Girl                    | 16              | 100             |                    |                     |
| Sexual Orientation      |                 |                 |                    |                     |
| Bisexual                | 1               | 6               |                    |                     |
| Straight/Heterosexual   | 14              | 88              |                    |                     |
| Other                   | 1               | 6               |                    |                     |
| Year in High School     |                 |                 |                    |                     |
| Sophomore               | 1               | 6               |                    |                     |
| Junior                  | 5               | 31              |                    |                     |
| Senior                  | 10              | 63              |                    |                     |
| Home Zip Code           |                 |                 |                    |                     |
| 20706                   | 2               | 13              |                    |                     |
| 20708                   | 1               | 6               |                    |                     |
| 20721                   | 3               | 19              |                    |                     |
| 20735                   | 1               | 6               |                    |                     |
| 20747                   | 1               | 6               |                    |                     |
| 20748                   | 2               | 13              |                    |                     |
| 20772                   | 1               | 6               |                    |                     |
| 20774                   | 5               | 31              |                    |                     |
| Afterschool Activities  |                 |                 |                    |                     |
| Yes                     | 16              | 100             | 4.7                | 1-8                 |
| Working                 |                 |                 |                    |                     |
| Yes                     | 6               | 38              | 16 hrs.            | 3-25                |
| No                      | 10              | 62              |                    |                     |
| Current Exercise Status |                 |                 |                    |                     |
| Exercisers              | 9               | 56              |                    |                     |

Figure 7 identifies the areas of Prince George's County in which participants lived. Nine participants (56%) indicated they were current exercisers and seven identified (44%) as non-exercisers. Participants were classified as exercisers if they reported exercising at least three times in the past week. The nine participants who were identified as exercisers include: Nell, Mallory, Avalon, Rebecca, Journey, Elizabeth, Kelly, and Ava<sup>1</sup>. These participants engaged in physical activity largely through engagement in team sports year-round and/or they indicated they participate in LTPA at least three times per week. Non-exercisers ( $n=7$ ) for this study include Brenda, Smurf Couture, Rylee, Jasmine<sup>2</sup>, Destiny, and Rose-Crystal<sup>1</sup>. These participants reported engaging in LTPA less than three times per week or not at all.

## Figure 7

### *Map of Participant's Zip Codes*



<sup>1</sup> Participant pseudonyms

Participants identified the number of hours worked before or after school and as identified the school/community activities in which they are involved. Six participants (38%) identified that they work. On average these participants worked 16 hours per week (range 3-25 hours). All participants ( $N=16$ ) were involved in afterschool activities ( $M$  number of activities per participant=4.7, range=1-8). Table 4 describes the various afterschool activities of the participants.

**Table 4**

*After School Activity Participation by Type ( $N=16$ )*

|                                     | <i>n</i> | <i>%</i> |
|-------------------------------------|----------|----------|
| Academic or professional            | 10       | 63       |
| High school team sport              | 11       | 69       |
| Community team sport                | 2        | 13       |
| Community service/service learning  | 10       | 63       |
| Honor society                       | 11       | 69       |
| Internship                          | 5        | 31       |
| Leadership or mentoring program     | 8        | 50       |
| Recreation or wellness group        | 0        | 0        |
| Religious or spiritual group        | 4        | 25       |
| Student government                  | 4        | 25       |
| Student media (yearbook, newspaper, | 2        | 13       |
| Other student club                  | 7        | 44       |

### **Perceptions of Exercise**

An early question asked of participants was what exercise means to them and what are their feelings about exercise prior to me defining the terms of exercise for this

study. The participants currently engaging in exercise, indicated overall high levels of enjoyment in being active ( $n=14$ ). Exercisers in this study related exercise with their participation in school sports and the conditioning that occurs when they are not enrolled in a sport. Aspects of exercise enjoyed by these exercising participants included overall enhancement of mental health, increases in energy, and a greater ability to focus in school. Two of the exercising participants indicated how they currently exercise to help it become a part of their regular daily regime, stating that if they keep working on scheduling exercise into their day it will be something they can “*do all the time*”. Nell describes the meaning of exercise to her that is shared by many of the other exercising participants:

*Exercise to me is like something I look forward to, uhm it helps motivate me to be a better person, a healthier person, and like when I do exercise, I feel good, like I feel more energetic, I feel like I can focus more, I'm more focused in school it's something else it's like a part of me.*

*Nell (exerciser), age 17*

Exercising participants also indicated negative perceptions to exercise. Along with being a member of sports team are working under different coaches with varying styles of coaching. Mallory expressed: “*It's great when I want to do it but I don't like doing it when someone else is like yelling at me or forcing me to do it.*” Motivation was a challenging factor with a preference to engage in exercise as part of a team or with a friend. Kelly indicated she “*can't really exercise by herself (myself), cause, like, I... don't know. It's...It's just not as motivating.*” Non-exercising participants shared in this experience and described they could only engage in exercise if another person accompanied them.

Of the non-exercising participants ( $n=7$ ), all were devoid of positive perceptions of exercise. Mainly, their definitions surrounded the concept of “*anything that gets your body moving*”. Most of the non-exercising participants ( $n=4$ ), described commuting as a form of exercise. Commuting was often discussed in the context of walking to and from school as well as their movements around the school building during the regular school day. Smurf Couture said-

*it counts... because there's a lot of steps in the building. Some classes might be on one side of the building at the end of the hall...and another class could be on the whole other side, so that's exercise. And, like, walking, like commuting walking, then I feel like that's exercise, because you don't have to walk.*

*Smurf Couture (non-exerciser), age 17*

These perceptions of exercise were collected prior to discussing the barriers and facilitators of LTPA among the participants. A definition of LTPA was provided to participants as physical activities are those that occur outside of school time and outside of commuting. The final theoretical model while encompassing the participants perceptions of exercise are based on the provided definition.

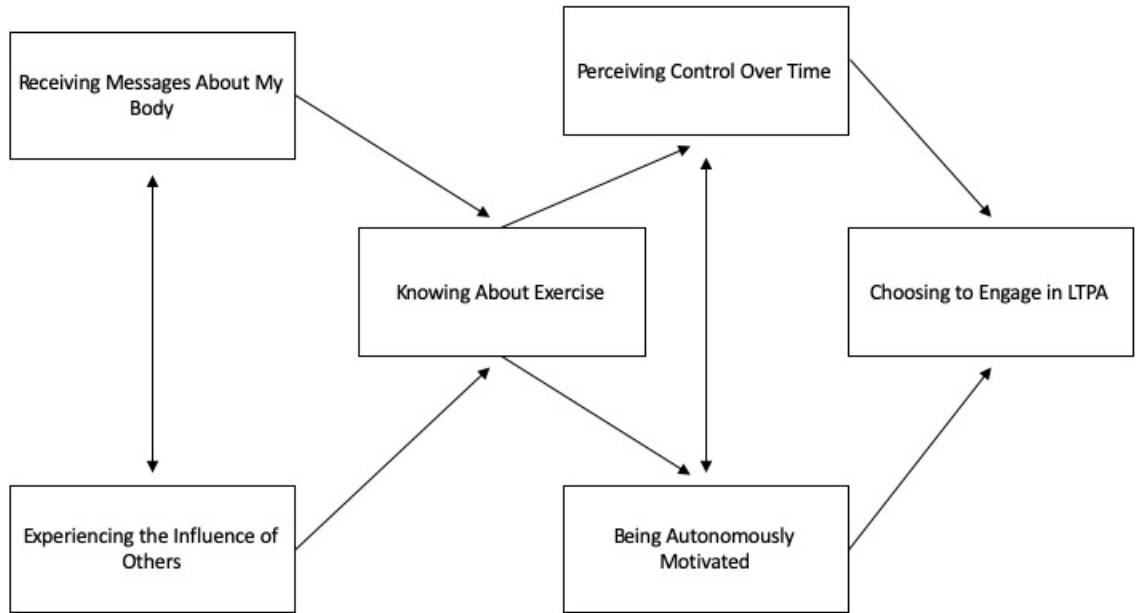
## **Overview of Theoretical Model**

The focus of this study was to examine the experiences that older adolescent African American/black girls had with LTPA and to describe the process by which they decide whether to engage in LTPA. Through the coding phases and the use of constant comparison methods, the core category that emerged “*Choosing to Engage in Leisure Time Physical Activity*” provided a structure in which to organize the final behavioral

process theory. Figure 8 provides a pictorial view of the emergent theory and the relationships between the core category and supporting categories.

**Figure 8**

*Grounded Theory of Choosing to Engage in LTPA*



Participants described what is present or lacking in their lives to help them decide whether to engage them in LTPA. When discussing their decision to engage in LTPA, the participants shared characteristics of their lives, both past and present, that led to choosing to engage in exercise behavior choice and identified future characteristics of their lives that may lead to greater engagement of LTPA. To be an active participant in LTPA, the perception that one had control over their time was important. Participants who currently engage in LTPA described a life where they are in control over what they do and have mechanisms in place to control how they spend their time while meeting the demands of competing priorities. Additionally, directly related to the engagement of

LTPA, the participants explained (regardless of current engagement in LTPA) that autonomous motivation was important for sustained and consistent LTPA. Contributing to having autonomous motivation to engage in LTPA is the interaction between LTPA knowledge, self-efficacy, and social support to engage in LTPA. Adding to this are the messages one receives regarding their body from the media, family, and potential partners. These factors work together to provide a “perfect storm” of autonomous motivation. Autonomous motivation changes LTPA to be for the individual and not to please an outside observer. Table 5 (page 71) demonstrates the theoretical categories with their properties and dimensions. Table 6 (page 72) provides sample quotes from each theoretical category.

**Table 5***Theoretical Categories, Properties, and Dimensions of Choosing to Engage in LTPA*

| Theoretical Categories               | Properties and Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Being Autonomously Motivated         | Feeling a sense of personal responsibility <ul style="list-style-type: none"> <li>• Taking care of myself</li> <li>• Exercising provides me</li> </ul> Not being like everyone else                                                                                                                                                                                                                                                                                                                                           |
| Perceiving Control Over Time         | Juggling priorities<br>Receiving schoolwork<br>Setting goals                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Knowing About Exercise               | Assessing the benefits of exercise<br>Believing I can exercise<br>Exercising is fun                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Experiencing the Influence of Others | Being parented <ul style="list-style-type: none"> <li>• Exercising at an early age</li> <li>• Encouraging parents</li> <li>• Modeling parents</li> </ul> Involving Friends <ul style="list-style-type: none"> <li>• Easier with friends</li> <li>• Inviting friends and friends inviting</li> </ul> Valuing participation in sports<br>Telling me I'm at risk<br>Having opportunities <ul style="list-style-type: none"> <li>• Community as a space</li> <li>• Perceiving school's role</li> </ul> Finding inspiration online |
| Receiving Messages About My Body     | Wanting to be thick<br>Thinking what boys want<br>Being body confident                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

**Table 6***Sample Quotes of Exercisers and Non-Exercisers by Theoretical Category*

| Theoretical Category         | Sample Quote (exercising participant)                                                                                                                                                                                                                                                                                                                                                                                                       | Sample Quote (non-exercising participant)                                                                                                                                                                                                                                                                               |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Being Autonomously Motivated | “Exercise to me is like something that I look forward to, uhm it helps motivate me to be a better person, a healthier person, and like when I do exercise, I feel good, like I feel more energetic, I feel like I can focus more, I’m more focused in school it’s something else it’s like a part of me, it’s like part of my life, it helps me become a better person.” (Nell, age 17)                                                     | “Because I’m already skinny. People exercise to stay thin...But I’m already fit.” (Smurf Couture, age 17)                                                                                                                                                                                                               |
| Perceiving Control Over Time | “Being able to have [...] time management, you do have to have that in order to make sure exercising does fit in your schedule because if you don't have it, then you'll [...]stretch yourself out even more saying, ‘Oh I need to do all this and I need to go to the gym. And I need to go to practice.’ So you do have to have like good time management skills in order to make sure exercise fits in your schedule.” (Jasmine, age 16) | “Um, so I'm a bit of a procrastinator, so like, I usually keep my important work that I have to do until a later time, so like, by that time, it's like, I have work to do so I don't exercise.” (Jasmine2, age 17)                                                                                                     |
| Knowing About Exercise       | “... I can’t really speak for other girls, [...] some girls don’t really see exercising as a necessity [...] they just see it as, like, a chore, like ‘Why do I have to do that?’ [...] they don’t understand, like, why you have to exercise, like why it’s important. I feel like that’s a struggle for me and for girls my age.” (Kelly, age 16)                                                                                         | “Could really motivate somebody to exercise or like telling them the benefits of exercising and like tell them in a way where it’s more effective cause some teachers will be like if you exercise you this, this, this will happen to you. While like I could listen to it and come out the other ear. But if you like |

tell them like exercising doesn't mean you have to change your body, exercising's supposed to make you feel good, something like that. Something that hit's more to them yeah that's be an effective way to make people exercise more.” (Rose-Crystal, 16)

Experiencing the  
Influence of Others

“...my parents over the summer they kind of were like okay everyone put down whatever you're doing we're going to go out and go for a walk.” (Avalon, age 16)

“Nothing, because their problems shouldn't be your problems or your problems shouldn't be their problems. They shouldn't have to- they shouldn't have to baby you, or you shouldn't have to make them do something with you because you can't do it on your own. I feel like if you need to work out, it's more based on your parents and your family as a whole to help you, or you just helping yourself. But I would never bring my friends into the problems that I have because you didn't give them to me [...] So if I chose to be the way that I am, I have to fix it the same way I got them. (Rylee, 16)

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Receiving Messages<br>About My Body | <p>“...it’s like oh she’d be prettier even though cause...I feel like when it comes to the black community...they put a lot of their differences body shape wise if you do have lighter skin cause I feel like guys only ever date darker skin females if they’re like really fit or thick as in as they call it or really skinny and they’re like looser on lighter skin females because they’re light skinned even it doesn’t matter to them even if they’re like large or they look average as people call it or they have like weirdly shape bodies as others would call it...” (Nell, age 17)</p> | <p>“They (boys) mean a really small waist [...] I think thick is like you do have your rolls and you do have your stretch marks and these unrealistic body standards they want to put on females is like you’re either thick but when their thick is what I just said like small waist, small arms, skinny body, but just have a really large butt or like they are really skinny with like an athletic build and I have neither of those.” (Rose Crystal, age 16)</p> |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

---

### **Theoretical Category 1: Being Autonomously Motivated**

Participants largely discussed the need to take control of their lives and to be motivated to engage in healthy behaviors for them and not for others. Shared among the participants was a sense of wanting independence and wanting to change the narrative of their social group from one of being overweight and unhealthy to healthy and body confident regardless of size. When discussing their engagement with LTPA, participants indicated a “*sense of personal responsibility*” to be healthy, where LTPA is a part of their everyday life and something that makes them a better person overall, as Jasmine indicates to “*add another attribute to myself.*” Rebecca explains how LTPA is a choice and has become a priority in her life:

*So yeah. So maybe back then it was a priority but now I wouldn’t say it’s more of a priority, it’s more of a choice for me now like I*

*just want to stay healthy, I wanna, I like the way it feels so I want to say it's more important more a priority now.*

*Rebecca (exerciser), age 17*

When describing taking care of oneself as a motivation to exercise, Ava stated that in the past she thought of exercise as something fun to do but, “*now I look at it as more like, if I want to be in shape, if I want to look this way I should exercise. If I want to stay healthy I should exercise.*” Wanting to be healthy and choosing LTPA as a means to be healthy is a culmination of several other theoretical categories including Knowing About Exercise-the knowledge of the benefits of exercise are important to understand the relationship with health and Experiencing the Influence of Others as both exercising and non-exercising participants explained the impact people such as doctor's and parents had on their motivation to exercise by discussing and expressing concerns over their current health with them.

### ***Feeling a Sense of Personal Responsibility***

Feeling a sense of personal responsibility is the ability to identify with what exercise provides “me.” For participants who had high levels of autonomous motivation to engage in LTPA, like Nell, they were able to articulate the personal benefits associated with their LTPA.

*Exercise to me is like something that I look forward to, uhm it helps motivate me to be a better person, a healthier person, and like when I do exercise, I feel good, like I feel more energetic, I feel like I can focus more, I'm more focused in school it's something else it's like a part of me, it's like part of my life, it helps me become a better person.*

*Nell (exerciser), age 17*

For those not engaging in LTPA, at the time of the study, lack of autonomous motivation and identifying holistically what exercise provides them with was explicitly stated. Non-exercising participants indicated that there are times when they do not feel motivated at all to engage in LTPA. Many of the girls were not able to cite what exercise can provide them. Smurf Couture indicated the lack of need to exercise as an outcome of her family- *“Because I feel like I don't ... both of my parents are like built like sticks, so I feel like I don't have to exercise.”* This further links autonomous motivation as a result of knowing the benefits to exercise outside of managing weight.

The ability to identify the non-image associated health benefits of LTPA is important in choosing to engage in LTPA. Many of the girls identified that with regular LTPA, their bodies do not necessarily change physically. They described the need to find other sources of motivation. Other sources of motivation are necessary, given their awareness that LTPA is good for overall health. Avalon goes on to explain how she uses her concern over her future as a motivating factor for LTPA:

*I kind of have to cause I'm planning on going to medical school so and exercising relieves stress and since medical school is like crazy and I'm going to spend a lot of time sitting down anyways like building in like an hour to go out and run around and like let all my stress and energy go so I can go back to books, it has to be part of my priorities.*

*Avalon (exerciser), age 16*

### ***Not Being Like Everyone Else***

As indicated earlier in this section, there is a desire among this group of participants overall to not be like others in their community. Nell describes how her

community can contribute to her lack of motivation to engage in LTPA. She goes on to identify that who she sees in her neighborhood motivates her to be active:

*...and like this is like a food desert they call it, there's fast food places everywhere and then when you do want to eat healthy it's like overpriced and it's just like I try to like stray away from that cause like most, most of my friends all they do is eat fast food and never wanna be healthy, they never want to eat healthy, they're like what's the point of eating healthy I'm gonna die anyways like oh, okay. (Laughs) So I've just like I feel like my environment is what like it deters me it does motivate me because I see the people and I don't want to be like that-*

Nell continues to explain the role her family and community members play in motivating her to engage in LTPA. She describes wanting a better future for herself and to not be a part of the narrative that is told often in the media:

*I would see people in my family or people in like the black community that were just overweight and they just didn't seem to care and just not like it'll make me want to just keep working harder to not be part of that group, to not be another statistic, another uhm, another number-*

*Nell (exerciser), age 17*

This pressure to be unlike others in the black community, to reduce this sense of self-fulfilling prophecy comes from the family members of these girls. For some, the pressure received by their parents to engage in team sports was a way to “get out” and to “make something of themselves.” Mallory provides insight into these messages being received from others to become a success.

*Oh okay uhm I don't know like I feel like we're already like so engaged with exercise because like the only like growing up the only way we learned that we were going to make it is by playing ball or doing so well in school like there's just like no in between-You can either do, do well in ball or you do well in school and you'll be successful I guess.*

*Mallory (exerciser), age 17*

Girls receiving these messages from an early age may be predisposed to high autonomous motivation to engage in LTPA. These expectations are reinforced through the early introduction to team sports as young as pre-school age for these girls. These messages can also dissuade the girl's commitment to LTPA as Avalon explains these competing priorities and the pressure to be a successful African American/Black adult later in life:

*Uhm (long pause) I don't know, I kind of put pressure on myself sometimes...Cause, especially being, like I'm African American but I'm my parents are both African- So there's a lot of pressure, especially from that side to be really good at whatever you're doing. So like academically I'm trying to make sure I get the best grades, that means like staying up and studying a little extra, or uhm taking the extra mile for like scholarships and searching for those, and applying to those. It's not just like schoolwork. So now you have school work, applying for schools, applying for scholarships, writing a bunch of essays, and then all these (sigh) clubs, calling people in the middle of the night just to make sure that the reservations are set in stone or the uh fundraisers going to happen on this date like it should. So I don't know there's just a lot that I feel like I have to do really well...and I'm a perfectionist so it doesn't help cause like sometimes you procrastinate sets done like very very well...so it just take a lot of time.*

*Avalon (exerciser), age 17*

Being autonomously motivated, as described above, is a primary motivator to engaging in LTPA. It is one of two culminating categories in the theoretical model that describes how older African American/Black adolescent girls choose to engage in LTPA. This theoretical category interacts with perceptions of control over time. It is not until one is autonomously motivated that they can have a sense of control over their time.

## **Theoretical Category 2: Perceiving Control Over Time**

The ability and perception to control time spent outside of school are consequential to the engagement of these youth in LTPA. All participants indicated time management as a skill needed by youth like them. Contributing to this category is the need to juggle multiple priorities placed upon them by themselves, their peers, parents, and school. Almost all participants indicated that this leads to the feeling of being overwhelmed. This feeling of being overwhelmed, as a result of schoolwork, is described by Kelly:

*So, sometimes it can be overwhelming and you're like, okay, I can't, I can't work out today, I just can't. I have to do my work. So, like, so that's when I have, like, a big project, I'm like yeah I can't, I can't do it today... So, like, that can prevent me...Um, it depends, like, if I have...I get homework every day. So, like it might take me, like, one and a half hours to do all my homework... But, if I have a project it might take like three hours.*

*Kelly (exerciser), age 16*

### ***Juggling Priorities***

Amplifying the feelings of being overwhelmed is the need to juggle social engagements and the outside activities necessary to bolster a robust college application. Mallory describes her journey of dealing with these feelings of stress and how she feels physically as a result.

*I'm getting there but I'm not there yet but uh just it's just so much like it, it's so much to think about and process when you get in high school cause I know like uhm I don't know just like college and then your social life, and then sports, and outside activities it's just a lot..... I feel like my schedule is like jam packed where I don't even get a time to breathe.*

*Mallory (exerciser), age 17*

Destiny also describes the need for rest during her interview and how the challenge of juggling competing priorities impacts engagement in LTPA despite her normal regular schedule.

*Just me not being able to ... Sometimes if I know I have something to do like maybe that morning, but I wanna go to the gym later, sometimes whatever I'm doing that morning may keep me longer than expected....so then I'm like I can't go to the gym now, I ha- I need to go home, and rest and get, get up and be able to do what I need to the next day. So just like other activities that I do.*

*Destiny (non-exerciser), age 17*

Not being able to execute good time management is a factor in achieving and balancing all the needs to be done. Brenda identifies herself as having this inability.

*Uhm my ability to manage time uhm.. when I do one thing I get tired so I just don't feel like doing anything after that.*

*Brenda (non-exerciser), age 16*

The impact of good time management is explained by Jasmine:

*Uhm being able to have well, have well time management, you do have to have that in order to make sure exercising does fit in your schedule because if you don't have it, then you'll be like you'll stretch yourself out even more saying, "Oh I need to do all this and I need to go to the gym. And I need to go to practice." So you do have to have like good time management skills in order to make sure exercise fits in your schedule.*

*Jasmine (exerciser), age 16*

Consequently, Jasmine can also identify how her inconsistent skills in time management can lead to not engaging in LTPA:

*Uhm sometimes like I have a paper that I pushed off for the whole week, but it's due Friday, so I can't go to practice or I can't go to the gym on Thursday because I'm pushing this paper off. And I knew I*

*should have done it, started working on it Monday, but I just didn't feel like it.*

*Jasmine (exerciser), age 16*

The distraction of technology, such as access to a cell phone, is a contributing factor to the ability to manage time. As Rylee describes here, the notifications on her phone can lead her astray and coupled with lack of time management skills amplifies those feelings of being overwhelmed:

*The fact that I can't manage time is a humongous problem because I don't know how to manage time. The fact that I've been a procrastinator since middle school is just a start. Um, yeah, time management hinders a lot because ... I don't know. Sometimes you-you'd want to be that planner... that has ... Like my cousin, she plans. Like there's a calendar on her wall, and she has like time slots for everything, whether she's done or not. And I was like, "Do you actually follow that?" And she's like, "Yeah." Because she knows that if you manage your time well, and she knows that when she has something that she needs to do she'll do it consistently until she's done...And I'm just not like that. Like I'll probably start looking at my phone. Like don't let my phone ring 'cause I will answer it, and that'll just be a wrap for whatever I was doing. But no. Everything ... yeah.*

*Rylee (non-exerciser), age 16*

Jasmine describes how her cell phone helps her to procrastinate and not do schoolwork or engage in LTPA:

*Uhm you know Watch Netflix or go on TikTok or something like that, just on my phone or on my laptop and stuff like that.*

*Jasmine (exerciser), age 16*

When considering their future, many of the participants indicated they would have more time post high school graduation envisioning more free time when going to college. Jasmine2 explains that time will be freer in the future:

*Um, in my future, like, I don't know, I guess, I have a lot of stuff out of the way and I'd be able to like create more time and have a better exercise plan. Cause it's not like I never want to exercise or, like,*

*like, I ne- I will never make a plan or never feel motivated because I feel like I will. Cause, like, I want to...I plan to have a better exercise plan in the future and I think I'll be able to stay healthy and become more fit in the future.*

*Jasmine2 (non-exerciser), age 17*

Alternatively, some participants feel that college will be a time of more stress and less time to engage in LTPA as Rebecca indicates:

*Well the next 2 to 3 years I'm going to be in, hopefully I'm going to be in college and I'm actually scared I'm not going to be as active...Cause I always hear college is more stressful and if I'm worrying about the stress I have now I can't imagine that in college. But also in college I know like if on campus there's gyms and stuff or like activity centers. Like over here they have the rec so like I think I'll be fine when it comes to college so that's sometimes I worry, it's like a half and half. I worry...cause the food, you know how they say the freshman 15...Yeah and then the stress but also like but then you're I have more access to a gym and being active and all that stuff. So I think in the future, the next 2-3 years cause I'm going to be in college... I am going to be walking more because I'm going to have to commute and get around campus. Uhm and then hopefully the school I, the school I choose to go to their activity center's pretty nice and they have a nice rec so I can exercise and stay active, like, I, I want to get more active actually...So hopefully in the next 2 to 3 years I am more active.*

*Rebecca (exerciser), age 17*

Furthermore, some participants described how their future selves won't be tied to their parents allowing them to make the choice over how they spend their time as Brenda describes here:

*I mean when I grow up I'm going to start exercising more because I'll have more freedom and like I can drive myself to the gym and I can't-don't have to rely on my parents I can buy my own self, I can buy myself healthy foods and stuff you know, yeah.*

*Brenda (non-exerciser), age 16*

### ***Receiving Schoolwork***

Consistently across participants, the impact of school was a key factor in prohibiting engagement in LTPA. Hours of homework to complete after school in conjunction with not getting enough sleep due to the early start times of the school day lead these girls to be too exhausted to consider engaging in physical activity. Nell explains how time management can be an impossible task:

*I do have trouble I always have my time where I like, I have my time set but it's just like things from outside of my world like you have school, and you have all the assignments like uhm I already have this timeline I think I want to do but like when you have all the outside factors that add up to that you can't really work around them cause like even though I'm supposed to do this at this time I have to do this other thing that came up out of nowhere-*

*Nell (exerciser), age 17*

Many of the girls suggested they have a “desire to be lazy,” which can be partially explained by the impact school and schoolwork has on the day to day lives of the girls. Sleep becomes a priority directly after school followed by dinner and home responsibilities. Girls are left completing homework in the late evening hours. These girls report getting very little sleep, specifically those who are not involved in team sports. Ava explains her thought process on her time and energy levels and how they contribute to a lack of motivation to engage in LTPA:

*When I get everything done. I know I have enough time to rest or I have enough me time before I exercise...I don't want to, I don't want to just be working and then, "Oh, I gotta exercise." 'Cause I'm not gonna feel like it...So using time management like with my schedule, how I only two, two classes a day. I use the in between time to get work done. Um, so that way study hall, most of the time I'm asleep. And then I'll go to workouts...Um, really my main thing is... Um, okay. I'm always tired... 'Cause I wake up early. So I'm just like, "Okay. Let me just get certain things done first." So, uh, my main*

*priority thing that's on my mind is that I'm tired, I'm tired, I'm tired. My body keeps telling me I'm tired. So I'm like, "Okay. Let's map out how we're going to be able to get sleep during study hall or whenever we have free time to get sleep." And then that's how I do that. I like exercise, I just wish I could be more motivated. I wish I could... it's like I motivate myself inside my head, but my body is just sometimes lazy... Like I tell myself, "Oh, exercise today." Or, "Do this or do that." And then my body's just like... like once I'm laying in my bed I just don't feel like... doing anything. But in my mind I'm like, "Oh, I'm gonna exercise at this certain time." Then once it gets that certain time I'm just like, "I don't feel like doing it." ...And then sometimes I would do it but I wouldn't do everything I need to do in exer, uh, exercise. I just do like little stuff.*

*Ava (exerciser), age 18*

The amount of homework provided to today's high school children is considered an impact on time to engage in LTPA. Nell, despite being a current exerciser, described how homework impacts her sleep and LTPA.

*...by the time I have to my homework until midnight and I get like 5 hours asleep and when I wake up I'm too tired to do anything so that keeps me from working out too.*

*Nell (exerciser), age 17*

### ***Setting Goals***

Instrumental to perceived control over one's time is understanding the role goals play in daily life and how goals are relevant to LTPA. Participants who indicated they had a goal associated with their LTPA had greater motivation to manage their time. Despite the perfect execution of time management or a goal, these participants had a higher likelihood of engaging or planning to engage in LTPA. Goals for these girls ranged from Nell want to "look a certain way" to Destiny "wanting to be strong." Participants who were non-exercisers described that goal setting would assist

them in getting more LTPA. Smurf Couture explained how even setting the smallest of goals could help a person on the road to LTPA:

*Just start by stretching every morning for, like, two or five minutes before you go out. Like, as soon as you get up, just stretch out your body and whatnot. And maybe, like, for a week, so you could get used to stretching. Then, the next week you could stretch and do maybe 10 jumping jacks or something, just start out slow. Maybe one sit-up, one push-up, just start off at the basic, so you're not doing too much and you're not sore. Stretching is a big part of exercising.*

*Smurf Couture (non-exerciser), age 17*

Participants described different experiences with short- and long-term goals. Participants felt they were more likely to achieve shorter-term goals. Long term goals lacked achievability as the participants stated they had more time to “*fall off the wagon.*” Participants identified short term goals as more achievable given their specificity. For one participant, weight loss was a motivating goal, whereas for another daily yoga practice was desired.

Having a clear set of goals and being able to prioritize are key contributors to having a perception of control over time. Integral to believing one can manage their time and increasing autonomous motivate to engage in LTPA is knowing about and the benefits of exercise. For these participants, realizing the benefits of exercise and having self-efficacy to exercise augments the ability to be autonomously motivated and perceive control over time.

### **Theoretical Category 3: Knowing About Exercise**

Participant knowledge about exercise encompasses the ability to assess the benefits of exercise and its importance. Having self-efficacy to engage in LTPA and

create/execute an exercise program adds to one's level of knowledge about LTPA.

Augmenting knowledge about LTPA is the perception of exercise as being fun. Knowing About Exercise is influenced by others who may teach them about exercise (school, sports, parents, and online personas) and augmented when receiving messages about one's body. Smurf Couture simply states: *"I don't know how to work out...and...so I don't."*

### ***Assessing the Benefits of Exercise***

Understanding the importance of exercise was indicated by the participants. Emphasizing the importance were all current exercisers; none of the non-exercising participants labeled exercise as important for them. Kelly explains that most girls her age do not understand the importance:

*Um, I can't really speak for other girls, I don't know-like some girls don't really see exercising as a necessity. Like, they just see it as, like, a chore, like "Why do I have to do that?"...But, or like, they don't understand, like, why, you have to exercise, like why it's important. I feel like that's a struggle for me and for girls my age.*

*Kelly (exerciser), age 16*

For some participants the importance lies in the *"future self"* and a way to be *"my best self."* Related to being one's best self, being able to label why exercise is important to physical health was related to greater engagement in LTPA. Exercising participants were more likely to indicate physical benefits such as heart and lung health, *"being stronger"*, and *"building endurance"* as well as mental benefits like the ability to *"load off steam"* and *"live a happier life."*

### ***Believing I Can Exercise***

Despite if one believes LTPA is important, having belief in one self's ability to engage in LTPA can impact motivation to exercise. Exercising participants overall were more comfortable creating an exercise plan and knowing what to do outside of sports. When asked if they could create an exercise plan, non-exercisers "*don't feel comfortable*" because they "*don't know a lot of exercises*" or that what they choose to do "*won't help*." For those that can create an exercise plan, as previously discussed, they turn to online sources like YouTube for assistance like Ava:

*Well I usually pick exercises that seem easy but very effective at the same time. And then sometimes I might just look at a video whereas be, where it's like, one way you can do it is wrong, and then the other way you do it is the right, is the right way. Or the proper way. And yeah, I really, I'm confident of the type of exercises I do. It's just if I'm not sure I'll just look at a YouTube video.*

*Ava (exerciser), age 18*

Feeling confident about exercising was common across exercisers and non-exercisers. Feeling "*self-conscious about going to the gym*" impacts the ability to go to another physical space to exercise. I asked some participants to rank their confidence levels on a ten-point scale and non-exercisers were likely to rank themselves as one-three while exercisers confidence was slightly higher at six.

### ***Exercising is Fun***

Previously mentioned in the findings of this study is participants, both exercising and non, indicated that they needed to believe exercise was going to be fun in order to engage. All participants at one point in their interview recalled a memory of exercising being fun or stated that for them to be engaged in LTPA, it would need to be in a fun

activity. Brenda described how “if you’re making exercise into a game I will like it.”

Rose Crystal also adds:

*I don’t hate exercising, let me, let me rephrase that, I like exercising in a way where it’s for fun not for like uhm sports or stuff like that.*

*T.Z.: Okay, so give me some examples of exercising for fun.*

*Rose Crystal: Uhm like if you and a group of friends went to a dance that would be like something for fun, but like if you’re trying to try out for a team and a person’s saying you must have this, this, this, it’s not for fun it’s more like you’re just doing it to join a sport. Which you probably won’t enjoy cause you’re pushing yourself to do something that you don’t enjoy.*

*Rose Crystal (non-exerciser), age 16*

Avalon also describes how despite her team focused sports, she “sometimes” exercises “just for more fun like I want to go out and have fun...on the driveway and play basketball.” Rebecca further adds that her views of exercise have changed over time increasing her motivation to engage in LTPA:

*Over time, like actually starting when I actually started to exercise then I realized exercise was for everyone like exercise is fun, it’s easy like I mean yeah its easy depending on who you are. It can be fun and it’s just a nice way you know like today everyone’s on their phones, it’s a nice way to get away from technology and stuff and that’s what I think to like I like exercising now.*

*Rebecca (exerciser), age 17*

Elizabeth sums up the importance of this theoretical category:

*Oh, you know, exercising isn’t just for these types of people, like, it could be for everyone. Like, showing the different, like, talking more about the different types of exercises you can do, um, the reason why, like, the benefit, like, the health benefits of it, not necessarily just the appearance benefits of*

*it, um. And yeah, just like, getting more, like, fun exercises out, like, make it like, "Oh, exercise doesn't have to be running and lifting weight, like, there's yoga, there's dancing, there's all of these different types of, like, fun things you can do." I think that's the main part of it, like, just, like, making sure the fun is, like, there (laughs).*

*Elizabeth (exerciser), age 17*

Knowing about exercise helped participant be autonomously motivated. Realizing exercise could be fun motivated participants to continue exercising. Experiencing exercise that is fun and learning about the benefits of exercise are influenced by important others in our lives. Important others, such as parents and friends, who encourage engagement in LTPA assisted participants in experiencing a wealth of self-described enjoyable activities.

#### **Theoretical Category 4: Experiencing the Influence of Others**

##### ***Being Parented***

As girls in this study reflected on the impact of others on engagement in LTPA, many referenced being parented across childhood and adolescence as important to their current engagement with LTPA. Most participants described the role that parents have played or the role they wish their parents would play to continue motivating them to engage in LTPA. For Brenda, she described how her parents were more motivating as a younger child and that they currently do not force her, like they used to, to be active.

*...yeah they'll be like get up stop watching tv. Sometimes my mom would like literally lock us out of the house and be like go play basketball you're always in the house all day and yeah.*

*Brenda (non-exerciser), age 16*

When asked who could motivate her to engage in LTPA, Brenda indicated her parents as a key factor of having control over what she does with her free time and described how their lack of accountability currently deters her from LTPA. Smurf Couture also described this experience. When her father would invite her to exercise or encourage her to go be physically active, she explains that she *“would just look at him like he's a clown, because I don't like ... I don't particularly dislike exercising, but it's not my favorite thing to do.”*

Participants were interested in having their parents and other family members engage in LTPA with them. Avalon suggested that parents could encourage them to exercise by *“building it into family time”*. She further goes on to describe how her family has done this- *“Like my parents over the summer they kind of were like okay everyone put down whatever you're doing we're going to go out and go for a walk.”*

Jasmine describes a similar experience of engaging in LTPA with her mother- *“Uh, she would come to my room, like, once she did it with her best friend and, um, I told her the next day that I wanted to join them.... So every morning, she'd wake me up and we'd go together.”* She goes on to discuss the impact her father's behaviors have had on her quest to be healthy- *“Cause like, my dad is always being healthy, like, at least as he gets older, like, he's always being healthy. He doesn't eat, like, past 5:00pm. He's always buying the organic stuff. All that, I think is great and I want to be like that.”*

Nell references how parents can *“break the cycle”* of obesity by being better role models.

*I feel like a lot of uhm black parents tend to let themselves go at a certain point and like their children see that and they're like oh well my mommy is like this, my daddy is like this I don't have to workout, I don't have to do this and there*

*are also going to be like really bad habits where umh children, their parents will like smoke or do weed or just like constantly order fast food, always order take out, always dine in at restaurants. The children see that and their like they have that example and you have also teachers who are overweight and they do the same thing and just like no way wherever you turn there are just people who have just are really bad with their health choices and don't ever want to work out and I, I don't want to be offensive but they're just walking around just being overweight and like and you see them walking it's just like, it just makes me disappointed because I feel like if like an adult sets an example but you see them waddling around..You see them like waddling around, they're out of breath, it's like you really could've helped yourself at a younger age and then you see those teachers parent's and you're like oh...And it's just, it feels like a cycle.*

*Nell (exerciser), age 17*

Participation in childhood sports, middle school sports/LTPA, and exposure to activities through middle school physical education classes was an indicator of engagement in LTPA as an adolescent, most common expressed as engagement in sports but also in self-directed LTPA. Rylee explains the lengths her mother went to get her involved with LTPA: *“When I was five. I don't even know. Like when I was five I used to do gymnastics. I used to do gymnastics, bowling, and swimming.”*

Of the exercisers in this study, most of them remembered their earliest thoughts about LTPA as middle school gym class and middle school sport. Some remembered LTPA as a much earlier experience, whether it was at home running around with family or engaging in more structured activities such as dance or gymnastics. One exercising participant did not remember exercising at such a young age. Non-exercisers had similar experiences but greater instances of early childhood involvement, with some of the non-exercisers being involved in sports or other physical activities before middle school.

Middle school physical education was another common experience with three more participants indicating this as their earliest memory of LTPA and 1 participant not expressing any experience before high school. Although not a direct motivator to engaging in LTPA, having these experiences provides a foundation on which these girls can discover the types of activities that are interesting to them and deemed as “fun”. The ease of exercising in middle school compared to being in high school was often cited however, the lack of options was a big deterrent of girls participating in LTPA.

### ***Involving Friends***

A key social influence on LTPA in these participants was the involvement of friends. For many, like Brenda, engaging in LTPA in high school *“is harder cause like there’s nobody to do it with.”* For Kelly, having social support and someone to exercise with is important.

*I like exercise when I'm doing it with others. I don't really like doing... I do it myself sometimes, but, like, I don't really like doing it by myself, because I'm not as motivated to do more, like if I'm with my friends or whatever. But, yeah. (laughs) I don't know.*

*Kelly (exerciser), age 16*

Challenging for the participants is being able to engage friends. Mallory explains how she feels her *“friends do nothing, they’re basically all sad and depressed.”* Nell also identified a challenge with peer support- *“people will like mock you and be like oh you’re trying to hard or it’s all fake and goes it’s just like you can never please anyone.”* Smurf Couture summed up another challenge of relying on peers to be motivated to exercise- *“Some people are lazy, so, like, you’ll want to just be lazy too, because there’s no motivation or energetic vibes coming from the peers around you.”* Despite these

challenges, participants indicated they either gain motivation or would be more motivated to engage in LTPA from their peers.

Many are waiting for friends to invite them, specifically the non-exercisers from the study. Smurf Couture indicates that she would engage in LTPA if a friend invited her and it was *“just for fun. You know when you’re with friends it makes it even more fun so yeah.”* Patricia re-affirmed that girls their age need to be more open and inviting to one another, this support would motivate her to engage in LTPA. She feels that *“more of my friends should be able to do that, just get them to engage in some type of stuff.”*

### ***Valuing Participation in Sports***

For most of the exercisers in the study, playing a high school team sport was how they engaged in LTPA. Forty-three percent of the non-exercisers indicated that playing a team sport was in their future. Avalon explains how forming friendships and bonding as a team are some of the ways that these participants value engagement or planned engagement in team sports: *“Uhm a lot more of your peers are doing sports so sometimes hanging out with your friend is being in the same sport together since you guys can spend more time together.”* Other values include a sense of accomplishment which motivates one to keep participating, as Ava identifies:

*So ever since I started wrestling, I've noticed like changes.  
And it does make me feel better about myself. Like  
especially after everything's done. I feel accomplished, like  
I didn't give up.*

*Ava (exerciser), age 18*

Being a part of a team and needing to train in the “off season” was also cited as motivating. Jasmine explained that *“most”* of her exercise is through her team “but some

days I will like just go to the gym by myself just to like work out and stuff like that, but I always feel like I try to exercise because I want to get better and like be stronger with my teams.”

### ***Telling Me I’m at Risk***

For some participants, having a doctor tell them they were at risk was influential to their motivation engage in LTPA. For one participant, she explained how she had over time gone to the doctor and gained “*about one to two pounds*” each time but one time changed her outlook. The doctor had explained that she was 20 pounds overweight and she felt she had “*to do something,...to get the weight back off...to get back to my normal size...and I just started thinking like I need to exercise more, and that’s when I really started getting into the gym, and going for walks...*” Rebecca’s doctor indicated she was “*close to having diabetes*” in middle school which motivated her to begin exercising. Mallory’s doctor told her “*you’re at risk for you know just uhm for uhm o, not obesity, die-a, diabetes, you’re almost obese you know like something could happen to you.*” Jasmine’s experience was slightly different where she experienced at a much younger age her doctor told her she “*had to exercise.*” These experiences describe the impact that the healthcare system can have on these youth directly when they are at an age to better comprehend the direction given by the doctor.

### ***Having Opportunities***

Continuing to explore influences on the individual more external to the individual, the opportunities that are provided to these participants through the community and school system are key areas of influence to LTPA. Relating autonomous motivation and

the community, Rylee expressed that the community is doing all that they can, “*it's up to them to take the opportunity or not take it at all.*” She goes on to describe how youth will participate if they really want to.

*But if they want to do it then they'll try and explore. They'll go walk around the neighborhood, or something other than just sitting in the house. But the community can't do any more than they're already doing. Like promoting community sports, or just having sports in general available to the child in general. So the community can't really do anything because I feel like what's done is done pretty much, and they try to provide them with as many things as possible.*

*Rylee (non-exerciser), age 16*

While Rylee adds the need for youth to be more motivated, others describe how their communities are lacking spaces and programming that is attractive to youth their age to be engaged. Elizabeth captures this:

*But I feel like getting to, like, younger people is harder for them, 'cause it kinda like, 'Oh,' you know, even if you put it on social media, they'll be like, “Oh, why should I go to the community center?” Like, you know, “I'm 17 or 18 years old, like, I have better things to do.” So I don't really, I guess I don't really know. I think that's kinda hard, 'cause a lot of, like, kids will be like, “Oh, I just don't wanna do that.” Not necessarily they don't wanna exercise, it's like, “Oh, this is a community event, oh, it's kinda...”*

*Elizabeth (exerciser), age 17*

Prince George's County is home to numerous community centers that offer free or low-cost activities to youth, yet communication with the youth about their programming is described as limited. Brenda explains-

*It has to be through school cause cause like I don't get information from community centers I only get information through school if they like constantly announce it. Yeah if they make it fun, yeah.*

*Brenda (non-exerciser), age 16*

The lack of safe spaces can be a deterrent to LTPA as described by participants. Avalon indicated often she had a choice to “...*pick between safety or exercise sometimes so.*” When asked further about safety both participants indicated that the more rural setting of their home with lack of consistent sidewalks and streetlights deterred them from engaging in outside LTPA. For teens that do not yet drive or do not have access to a car, accessing gyms that are not on bus lines or in their neighborhood is a challenge. As Brenda stated, she “*can’t if I can’t walk there.*”

Access to gym equipment and brick and mortar gyms was limited among these participants. Gym access was a limiting factor among participants, many citing that the gym was too far away and that no one could drive them. Participants indicated having access to a gym was easy for them. When asked about the ease of access, responses included having a gym in their apartment complex, being able to drive themselves and cost as common limiting factors. As Brenda shared: “*I mean when I grow up I’m going to start exercising more because I’ll have more freedom and like I can drive myself to the gym and I can’t-don’t have to rely on my parents I can buy my own self, I can buy myself healthy foods and stuff you know, yeah.*” Avalon described how much easier being able to drive has made it to: “*go uhm places to you know go get some exercise in or just hang.*”

Interacting with the need for knowledge about exercise, is having access to exercise equipment at home and knowing how to exercise in a small space (to be discussed in the knowledge section). Some participants had access to equipment at home. Often, they were not able to use the equipment due to parent permissions or it not being

the right equipment. For example, Rebecca has access to weights at home but “*those are too heavy*” and Rylee describes how she views her mother’s five-pound weights: “*We don't have nothing in our house that resembles working out anyway. We have like ... Well, my mom has like little- little five-pound weights. I don't know what she's gonna do with those...*” Others have learned how to manage in their small spaces doing body weight exercises.

Continuing to explore the impact others have on the LTPA levels of these participants, the school and its policies were regularly described as not supportive of student health and wellness. School policies related to start time lead the participants to feel exhausted daily. This is especially true once combined with outside responsibilities such as work, and homework. Brenda discusses the difference between her energy levels in middle school and high school as a result of school start time:

*Uhm oh so my middle school so we used to go to school at 9 so we had to be at the bus stop at 8:10 so at 8:10 if that's when I wake up usually so that extra hour of sleep really makes me energetic after school... Now in high school I wake up at 6 and that's an hour lower, two hours lower and I don't get enough, yeah, sleep.*

*Brenda (non-exerciser), age 16*

Many of the participants indicated the school could encourage LTPA more by increasing the physical education requirement, all of the participants indicated that physical education was only required of them once in high school (out of all four years) and that they took it in 9<sup>th</sup> grade, for all two or more years ago. Only one participant indicated that she currently takes an elective course like physical education. When asked

if this type of class is popular, another participant indicated “*only the athletes take it.*”

Avalon describes how she feels perceived by the education system:

*Cause the older you get the more you have to do and like especially now with the school systems cause education currently it's kind of like... I don't know like what's the word to use but people aren't really wanting the children to learn to retain the knowledge but just to meet like test scores and standards so you're always busy with pounds of homework that I barely remember but you don't really get to, by the time you're done with it the days gone and it's like two in the morning it's time to go to bed so you don't really get to go out and exercise.*

*Avalon (exerciser), age 16*

### ***Finding Inspiration Online***

Other external influences on these participants is online media and personalities. Participants identified sites such as YouTube and Instagram as spaces the participants visit to gain inspiration and ideas on how to exercise. Finding a “*YouTuber*” she could relate to helped motivate Nell to exercise. Nell describes: “*she is my age and she does live in Maryland and she does these workout videos and I can relate to you more... because you understand [my life].*” She goes on to explain that when she watches them “*it is motivating to workout.*” Destiny also indicated: “*sometimes I watch the videos of people exercising, and then I'll just be like I wanna go exercise now [laughing].*” In addition to motivation, many of the participants indicated that online platforms provide easy to manage exercises in their homes, and like Ava will “*just look up exercise routines on YouTube.*”

## **Theoretical Category 5: Receiving Messages About My Body**

Participants often described the impact messages they received about them and their body had on their motivation to engage in LTPA. Properties of this theoretical category include the individual's desire of "wanting to be thick", "thinking what boys want", and overall "being body confident". From this study, participants discussed these messages that they receive.

### ***Wanting to be Thick***

Wanting to be thick, as described by participants means *"you have a big butt or like thick thighs, like yeah, you've got meat on your bones."* Patricia describes how the media has impacted the desire to be thick by most girls: *"But for others, I'll mostly say thick cause if you ... You probably have a lot of people out there is like ever since Rihanna ... First, it was about being slim, but then Rihanna got thicker than she was and everybody, oh, yeah, thick, you know."* She further describes how for African American/Black girls it is *"their motivation"* to do certain exercises to get the thick appearance, for example *"going to do squats because I need more butt"*. Being thick is promoted by others in the community, Nell discussed how she will point out that: *"I'm overweight but like people are always [saying] nah you're not overweight, you're like perfectly fine."*

Nell also describes how wanting to be thick can be related to cultural expectations related to skin color/tone and is associated with a set of rules as to what your body should look like:

*It's like oh she'd be prettier even though cause she like I feel like when it comes to the black community people they*

*put a lot aside a lot of their differences body shape wise if you do have lighter skin cause I feel like guys only ever date darker skin females if they're like really fit or thick as in as they call it or really skinny and they're like looser on lighter skin females because they're light skinned even it doesn't matter to them even if they're like large or they look average as people call it or they have like weirdly shape bodies as others would call it people can hate you because of the way you look like body wise, your skin tone. It does affect me personally because I feel like I am dark and like I can't, I can't act like lighter skin females do because they have a certain set of rules like it doesn't matter how they look.*

*Nell (exerciser), age 17*

Patricia adds that her grandparent's cultural expectations of weight can deter her from engaging in LTPA. She explains how her grandparents- *"they have this mentality. It's like what are you going to gym for? You don't need to lose weight."*

Relating to one's self-confidence some participants indicated how they would not do anything to change their body to be thicker. Avalon revealed she would not do something *"to fill in a pair of jeans and look curvier."* Other girls with slimmer body builds, like Avalon shared this. For others who already are more curvy, closer to *"thick"* or *"on the heavier side"* they discuss the role exercise plays in their body type: *"I just feel like my whole appearance would look different, and that's not what I wanna do. Like when I think about exercise I think about just toning myself up."*

### ***Thinking What Boys Want***

Being body confident also stems from the messages participants receive from their peers, specifically boys. Rose Crystal describes the influence boys have on girls her age:

*Yeah. Cause like most girls my age they want to do exercising to change their body figure or they want to do it because like oh to impress this cute boy or whatever which I don't feel like that's right cause doing it to lose weight is different than changing your body figure, I don't wish to change my body figure but I wish I did weigh a little lighter.*

*Rose Crystal (non-exerciser), age 16*

The figure that Rose Crystal is speaking of is one that some participants indicated as unrealistic to attain.

*They (boys) mean a really small waist and I'm just like well I think thick is like you do have your rolls and you do have your stretch marks and these unrealistic body standards they want to put on females is like you're either thick but when their thick is what I just said like small waist, small arms, skinny body, but just have a really large butt or like they are really skinny with like an athletic build and I have neither of those-*

*Rose Crystal (non-exerciser), age 16*

Nell adds that these perceptions by boys “puts pressure on me to exercise, that’s like one of the negative aspects of when I exercise, because I want to fit that mold.” Kelly also describes how girls base their ideal body on what boys want and how it is a society driven ideal.

*T.Z.: Okay. is the image of an ideal body, when you think about that, and you're talking about that, is that from a girl's perspective, or is that from a boy's perspective?*

*I think mostly from a boy's perspective.*

*T.Z.: Okay, and do you think that it differs from a girl's perspective, of what the ideal body is?*

*Yeah um, I think girls just, like, sometimes they rely on that, because of what a boy thinks, not really what they actually think what they wanna be, I guess.*

*T.Z.: Okay, and so would girls describe an ideal body any differently? And if so, how?*

*I think that... it depends on, like, which girl you're talking to. Like most girls my age would, like, probably be like... they would probably, like, go based off what every, like, boys like, I guess. Because they're trying to impress boys, but like... if they... If they didn't, then, I guess, whatever they want... whatever they want their body to look like. I mean, me, personally, I don't care, but... as long as I, like, feel healthy.*

*Kelly (exerciser), age 16*

### ***Being Body Confident***

Being body confident is a property of this theoretical category that has mixed points of view from the perspective of the participants, both of which are important to understanding if these participants engage in LTPA. Specifically, there is the balance between one's body image, their overall confidence, and autonomy. Destiny describes this balance:

*Um, I would say other African-American girls, there are some of us that do exercise a lot, and there's some of us that just don't care and those are the more heavier set girls. And-*

*T.Z.: And why don't they care? Like what's go- what do you think is going on there?*

*I just don't know. Some keep it on, it's like my generation they, they're like, 'Oh, I'm cute, I can still be big, and I can still be cute.' but it's like once you get to a certain level of obesity that runs you in for heart disease, and diabetes and just like diseases that you don't want. And I feel like, um, some ... It's okay to be a bigger girl but just don't let yourself get to the point where oh, you can't get up off the bed, it hurts when you walk, and stuff like that. So I just*

*think our generation needs to like lower their confidence just a little bit just a little bit to get you outta that oh, I don't need to exercise. Just a little work, just a little bit... Um, I just think because it's just our generation, like we just think that everything's okay, and we don't have to care about nobody's opinion... or other people's judgments. Like I don't really care about other's opinions, but I still wanna be comfortable in myself, but I don't wanna be judged every time I walk down the street or I walk into a place so, yeah... Yeah, I just wanna feel good about myself no matter what anybody says.*

*Destiny (non-exerciser), age 17*

Patricia, a non-exerciser at the time of the study, presents her personal body confidence in relation to self-esteem: “*I feel really great about my body because I'm really confident.*” She also adds how others lack of confidence can lead them to not be physically active:

*They find it really difficult to exercise. Like, I don't have time for that. I'm so tired or like I'm fat. I'm too fat for that. I can't do that, but it's like they're the ones bringing themselves down because they're not actually trying. They're just in their own heads.*

*Patricia (non-exerciser), age 17*

Rylee adds:

*I mean, I understand, but it's like at a certain point you have to love yourself first and not let other people dictate how you should look or how you should act, because it really doesn't matter. But I don't really let anybody dictate the way I look because nobody's ever said nothing to me.*

*Rylee (non-exerciser), age 16*

Lack of comfort and confidence in one's appearance can lead to increased motivation to engage in LTPA. Destiny stated that when she “*gets to that place where I'm just a little uncomfortable- it'll motivate me to get up and actually go to the gym and*

*stay for maybe ... The longest I've stayed in the gym was four hours."* She continues to describe how LTPA can help her "*feel better about herself.*" Elizabeth has a similar experience but relates it to her appearance, an experience many of the participants had:

*Um, so I guess, I think that's the main reason I do like feeling, like, better about myself, feeling more confident, feeling stronger. Um, wanting to feel just more confident in my body and how I look. So I'd say that's the main motivator.*

*T.Z.: Okay. So when you say, "Feel more confident," what about exercising gives you that confidence?*

*Um... I mean, I'm not completely there yet, but it's like, "Oh," if I wear something where, like, the midriff is exposed, like, I could be like, "Oh," you know, like, you know, "I did my workout the other day." So like, I feel, like, you know, that area's strong, you're, like, it, like, it looks better, like, to me, at least I feel like I look better.*

*Elizabeth (exerciser), age 17*

Confidence in these participants overall was high and was often reflected in their statements. Dissonance occurred in the non-exercising participants who also had high confidence but lacked the ability to see how exercise could impact their overall health rather than simply augment their appearance. Non-exercising participants shared this sentiment regardless of body shape and size. This dissonance demonstrates the interaction between these latter theoretical categories.

## **Summary of Results**

These results demonstrate the complex process older African American/Black adolescent girls operate through when choosing to engage in LTPA. These findings are the result of conducting a constant comparison between interview transcripts, coding, and analytic research memos. Choosing to engage in LTPA is explained by the process of

obtaining autonomous motivation and perceiving control over time. Impacting these categories is the girls' knowledge about exercise, the experience of others' influence, and receiving messages about one's body. Multiple influences across family, community, and societal systems shaped participants' attitudes and beliefs.

## **Chapter 5: Discussion**

This chapter provides a discussion of the grounded theory results. First, I will give a summary of the findings, followed by the study's limitations and strengths.

Comparisons will be provided to existing literature, theory, and frameworks to consider the utility of the grounded theory model for serving the study population.

To conclude, I will discuss the study's implications for theory, practice, and research.

### **Summary of Findings**

This study presents a grounded theory model of the behavioral process of Choosing to Engage in Leisure Time Physical Activity (LTPA) as experienced by the study participants. Choosing to Engage in LTPA (core category) involves participants first Knowing About Exercise and Perceiving Control Over Their Time, which leads to participants Being Autonomously Motivated.

The impact of Knowing About Exercise was affected by two other theoretical categories: Experiencing the Influence of Others and Receiving Messages About My Body. All participants, regardless of activity level, were confident in how they looked. Yet, dissonance often occurred between participants' body confidence and perceptions of the ideal body. Perspectives of disagreement from both the participants and their peers were experienced. The model suggests that those who managed their thoughts about body image had moderate to high body confidence and had higher levels of intrinsic or autonomous motivation were more likely to engage in LTPA. A pivotal barrier to LTPA among African American/Black older adolescent girls is the perceptions of others. Many of the girls indicated a desire to meet the expectations of body type held by potential

partners, which participants described as *"wanting to be thick,"* a body type characterized as having *"big boobs, butt, and flat stomach."*

Interacting with the two categories mentioned above, Experiencing the Influence of Others reflects more of the interpersonal and community impacts on the participants. For the participants to engage in LTPA, parents needed to be modeling LTPA behavior, encouraging of LTPA, and have exposed their child to exercise at an early age. Social support was a determinant of LTPA that participants longed for, specifically those not engaging in LTPA. Participants cited that being invited or having willing friends would increase their motivation to exercise. Other outside influences included physician recommendations and sports engagement. The community and school also play a role in the participant's ability to perceive control over their time and be motivated to engage in LTPA. The results section of this dissertation discussed the various barriers and facilitators to LTPA within each categorical description.

The perception of exercise among the participants was also of interest in this study. Participants indicated favorable attitudes towards exercise, with many motivated by the sports teams in which they participate. Surprisingly, many of the non-exercising participants associated commuting to and from school and that merely walking from class to class during the school day was adequate physical activity.

## **Discussion of Results**

This study used grounded theory data analysis methods to identify and define the five categories that describe the process of deciding whether to engage in leisure-time physical activity (LTPA) in older teen African American/Black girls. The categories, as defined in this model, and their properties and dimensions, provide insight into the

barriers and facilitators that these participants encounter daily. This section provides a discussion on the relationship between the theoretical model and the current literature on theory, interventions, and policy. Additionally discussed is the role of health literacy relevant to the results.

### ***Theoretical Constructs***

As described in Chapter 2, theoretical constructs for physical activity interventions, in general, have been studied heavily. However, as found in this study, are a very complex issue that needs specific attention over time to better understand the process in which populations undergo to engage in the behavior (Pasick et al., 2009). The results of this study meet a need in the field to explore theoretical constructs from a cultural lens.

Burke et al. (2009) define how building upon the concept of *social practice*, which originated in the 1990s, can help us understand the social and cultural context of behavior change. Using grounded theory to understand behavioral processes is one way in which we can begin to understand and describe the most salient constructs for a community. This approach lends itself to understanding behavior from a social-ecological perspective. It identifies a need to conduct research that is grounded in understanding the nuances and identities of communities in the present time (Burke et al., 2009). Current research focuses on understanding cancer screening behaviors among adult Hispanic and African American populations. At the time of this dissertation study, no such work has centered on the older African American adolescent population's LTPA behaviors.

At the intrapersonal level, constructs such as knowledge, perceived susceptibility, and self-efficacy are present in the current emerging theory. As described in the category

Being Autonomously Motivated, a study examining the relationship among attitudes, beliefs, and engagement in LTPA among adult African American women found that perceiving exercise as very or somewhat important was significantly associated with LTPA (Affuso et al., 2011). Directly influencing this construct was Knowing About Exercise, a category that reflected the need for participants to understand the benefits of exercise external to weight loss. Participants in this study had mixed ideas of the benefits, with those engaging in more LTPA having greater knowledge about the benefits of LTPA. Findings in previous studies have indicated increased participation in LTPA among older African American/Black adolescent girls was greatly influenced by understanding the perceived benefits of LTPA. Other studies have found that girls this age have limited knowledge of the benefits outside of weight loss (Owen et al., 2019). The findings of this study expand the understanding of what benefits older adolescent African American girls perceive as necessary for engaging in LTPA. As discussed in the results, participant understanding of the benefits was mixed and related to their current engagement in LTPA. These results indicate that at some point, exercising participants learned about the benefits of LTPA and used that knowledge as motivation to engage in LTPA. For many participants, understanding came as they crossed the threshold from middle to high school, and as a result of the changing body that occurs during adolescence.

Participants described confidence (self-efficacy) to engage in LTPA as important to Knowing About Exercise. This construct, in the current study, was defined as having the belief that they can exercise and be confident in their ability to engage in exercise. Self-efficacy is a common construct across theories but is most notable from the Social

Cognitive Theory (Glanz et al., 2015). This construct was measured in the Trial of Activity for Adolescent Girls (TAAG) and identified as a unique contributor to physical activity for older teen girls (11th grade) and less important for those in middle school (Young et al., 2014). These results indicate that self-efficacy is a construct that needs addressing. Longitudinal analysis of the results of the TAAG study found that self-efficacy remained stable from older adolescence to young adulthood, yet physical activity levels declined (Young et al., 2018). Confidence, a construct studied by Dishman et al. (2019) and addressed in this study, appears to decline from middle school to high school.

Augmenting engagement in LTPA was goal setting and perceptions of control over time. These constructs were evident when participants indicated they were highly motivated to engage in LTPA. This category and property of the theoretical model are related to Bandura's Social Cognitive Theory (SCT). SCT postulates that the use of short and medium-term goals is useful in achieving the desired behavior, especially when constructs such as self-efficacy and positive outcome expectancy (i.e., assessing the benefits of LTPA) are involved (Glanz et al., 2015). The participants of this study indicated setting small, immediate goals were useful to them, yet the literature suggests otherwise. A study by Bronikowski et al. (2016) identified that goal setting did not help motivate youth to engage in LTPA. Goals among these participants seemed to change over time, with participants indicating that in their earlier years (middle school), the purpose of engaging in LTPA was to look good. Over time the goal changed to a focus on the other benefits of exercise associated with emotion and energy levels. Extended in a longitudinal study were similar findings of adolescents identifying that youth are more likely to continue or increase the physical activity when their goals change from extrinsic

goals such as appearance to intrinsic goals relating to what exercise provides for them (Dishman et al., 2018). Although not connected that way explicitly in this study, further exploration of this concept could help explain the relationship between body image, body confidence, and autonomous motivation over time.

The results of this study explain how others close to the individual influence one's choice to engage in LTPA. Prominent influences on these participants include parents and peers. This study discovered that participants identified having parents who modeled LTPA and who were encouraging would motivate them to engage in LTPA more regularly. Lampard et al. (2016) identified three characteristics of parenting in African American families that increased physical activity levels among African American youth ages 5-12- modeling, logistic support, and restricting access to screen-based activities (Lampard et al., 2016). Despite not being explicitly stated in the theoretical model, participants discussed these characteristics as important to their LTPA levels and indicate that they are also relevant in the older adolescent population. Often youth this age indicate a desire for more autonomy (St. George & Wilson, 2012). The results of this study suggest otherwise. Some participants reflected on how their mothers would encourage them to engage in LTPA by inviting them to the gym or on long walks. Reed et al. (2017) identified that African American girls in high school are motivated by their mothers to engage in physical activity. Although a similar population, urban African American youth, the age range was slightly lower at 14-16 years old compared to the 16-18-year-old range for this study (Reed et al., 2017). Criticism of the reliability and validity of the studies that have examined the parental influence on adolescent populations indicate there is a need to develop reliable and valid parental support for

physical activity scales (Trost et al., 2013). From this study, further exploration and development of a parent support scale could add utility to the field.

Peer influences on LTPA among African American/Black adolescent girls were discussed at length by the participants and essential to note when developing an intervention. Participants indicated a higher likelihood of engaging in LTPA if their friends invited them. Findings were mixed in the amount and consistency of support received by peers, but the desire was evident as presented in other studies examining physical activity and younger African American youth (ages 14-16) (Barr-Anderson et al., 2018; Haidar et al., 2019; St. George & Wilson, 2012).

### ***Relation of the Current Theoretical Model to Self Determination Theory.***

Review of the theoretical model indicates a close relationship to the Self-Determination Theory (SDT). SDT is a framework of mini-theories that describes the role of motivation (both intrinsic and extrinsic) and bio-socio-cultural factors have on behavioral volition and engagement (Ryan & Deci, 2017). The results of this study are nested within the self-determination continuum and provide evidence to the utility of self-determination theory in describing engagement in LTPA.

For participants in this study, a key influence on behavior was their sense of personal responsibility to exercise for their mental and physical benefit. In SDT, this theoretical property relates to the construct of autonomy. According to SDT, the individual's value system motivates engagement in the behavior; in this case, the value of LTPA (Ryan & Deci, 2017). This construct is also reflected in the participants stating they want exercise to be fun, indicating a want for personal choice in LTPA's. Individual choice and interest is one component of autonomous motivation (Gagné & Deci, 2005).

Competence is demonstrated in this study through the need for youth to feel confident in their abilities to exercise. As indicated in SDT, receiving messages from others is representative of the construct competence. In this case, messages related to body image, confidence, and societal expectations of image influence competence (Ryan & Deci, 2000). The last of the basic psychological needs identified by SDT is relatedness. Participants in this study expressed a desire for their friends to be involved, indicating that social capital is of importance to their feelings of belonging and receiving support. How support is received is important to SDT and is a predictor of motivation to engage in wellness-related behaviors (Ryan & Deci, 2017). Social environments need to be supportive of self-regulating behavior, allowing individuals to make their own choices to be successful. In the current study, this is reflected through the desire for parents to encourage LTPA daily, also relating to the need for support to be given by someone with a close relationship. Support, according to SDT, should also be consistent, which, according to the current study, is a need of the participants to be more motivated in LTPA. Surprisingly, in opposition to SDT, participants indicated a *want* for parents to be more controlling in terms of technology use. SDT posits that support that is demanding/controlling is ineffective at motivating behavior change (Ryan & Deci, 2000). Non-exercising participants also indicated that the use of a prize would motivate them to engage in LTPA more frequently. SDT discusses this characteristic as ineffective, once given the reward, the positive health behavior diminishes (Ryan & Deci, 2017).

As a theory, SDT has been applied and tested in school physical education classes. A systematic review of studies using SDT found that there is a moderate positive association between autonomous motivation and LTPA (Owen et al., 2014). Like this

dissertation study's findings, Wang (2017) identified in a sample of middle school students that parental and peer support was associated with increased autonomous motivation to engage in LTPA. Peer support, among adolescents, is of the highest priority when developing autonomous motivation and is most useful when there is support from parents and physical education teachers (Sevil et al., 2018). Despite promising nature of these findings, there is a need for additional longitudinal, and experimental analysis of SDT constructs to ascertain the utility of the theory to LTPA in older adolescents, especially given that many of the studies in the systematic review were with middle school-aged children and early teenagers (Owen et al., 2014).

### ***Health Literacy***

Regarding physician-patient relationships, an inquiry into health literacy levels of African American/Black adolescent girls will help understand how they are perceiving and receiving physician recommendations to engage in LTPA. As one participant indicated, she currently participates in one day a week of LTPA because it was her physician's recommendation. Recommendations are mixed on how to address health literacy and the critical contextual factors leading to increased health literacy in adolescent populations (Bröder et al., 2019). Addressing health literacy is one way to reduce health inequities (Kickbusch et al., 2013). Although these youth are still under the care of a parent/guardian, further understanding and development of health literacy tools in the areas of LTPA and weight management are needed (Sansom-Daly et al., 2016).

### ***Intervention Approaches***

This section describes the findings of this study and the current literature surrounding LTPA intervention approaches. Found in the literature are interventions with similar components; however, studies addressing older adolescent African American girls are limited. Used to frame this discussion are interventions relating to adult African American/Black women, young adults, and longitudinal studies examining adolescent behavior.

Not explicitly stated in the current study, the use of peer education might be of use among older African American/Black adolescent girls. Historically, with college-aged populations, peer education is used. A recent study examined the utility of peer-led workshops and exercise sessions with promising results (Sebire et al., 2019). For women/girls, this approach has been successful at increasing activity among those who are in the early stages of considering incorporating LTPA into their lives (Boyle et al., 2011).

Support has been indicated as a worthy aspect of interventions when considering adherence and attendance with the intervention components (Kumanyika et al., 2009). Participants in this study identified team sports, coaches, teachers, the community environment, and the school environment as impacting their LTPA. Interestingly participants did not discuss experiencing positive support for LTPA by their teachers. Current literature suggests that support provided by physical education teachers can play a role in influencing exercise behaviors (Bronikowski et al., 2016).

Exercising is Fun, a property of the category Knowing About Exercise identifies in the literature as an integral intervention component for adolescent participation in

LTPA (Grieser et al., 2006; Michael et al., 2016; M. Owen et al., 2019). Findings from this study identified team sports and the offerings as instrumental to their engagement in LTPA. Participants who engaged in LTPA reported that having greater access to school sports increased their ability to participate. Adolescent girls are more likely to participate in "leisure active" team sports or activities such as walking, dance, and running (Lawler et al., 2017).

Local community center programming was a concern of the participants. Prince George's County is home to 46 community centers that offer free or low-cost programming to the community. Participants indicated a lack of activities targeted toward their age outside of open gym time for sports like basketball. Prince George's County Parks and Recreation program has developed Xtreme Teens, a program series for teens, that has several limitations. A review of the current programming indicates that there is a lack of opportunity on weeknights for events. Programming currently provided includes activities such as dodge ball and movie nights. Not consistently held at every location, these programs rotate centers making them less accessible to county youth (The Maryland National Capital Park and Planning Commission, n.d.).

The community environment was described, by these participants, as generally acceptable when it comes to opportunities to engage in LTPA. For many, they found that their neighborhoods generally felt safe and provided them with sidewalks for running, walking, or biking. This finding is not as common in the literature with African American/Black girl participants more often citing that safety around interpersonal violence and environmental safety (i.e., getting stung by a bee) are of concern (Barr-Anderson et al., 2018). The participants in this study were more concerned with access to

programs and services in local community centers and gyms. Most participants were able to describe a gym being nearby, but often, it was just out of comfortable walking range.

### ***National, State, and Local Policies***

Adding to the lack of a supportive environment within the school system are policies around physical education. Prince George's County Public School (and the state of Maryland) students in high school are required to complete one 0.5 credit course in physical education before graduating (Prince George's County Public Schools, 2019a). This half-credit accounts for 2% of the time students spend in high school across four years. Students do have the option, after taking the required physical education course, to enroll in an additional 0.5 credit electives. Participants in this study indicated that it is typically athletes that enroll in these classes and that they lack focus on and do not provide appropriate activities for new exercisers.

Efforts for physical education policy reform at the state level have been unsuccessful. Delegates from Prince George's County and other areas of Maryland have proposed a bill requiring elementary schools to provide opportunities for 150 minutes each week of physical activity, inclusive of recess and physical education classes (*Maryland HB110 | TrackBill*, n.d.). At the federal level, there are currently no laws that require schools (public) to offer physical education to its students (Robert Wood Johnson Foundation, 2019b). Made at the state level are the mandates for physical education. The Centers for Disease Control and the U.S. Department of Health and Human Services have guidelines posted for physical activity in the Comprehensive School Physical Activity Program. Little has been done to implement a federal mandate for physical

education/activity in the school system (Centers for Disease Control, 2013; Office of Disease Prevention and Health Promotion, 2020).

Recent recommendations from the Centers for Disease Control indicate several ways schools can provide more exceptional health services to students.

Recommendations provided emphasize incorporating physical activity into daily school life and incorporating age-appropriate activities. Suggestions include allowing access to school activity facilities before and after school for all groups (not just athletes).

Additionally, physical education time should teach students methods for physical activity that are sustainable across a lifetime and teach students how to set goals to improve their competence and confidence in physical activity (Centers for Disease Control, 2011).

Having access to school facilities was reported as a need by participants, a barrier supported in a study conducted by Barr-Anderson et al. (2018).

For this study, participants indicated a need for teachers to be more aware of the amount of homework provided as it is an exhaustive factor in their day. The current best practice for homework in the school systems calls for 10 minutes of homework per day per grade level, meaning that students in this study in the 11th and 12th grade should complete 110-120 minutes of homework per day (Cooper, 2006). Prince George's County currently does not have an "upper bounds" homework policy, meaning teachers can assign as much homework as they see fit. Prince George's County Public School System is working towards policy change. They recently sent a survey out to the community to assess perceptions and utility of homework time, results, at the time of this dissertation, have not been published (Prince George's County Public Schools (PGCPS), n.d.).

Not surprising to this study is the impact of sleep on LTPA behaviors related explicitly to school start times. Participants in this study indicated a significant barrier to their engagement in LTPA was having to get up too early for school (a challenge after spending hours doing homework in the evening). Participant start times for school in this study ranged from 7:45 am-8:25 am (Prince George's County Public Schools, 2019b). It is vital for good health that teens sleep at least 8 to 10 hours per day to obtain optimal health (Paruthi et al., 2016). Participants in this study described how they make up their sleep after school by taking naps, which impacts the time available to engage in LTPA.

The Centers for Disease Control promotes later start times, recommending that schools start no earlier than 8:30 am to encourage healthy sleep in adolescents (Centers for Disease Control, 2018c). Changing school policies to reflect the biological needs of teens can reduce the likelihood of weight problems and depression and increase academic performance and participation in healthy behaviors such as physical activity (Crowley et al., 2007).

### **Study Limitations**

Despite the best efforts to ensure reliability and trustworthiness, this study does have limitations. The findings of this study are limited in their applicability towards other African American/Black older adolescent populations due to the unique characteristics of the study's county. Prince George's County is an affluent Black community, an aspect that is atypical of other African American communities. The theoretical model presented in this study presents relevant components of choosing to engage in LTPA of these participants. Application to other African American populations requires consideration of the social and structural environment. These participants lived primarily in urban and

suburban areas. The results do not reflect the needs of rural African American/Black adolescent girls.

Recruitment for this study used a variety of methods. However, a portion of the participants attended the same high school as a result of the community partnership established, possibly further limiting generalizability to the county population. Many of the participants attended the same high school; however, some participants were part of a STEM program in which they were attending high school outside of their districted zone. Related to grounded theory methods, I did not complete theoretical sampling as saturation of the categories was achieved with the current sample.

Despite the use of reflexive journaling, my previous experiences, beliefs, and knowledge with LTPA may have biased the theoretical development in this study. Throughout the process, I engaged in multiple activities such as member checking and peer debriefing to mitigate the impact of my beliefs on the study. The use of these methods provided a place for me to record these thoughts, separating my experiences from the participants.

Lastly, the perception of me, as a researcher, from participants may have influenced their responses, given the cultural differences between us. The completion of member checking with participants provided some reassurance that this was limited. Throughout the process, I took the time to form relationships with participants. I engaged in conversation before and after the interview. This establishment of rapport demonstrated to participants that I was informed and open to hearing about their experiences.

## **Study Strengths**

Given the consistently high rates of overweight and obesity coupled with low participation in physical activity among African American/Black adolescent girls, this study provides an explanation and direction for future researchers, policymakers, and practitioners to address the health behavior from multiple perspectives. The use of grounded theory methodology allowed me to study, in-depth, the barriers and facilitators to LTPA for these participants. By using the rigorous data coding and analysis process for grounded theory research, I was able to contextualize the categories using the participant's words to provide meaning. The use of constant comparison techniques, member checking, and peer debriefing has allowed me to have confidence in the results of this study.

## **Implications for Practice and Policy**

As indicated earlier in this chapter, the results of this study provide support for theoretical constructs commonly used in interventions. These results contribute to a growing body of knowledge on the cultural contexts of theoretical constructs such as self-efficacy, social support, and outcome expectancy. Furthermore, these results provide insight into the utility of Self-Determination Theory as a mechanism for intervention development.

From the results, it is evident that the school environment and its associated policies play an essential role in engaging older African American/Black adolescent girls in LTPA. Participants indicated a need for fun and enjoyable LTPA's. Schools can be a catalyst by offering additional clubs to expose girls to varying approaches to LTPA.

Interventions designed for older African American/Black adolescent girls should combine the use of social media with an afterschool-based component. Participants did not feel social media alone was an adequate mechanism for increasing LTPA in youth, citing that it is too easy to ignore. Instead, the use of social media should be complementary to an afterschool program. Participants expressed a higher likelihood of participating in LTPA if offered as part of an afterschool program. Using the school space is convenient for these girls, as many do not yet drive and established a need for accountability.

The current study highlights that the utilization of social media, through platforms like Instagram and YouTube, can be a tool for motivating older African American/Black adolescent girls to engage in LTPA. These platforms can teach about the benefits and increase understanding of a variety of activities for LTPA. Using this approach can enhance self-efficacy, competence, and motivation to engage in LTPA. Identification and promotion of older adolescent African American/Black girl role models are needed for use in social media campaigns, as indicated by participants.

Some felt that having an educational component on Instagram would be most convenient; others indicated an afterschool program would be more likely to engage youth. Many of the participants noted that a hybrid program would be beneficial using the online environment for marketing and information, whereas the actual "workout" session is in person. Consistent with the theoretical model, participants presented that in order to interest the girls they would need to be aware of the benefits (Knowing About Exercise). An additional desire by participants was the need for incentives and gaining exposure to a variety of physical activities.

To be explored are shifts in policies related to school start time, homework, and physical education. Current efforts are slow-moving and not impacting high school students with elementary students the focus of physical activity/education policy reform. Inclusion of physical education across all grades in high school is needed. A shift in perspective on the purpose of the education system is required to attend to the *whole student* and not academics. Schools have an opportunity to teach healthy lifestyle behaviors and the importance of life balance at an early age. One's health is with them their entire life and needs to be as crucial as traditional school classes to student learning. Health and physical education classes in schools can provide a greater emphasis on healthy lifestyles throughout childhood and adolescence. Necessary to a child/adolescent's personal development is the incorporation of tools to increase health literacy skills and teach behaviors that can continue into adulthood.

School curriculum developers can use the results of these studies for curriculum development. Physical education curricula can teach skills in goal setting, time management, and personal exercise plan development. Curriculum developers should consider exposing youth to a variety of activities that they can use at homes with little to no equipment. Similarly, community organizations can use the results of this study as rationale to develop teen programming that promotes social and physical behaviors. Community organizations can provide opportunities for engagement in a diverse set of physical activities that are low cost.

### **Implications for Research**

These results provide opportunities for continued research. Future studies can operationalize the theoretical categories and use quantitative approaches for model

testing. These results will be useful to the development and feasibility testing of an LTPA intervention for older African American/Black adolescent girls.

The results of this study lead to a few areas of research that warrant exploring. Investigating other markers of health rather than a focus on weight loss may be more useful in African American/Black adolescent girls. Focusing on measures such as changes in general fitness levels, blood sugar levels, blood pressure, cholesterol, mental health status, academic performance, body image, and self-rated health may provide a better understanding of the holistic impact LTPA has on older African American/Black adolescent girls. Further exploration of these and their relationship to health status across the lifespan would be beneficial in promoting LTPA.

Participants in this study overall had a holistic definition of health (Appendix K). Future studies should examine how the population has constructed this definition. Comparison studies to other populations will be useful in explaining overall perceptions of health and how the construct is developed over time and impacted by social and environmental factors. Much of the current research on understanding how populations define health is limited to the middle aged-older adult population (Garbarski et al., 2017; Griffith et al., 2015). Adding to this body of research, we can begin to map how health definitions and self-rated health change over time and how this impacts LTPA.

## **Conclusion**

The barriers and facilitators to leisure-time physical activity (LTPA) are numerous and complex. This dissertation provides an understanding of the behavioral process experienced by older teen African American/Black girls in choosing to engage in LTPA. The findings of this study should be tested in African American/Black adolescent

populations outside of Prince George's County to determine the variables missing and to provide additional evidence to the categories defined.

Consistent with previous findings, attention to factors outside the individual is needed to promote LTPA. Parents, schools, the health care system, and community organizers all have a role to play in providing a safe, nurturing and exploratory environment for teens interested in learning about and practicing LTPA. Unique to this study, having a sense of personal responsibility, defined by the participants, is needed to be able to choose to engage in LTPA. Taking a comprehensive approach to guiding older teen girls to engage in LTPA can provide many health benefits overall. Benefits include increased academic performance, overall health, and a higher likelihood of success in young and older adulthood for continuing engagement in LTPA.

# Appendix

## Appendix A: IRB Approval Letters



1204 Marie Mount Hall  
College Park, MD 20742-5125  
TEL 301.405.4212  
FAX 301.314.1475  
irb@umd.edu  
www.umresearch.umd.edu/IRB

DATE: August 19, 2019

TO: Tracy Zeeger, MPH  
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [1468928-1] Zeeger Dissertation Study  
REFERENCE #:  
SUBMISSION TYPE: New Project

ACTION: APPROVED  
APPROVAL DATE: August 19, 2019  
EXPIRATION DATE: August 18, 2020  
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 7, Subpart D applies, 45CFR46.404.

Thank you for your submission of New Project materials for this project. The University of Maryland College Park (UMCP) IRB 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.

Prior to submission to the IRB Office, this project received scientific review from the departmental IRB Liaison.

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 August 18, 2020.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Unless a consent waiver or alteration has been approved, Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of seven years after the completion of the project.

If you have any questions, please contact the IRB Office at 301-405-4212 or [irb@umd.edu](mailto:irb@umd.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Maryland College Park (UMCP) IRB's records.



1204 Marie Mount Hall  
College Park, MD 20742-5125  
TEL 301.405.4212  
FAX 301.314.1475  
irb@umd.edu  
www.umresearch.umd.edu/IRB

DATE: October 10, 2019

TO: Tracy Zeeger, MPH  
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [1468928-2] Zeeger Dissertation Study  
REFERENCE #:  
SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVED  
APPROVAL DATE: October 10, 2019  
EXPIRATION DATE: August 18, 2020  
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 7; Subpart D (45CFR46.404)

Thank you for your submission of Amendment/Modification materials for this project. The University of Maryland College Park (UMCP) IRB 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.

Prior to submission to the IRB Office, this project received scientific review from the departmental IRB Liaison.

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 August 18, 2020.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Unless a consent waiver or alteration has been approved, Federal regulations require that each participant receives a copy of the consent document.

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All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of seven years after the completion of the project.

If you have any questions, please contact the IRB Office at 301-405-4212 or [irb@umd.edu](mailto:irb@umd.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Maryland College Park (UMCP) IRB's records.

## **Appendix B: Eligibility Script**

Thank you for expressing interest in this study. Before we schedule our appointment, I would like to ask you a few questions to be sure you are still eligible for the study, would that be ok? **PAUSE**

*Record answer here:* \_\_\_\_\_

### **IF ANSWER IS YES:**

Great, please answer yes or no to the following.

1. Do you identify as female?
2. Do you identify as African American or Black?
3. Are you enrolled in a high school in Prince George's County?

**If a participant answers “NO” to any of the above questions, thank them for their time and request an email address to send the send the electronic nutrition and stress management resource guide.**

4. What is your home zip code?
5. How old are you?
6. Are you currently in treatment for an eating disorder or have you ever been in treatment for an eating disorder?

**If a participant answers outside of the 16-18-year-old age frame, thank them for their time and request an email address to send the electronic nutrition and stress management resource guide.**

**If a participant answers “YES” to question 5, thank them for their time, request an email address and send them the electronic eating disorder resource guide and the electronic nutrition and stress management resource guide.**

### **If eligibility is determined:**

Thank you for answering these questions for me. You are eligible to participate in the study. To move on, we will need to schedule a date, time, and location for the interview and I will need your parent/guardians name(s), email address, and mailing address to send them the consent form and more information about the study.

Parent/Guardian Name(s):

Email address:

Mailing Address:

Thank you for providing this information. Now, let's set up an interview day/time. We can schedule the interview for two weeks from now, this will give your parents time to review the provided information and their consent for you to participate.

Interview Date/Time:

Location:

Thank you again for taking the time to talk to me today about the study. I am looking forward to meeting with you on (REPEAT INTERVIEW DATE/TIME). Please do not hesitate you reach out to me via text at 301-458-0763 or email [tzeeger@umd.edu](mailto:tzeeger@umd.edu) with any questions (provide business card with interview information on back).

## Appendix C: Study Flyer

**Earn \$25 for Research Participation!**



**University of Maryland, PhD candidate wants  
to know why you do or do not exercise!**

## **Who Can Participate?**

African American/Black girls ages 16-18, living in  
Prince George's County



**PARTICIPANTS WILL MEET FOR A 1  
HOUR INTERVIEW TO DISCUSS  
EXERCISE BEHAVIORS**

Interested?  
Contact Tracy Zeeger, MPH  
tzeeger@umd.edu  
Call or text: 301-458-0763

## **Appendix D: Prince George's County Healthcare Action Coalition, HEAL Workgroup Roster**

Dr. Beatrice Adderley-Kelley, County Resident  
Reverend Gail Addison, End Time Harvest Ministries  
Bonnetta Adeeb, Steam Onward, Inc.  
Kayla Agonoy, ECO City Farms  
Dr. Deborah Archer, University of Maryland  
Valarie Barnes, MedStar Southern Maryland Hospital Center  
Neena Bhatti  
Angela Blair, Frederick County Health Department  
Gerod Blue, American Heart Association  
Antonia Bookbinder, Maryland National-Capital Parks and Planning Commission (MNCPPC) PGC (Prince George's County) Parks and Recreation  
Sherma Brisseau, PGC Health Department  
Chris Bryant, Street Wize Foundation  
Michele Burton, Amerigroup  
Venera Busby, County Resident  
Daisy Capers, Fairmount Heights Community Outreach & Development (CDC)  
J. Laffeyette, Student Athletes for Educational Opportunities  
Krystle Coldiron, PGC Health Department  
Alex Cordova, United States Department of Agriculture  
Pamela Creekmur, PGC Health Department  
Teresa Crisman, Prince George's County Fire Department  
Sydney Daigle, Institute for Public Health Innovation  
Brittney Drakeford, MNCPPC PGC Planning County Resident Gardener in the Cottage City Community Garden  
Joyce Duckett, National Coalition of 100 Black Women, Inc.  
Mary Dudley, Doctors Community Hospital  
Dominique Harris, MNCPPC PGC Planning  
Fatimah Hasan, MNCPPC PGC Planning  
Saxon Henderson, MNCPPC PGC Parks and Recreation  
Allison Hermene, University of Maryland  
Ulric Hetsberger, United Healthcare Community Plan  
David Hill, Prince George's County Public Schools  
Kelly Hilovsky, FOE  
Ta'nae Howard, PGCHD  
Gertie Hurley, Taking Effective Action, Inc.  
Celeste James, Kaiser Permanente of the Mid-Atlantic States  
Leslie Jefferson, Giant Food  
Kristen Komlosy, Girls on the Run DC  
Alicia LaPorte, Fair Farms Maryland  
Andrew Lasker, PGC Department of Public Works & Transportation  
Sylvette LaTouche-Howard, PGC Health Department  
Dwan Little, PGC Health Department

Kim Rush Lynch, Price George's Soil Conservation District  
 Stephen Makle, MNCPPC PGC Parks and Recreation  
 Chloe Marshall, 20743 Food Justice Coalition  
 Karyn Crichton McAllister, PGC Department of Public Works & Transportation  
 Kate McGrail, Suburban Hospital  
 Deborah McGruder, PGC Health Department  
 Wessita McKinely, Capital Area Food Bank, Sistas United  
 Lynn Meja, United Healthcare Community Plan-Maryland  
 Alison Mendoza-Waters, Public Health Impact, LLC  
 Jessica Moise, American Heart Association  
 Amy Mosley, Each One, Feed One, Inc.  
 Sharrieff Muhammad, Americorps Vista for MD Hunger Solutions  
 Caitlin Murphy, PGC Health Department  
 Pam Nicholson-Flora, Doctors Community Hospital  
 Anthony, Nolan, MNCPPC PGC Parks and Recreation  
 LaShontae Normal, Community Member  
 Joy Ofuntimein, The Lewin Group  
 Susan Passmore, University of Maryland, School of Public Health, Susan B> Mona  
 Center  
 Donna R. Perkins, PGC Health Department  
 Joan Peterson, SAFE0, Inc.  
 Pia Peurtollano, Prince George's County Public Schools  
 Rhonda Ricks, United Healthcare Community Plan, Maryland  
 Karla Sellers, MNCPPC, PGC, Planning  
 Fred Shaffer, MNCPPC PGC Planning  
 Sarah Basehart Sorensen, Independence Now  
 Ruby Stemmler, ecoLatinos  
 Patrice Tucker, United Healthcare Community Plan, Maryland  
 Tuell Chantal, MedStar Southern Maryland Hospital Center  
 Staci Tyler, MNCPPC PGC Parks and Recreation  
 Tanya Walker  
 Chloe Waterman, FOE  
 Anne White, Gethsemane United Methodist Church  
 Katrina Williams, MNCPPC PGC Parks and Recreation  
 Michael J. Wilson, Maryland Hunger Solutions  
 Tracy Zeeger, University of Maryland, School of Public Health, Department of  
 Behavioral and Community Health

## Appendix E: Interview Guide

Interview Date/Time:

Pseudonym:

### Zeeger Dissertation Study Interview Guide

**Introduction (not recorded):** Thank you for being with me today. My name is Tracy Zeeger. I am a doctoral student at the University of Maryland, College Park. This interview today is to hear more about your experiences with leisure time physical activity, that is exercise that occurs outside of required physical education requirements and commuting purposes. What you share here today will be used to help describe the experiences African American or Black girls in their older teens, like you, have had, and to develop programs and resources to help African American teens get more physical activity in their day.

Our conversation today will be recorded to ensure that I do not miss anything that you say. Feel free to be honest and say anything you'd like about your experience; there are no right or wrong answers to the questions I will ask today. Once I have interviewed you and other girls your age, the research team will review your thoughts around physical activity and see if there are things in common among your experiences.

Before I share your interview with the research team, I want to protect your confidentiality by asking you to pick a pseudonym. This way, your "real" name will not be connected with anything you say. What name would you like to use? **(fill in [above and below before the introduction] and use throughout the interview).**

Thank you. Do you have any questions thus far? **(Pause and answer any questions)**

Thank you. **(Pass out assent/consent form)**

Given that this is a research study, I want to make sure you are completely comfortable and informed about the things we will talk about today and what will happen to the information you share. It's totally up to you what you decide to share. Let's start our time by going over this form. We will read the form together to make sure all questions get answered. **(Read assent/consent form verbatim, stopping to answer any questions after each page. If anyone declines participation, escort them out of the room and thank them for their time. Collect assent/consent form before proceeding.)**

**{Begin audio recording}**

Ok, now that we have gotten our questions answered and assent/consent forms signed, let's get started. Today's date is \_\_\_\_ and this is the "ZEEGER DISSERTATION STUDY" interview with \_\_\_\_ (pseudonym).

## Introduction

1. Thank you again for taking time to be with me today. First, we will start talking about your general thoughts about what it means to be healthy. What does being healthy mean to you?
  - a. *Prompt: Tell me more about how a healthy person looks and feels.*
2. Describe for me what an ideal body looks like.
3. Thank you for sharing this. Can you describe for me how you feel about your body?
4. Next, we will be talking about your general experiences with exercise. What does exercise mean to you? What are your feelings about exercise?
  - a. For this study, I am interested in leisure time physical activity. Leisure time physical activities are those that occur outside of school time and outside of commuting (for example, riding your bike or walking to school or the metro) to/from a space (NOTE: Place cue card in front of participant with the definition of leisure time physical activity). From this point forward I will use the term exercise to refer to leisure time physical activity. Now hearing this definition, does this add to or change what exercise means to you, and if so how?
    - i. Does this new definition change or add to what your feeling are about exercise and if so, how?
5. Do you currently exercise?
  - a. If they say yes, what do you do for exercise? When does this happen? Why do you exercise?
  - b. If they say no, have you ever engaged in exercise?
    - i. If they say yes: When did this happen?
      1. Please tell me more about why you stopped.
    - ii. If they say no:
      1. Please tell me more about why you have not exercised in the past.
6. Let's think back to when you first learned about exercise, it may have been a while ago or recently. What do you remember as your earliest thoughts about exercise?
  - a. *PROMPT: Do you remember it as fun, as something only boys do, as physical education class?*
  - b. How do you think your thoughts about exercise have changed over time?
7. To help me understand more about the typical life of an older African American or Black teen girl I would like to know more about what a typical day is like for you. Will you please describe a typical week day for me?
  - a. *PROMPT: During the school year.*
  - b. *PROMPT: During the summer.*
8. Thank you for bringing me into your world, can you describe a typical weekend?
  - a. *PROMPT: During the school year.*
  - b. *PROMPT: During the summer.*

*Thanks for sharing all of that. Let's talk now about the things that make it easier for you to exercise, or if you don't exercise now, the things that made it easier for you to exercise in the past.*

## **Facilitators**

9. Who influences/influenced you to exercise, if anyone? Please tell me how they influence/influenced you to exercise. NOTE: If the person reported *not exercising*, ask: Can you think of anyone that would influence you to exercise now?
  - a. *Prompt: Exercise influencers may be family members, friends, celebrities, etc.*
10. (NOTE: If they are a current or former exerciser in high school) Since you entered high school, what changes have occurred in your life that have made it easier to exercise?
11. Where we live can provide us with opportunities to exercise. Can you share with me how where you live promotes you to exercise? NOTE: If the person reported *not exercising*, ask: Can you share with me how where you live promotes exercise?
  - a. *Prompt: You may consider where you home is located, the school, access to facilities, for example, a gym.*
12. Considering everything in your life right now, tell me more about your responsibilities and how these may help (if a non-exerciser)/help you exercise?
  - a. *Prompt: Tell me about your school related responsibilities.*
  - b. *Prompt: Tell me about your family related responsibilities.*
  - c. *Prompt: Tell me about your work-related responsibilities.*
  - d. *Prompt: Tell me about your friend related responsibilities.*
  - e. *Are there any others you would like to share?*
13. I want to better understand what might help (if non-exerciser)/helps you to get exercise in your day. How might (if non-exerciser)/does time management help make it easier to exercise?
14. What would motivate (if non-exerciser)/motivates you to exercise? How would you rank your motivation levels?
15. For some, exercising helps us feel better about ourselves and our appearance? How does this factor in to your willingness to exercise?
  - a. *Prompts: Examples of appearance may be how our clothes fit, the shape of our bodies, how it impacts our hair, etc.*
16. Having equipment at home or nearby can help us get more exercise, do you have access to this at home? If yes, what do you use at home or nearby that facilitates this?
  - a. *Prompt: Knowing how to exercise is helpful for many, how does your level of confidence help you to plan exercise outside of sports and physical education classes?*

*Thank you so much for this information. Let's shift now to talking about the things that make it harder for you to exercise.*

## Barriers

17. Sometimes we have people in our lives that prevent us from exercising for one reason or another. Please tell me about if and how people around you or in your life keep you from exercising.
  - a. *Prompt: These can be anyone from friends, partners, family members, celebrities, etc.*
18. Since you entered high school, what changes, if any, have occurred in your life that have made it harder to exercise?
19. Where we live can make it challenging to exercise. Can you share with me how where you live makes it more challenging to exercise?
  - f. *Prompt: You may consider where you home is located, the school, access to facilities, for example, not having sidewalks nearby to go for a walk/run.*
20. Considering everything in your life right now, please tell me more about your responsibilities and how these keep you from engaging in exercise?
  - g. *Prompt: Tell me about your school related responsibilities.*
  - h. *Prompt: Tell me about your family related responsibilities.*
  - i. *Prompt: Tell me about your work-related responsibilities.*
  - j. *Prompt: Tell me about your friend related responsibilities.*
  - k. *Are there any others you would like to share?*
21. Managing time can be challenging, especially with all the responsibilities we discussed. How does your ability to manage time keep you from exercising?
22. Some people don't feel they have a need to exercise or do not see it as a priority. Tell me how this relates to you.
23. For some, exercising is challenging because we worry about how it may impact our appearance. How does this prevent you from exercising?
  - a. *Prompts: Examples of appearance may be how our clothes fit, the shape of our bodies, how it impacts our hair, etc.*
24. From your environment, what do you feel is missing or what is challenging about your environment that keeps you from exercising?
25. Knowing how to exercise is helpful for many, how does your level of confidence and/or knowledge prevent you from choosing to exercise in your free time?

*Thank you for sharing these challenges with me. Let's now think about the future and how we can improve engagement in exercise among African American or Black girls in their older teen years.*

## Future Directions

26. Tell me about how you see exercise in your future, if at all?
  - l. *Prompt: In the next 2-3 years?*
  - m. *Prompt: 5-10?*
27. From your experience, what do you think the school can do to better engage youth in exercise?
  - a. The community?
  - b. Your family?
  - c. Your peers?

28. What else, if anything, could be done to engage African American or Black girls in exercise?
- a. *Prompt: Is there anything else that could be done to motivate African American or Black girls in exercise?*

*Thank you for sharing these experiences with me.*

### ***Wrap-Up***

29. You have shared a lot with me so far. I am wondering if there is anything else that you want to share with me about your experience with exercise?
30. Given that we have talked a lot from your perspective, is there anything else that you want to share with me about the experience with exercise of other African American or Black girls your age?
31. Something that I would like to see come out of this study is a program for girls like you to motivate them to be more active. Tell me how you feel about this.
- a. In your opinion, how would this information be best received?
- i. *Prompt: Digitally using social media, a website, text?*
- ii. *Prompt: In person? After school? During school?*
32. Thank you so much for sharing all of this with me. Is there anything else you would like to add about what we have discussed today or anything else in general?
33. I have asked you a lot of questions, do you have any questions for me? Are there any questions that I forgot to ask that you would like to discuss?

*Thank you for taking the time to meet and talk with me today. After I meet with several other African American or Black girls your age, me and my research team and I will review what you and others have said and identify common patterns. We will get back in touch with you to share the results with you to ensure we have gotten the information right. At any time, please contact me, through the email or phone number listed on the business card or via text with the phone number on the back (CUE: provide business card).*

**{End recording}**

## Appendix F: Nutrition & Stress Management Resource

TEEN HEALTH

# what is >STRESSING< you out?

There is so much pressure to “do and be your best” in school, at home, online, in after-school activities and your social life. Stress is just about everywhere!



## Stress

When your body reacts to stress, you can feel it. It's the sensation known as fight-or-flight. You may feel energy surge through your body if you are worried or anxious about something, or if you are in an emergency. Your instincts take over and tell you that you are facing danger and you either need to defend yourself (fight) or get away (flight).

### What Stress Can Do

Stress can cause all kinds of problems. It can make a current problem worse or give you health problems such as:

- upset stomach
- headache
- trouble breathing
- dizziness
- chest pains
- heartburn
- muscle pain, aches, cramps
- trouble concentrating
- change in sleep habits
- change in appetite.

Stress affects everyone but reactions to stress vary from person to person. You can't make stress go away, but you can manage it.

Allina Health 

## Time to Stress Less

Reducing stress isn't about changing your life, it's about changing yourself.

To get started, it's important to learn about yourself.

- What do you like?
- What do you dislike?
- What calms you down?
- What stresses you out?

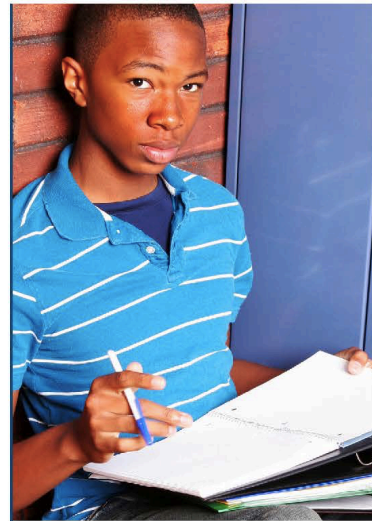
Knowing the answers to the questions will help you be on your way to managing stress.

### Here are some tips to help manage stress

- Maintain good health habits. Eat well-balanced meals and avoid caffeine, alcohol and nicotine. A healthy body tolerates stress more effectively.
- Get some kind of physical activity every day. Start with a short walk or stretching.
- Do an activity you enjoy.
- Get plenty of rest. Your body and mind need to "re-energize" each night.
- If you notice your mind racing or worrying about the past or future, take a minute to breathe deeply.
- Don't worry about things you can't change.
- Develop a positive attitude towards life. Recognize that some stress is useful and necessary.
- Avoid holding in feelings day after day. Instead, find a safe place to feel, express and embrace them.

For additional tips and resources to help you stress less, visit [changetochill.org](http://changetochill.org).

**change  
to chill™**



### When to Get Help

Talk with your parents or another close family member or friend if stress interferes with your everyday life or you are having physical problems.

If you are or someone close to you is in crisis, call the free, 24-hour National Suicide Prevention Lifeline at 1-800-273-TALK (1-800-273-8255).



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ped-ah-16179 (6/14)



## Eating Disorders: Information for Teen Girls

### What are eating disorders (EDs)?

Eating disorders are different types of unhealthy eating patterns.

- Happen more often in girls/young women (but boys/men can experience them too!)
- Involves eating too much or too little
- May involve exercising too much, obsessing about food, throwing up, or taking laxatives to get rid of the food you have eaten

Eating disorders are not about food alone!! Someone does not CHOOSE to have an eating disorder. All eating disorders are dangerous and involve the person having poor body image and worrying about food and weight.

#### Anorexia Nervosa

People with anorexia:

- Seem scared of gaining weight
- Have a negative image of their bodies
- May think they are too fat or that part of their body is too big
- May have low body weight

#### Bulimia Nervosa

Bulimia may be harder to notice in others, as people with bulimia may appear to be at a normal weight.

People with Bulimia:

- Use vomiting or laxatives to purge food
- Skip meals or eat very little

#### Binge Eating Disorder (BED)

People with BED:

- Eat large amounts of food
- Feel out of control during a binge
- Do not purge
- Feel comfort when bingeing followed by shame/guilt after



#### Other or 'Unspecified' Eating Disorders

Many serious EDs do not fit into one of the above categories but they are still at risk of the negative side effects of EDs.

## How do I know if I have an ED?

You may have an ED and need to speak with a doctor or loved one if you:

- ☐ Have an intense fear of gaining weight
- ☐ Are obsessed with dieting or your weight
- ☐ Are overly picky with the foods you choose to eat
- ☐ Hide or get rid of food
- ☐ Have lost an unhealthy amount of weight (more than 1-2 pounds in a week)
- ☐ Skip meals
- ☐ Refuse to eat with friends or family
- ☐ Miss 2 menstrual periods
- ☐ Eat large amounts of food and feel out of control while doing so
- ☐ Use diet pills or laxatives
- ☐ Throw up after you eat
- ☐ Refuse to eat non 'diet' foods
- ☐ Lie to others about when and how much you eat
- ☐ Feel guilty about eating
- ☐ Eat secretly

## What is the Difference Between Healthy Eating and Disordered Eating?



## Finding Help!

If you have identified with some of the information above, that is the first step to seeking help and improving your relationship with yourself and food. Most of us can't do it alone!

Visit [www.nationaleatingdisorders.org](http://www.nationaleatingdisorders.org) to instant message with an expert about your (or a loved one's) situation or call 1-800-931-2237 to speak with someone.

## **Appendix G: Sample Research Memos**

September 29, 2019

Arrived at my first official interview at Spaulding's Library in district heights. Very busy area off of route 4/pa avenue. Neighborhood areas lack sidewalks but seem to be quiet streets in general.

Second pilot interview done, 9/7/19. Lola was such a breath of fresh air. We had to quickly amend how we were meeting but she provided very useful feedback to the survey and other items associated with it. I am looking forward to moving on and starting the recruitment phase for this study. I don't see a need to change the interview guide as it seems to capture what I am looking for. I need to continue working on my prompts to dive deeper.

Just had my first pilot test. Cindy was great but the interview felt flat. I think mostly it was because she was not really motivated to be physically active. Also, when asking questions about her peers I don't know if she could really answer them for other black teens...

October 3, 2019

Next interview done with Mallory. Interesting young lady who was very eager to participate. She kept talking about her body and weight gain and that she was gaining weight at a fast rate. I am curious to know what her starting weight was, in appearance she seems to be of a healthy size. She discussed a lot about her parents and how cultural factors may impact other girls that I thought was interesting and insightful.

October 6, 2019

Having completed the open coding for Nell's interview, I realize she unpacked a lot emotionally and mentally about body image, colorism, mental health, and the impact of family relationships on motivation. At this time, I am wondering what the impact of colorism is on motivation to be physically active in this population. I am also curious to know what difference is between the lower end of my age range and the upper end in terms of how much time they have to incorporate physical activity. The different perceptions of body image and body descriptions between men and women and the dynamic Nell presented in this interview has also piqued my interest. For girls who do not exercise, how does these issues each impact them? An observation thus far is how Nell at times could not quite establish what was motivating to her. She expressed interest in her parent's motivating her but also felt more motivated currently by other youth and friends her age (despite not reporting many friends who exercise). Nell's ability to connect her mental health outcomes to her physical activity engagement seems quite mature, will other girls have these same connections?

November 7, 2019

Today I met with we met Destiny at Flowers high school and had a good conversation about her physical activity behaviors. She identifies as an exerciser and engages in sports after school but when she's not engaging in sports after school she actually doesn't really exercise outside for maybe going for a walk here or there. Something that has been interesting coming up is that the girls think that the walking around school that they do is exercise and that that should count as part of their daily physical activity levels... Destiny was quiet and she upsize the presence of her friends and the need for her friends in the social interaction that comes along with being physically active as a priority for her to choose from

Today I also debriefed with Dr. Gold and Sara Olsen. We discussed how to possibly consider these girls in the realm of whether or not they exercise. One idea is to consider whether or not they meet the daily physical activity guidelines with what they are reporting for exercise versus those that do not. Then there is the thought of working to analyze the girls in a way that we are looking at those who identify as exercisers versus those who do not exercise as for those who do not identify his exercises. For instants, my interview last night with destiny she did not identify as a exerciser however, she did engage in regular physical activity by going to the gym twice a week and engaging in dance classes regularly.

November 27, 2019

Open coding for Avalon's interview is complete. The key takeaways from her interview is balance. Avalon talked often about balance in terms of being successful and healthy (i.e. not having to go to extremes to be successful like not eating right and not exercising to simply focus on school work); balance in terms of eating healthy-there are no good or bad foods, if you want to eat a piece of chocolate, just eat it and don't feel guilty. The other key takeaway was in terms of motivating girls to be more active. Avalon talked frequently about the idea that exercise needs to be fun and that often girls have a negative idea of what exercise is. If we can get girls to experience different types of exercise outside of sports, we may be more successful at getting girls active. Lastly, the pressure to do well in school and be prepared for college is evident. There is pressure from teachers and parents to do well. The upper level years (junior and senior) are especially pressurizing due to the need to apply for college, consider future careers, and get involved to be more competitive in the application process. There are some aspects that make it easier to be active however, if a girl has access to a car and can drive to and from activities reducing the reliance on others.

Overall Avalon is an intrinsically motivated young lady. She is heavily involved in extra-curricular activities including sports and has a clear set of goals for her future. This is something I have also noted across other girls in the study who exercise.

December 1, 2019

Some potential codes for the next phase that I am starting to see pop up after the fourth interview of open coding include:

1. Leisure time physical activity definition
2. Exercise as fun at an early age
3. School conflicts
4. Policies as barriers
5. Energy
6. Family Influences
7. Self Confidence

I have completed Patricia's open coding. She had some good insight into the differences between what boys want in an ideal body for a girl versus what girls think the ideal body is. Another theme I am catching is health at any size and that health is a feeling coupled with not getting sick. The concept of "Thick" continues to arise with a consistent definition. School work is a theme continued throughout each and every interview thus far, the sheer volume of schoolwork coupled with the school start and end times is burdensome to these teens.

December 17, 2019

Debriefed with Dr. Aparicio. Suggestions were to begin a memo for each research question to better document what I am seeing in the data. We discussed important items to place in the codebook as I work on finalizing for the focus coding process. I will ensure I am highlighting changes as necessary, there will be multiple iterations uploaded in the "files" section here in NVIVO. Dr. Aparicio provided a brief tutorial on how to more efficiently code the data in NVIVO.

December 22, 2019

Focused coding began on December 7th. To begin the focused coding process, I reviewed the open codes and began writing down themes to the data that I was observing. Coupled with previous ideas identified, I decided on the following focused codes to begin sorting through the data. After meeting with Dr. Aparicio, it was discussed how I could collapse a few of the codes into one, these are noted below. Each focused code is phrased to reflect action occurring within the codes. To formalize this process in preparation for focus coding the remaining data, a codebook will be developed to define each code and provide samples of when to use and when not to use each code. It is anticipated that other codes may develop as I review the remaining data, these will be noted in this research memo.

Focused Codes:

Commuting Is Exercise

Competing Priorities

Defining Exercise

Defining Health

Describing How To Be Healthy At Any Size

Exercising To Look Good

Experiencing Exercise Before High School

Experiencing Parental Support  
 Experiencing Peer Support (Initially had giving peer support and experiencing peer support separately, combined the two to see the different facets in one node).  
 Experiencing Self-Confidence  
 Experiencing Self-Efficacy To Exercise  
 Feeling Overwhelmed  
 Feelings Post-Exercise  
 Feelings Pre- Exercise  
 Finding Inspiration to Exercise Online  
 Finding Intrinsic Motivation  
 Gendering Exercise  
 Identifying Community Characteristics  
 Identifying Sports Impact  
 Labeling Personal Barriers to Exercise  
 Labeling What Exercise Does For Me  
 Maintaining Home Responsibilities  
 Managing Time  
 Meeting Others Expectations (Collapsed Meetings Parental Expectations into this code and changed the code to be Meetings Others Expectations from Meeting Others Expectations of Image to allow for the full breadth of meetings others expectations to be explored).  
 Perceiving Exercise As Easier When Younger (Collapsed into experiencing exercise before high school)  
 Perceiving School's Impact  
 Programming Advice  
 Receiving Doctor's Advice  
 Revealing Lack of Motivation  
 Seeing Exercise As Fun  
 Setting Future Plans to Exercise  
 Setting Goals  
 Thinking About Exercise

December 23, 2019

The codebook is in the process of being develop, today, I took the time to work on defining the focused codes based on what is in the current coding structure. For now, within each of the focused codes, the full spectrum of the code is included to allow for the ability to better assign dimension the codes later on. Once I completed the codes, I started to identify example codes for each one. I will continue this process later.

January 5, 2020

Initial focused coding is complete on the first eight interviews associated with this study. To date, I have coded 4 non-exercisers and 4 exercisers. Additions were made to the codebook to help further define codes as they are being used and I will continue to parse this out as I move forward with focus coding the remaining 8 interviews. The next 8

interviews will go directly from transcript to focus coding and it is anticipated that this will help in further defining the codes. Changes to the codebook can be found in the 01052020 version of the codebook.

## **Appendix H: Sample Reflexive Journal Entries**

September 29, 2019

Nell brought up something that I was concerned would be an impact in this study. “I thought you were black” she stated to me near the end of the interview. I wonder how this may impact future interviews. I feel comfortable in my ability to develop relationships with the participants to ensure trust but how do their previous experiences impact their ability to trust? This will be important to note if any other participants refer to this.

December 22, 2019

It is interesting going back and reviewing the open codes I developed to categorize them into focused codes. While it has been a daunting process, I am excited about how close I remain to the data and how I can visualize each interview and the context of the code as I review. Areas I want to explore more as a result of this process are the identification of black culture with body image and exercise behaviors, the pressure to succeed a black girl and its influence on exercise behaviors and this relationship I am noting between self-confidence, body acceptance (health at any size) and exercise. This latter interaction appears to be very complex with many contributing factors that I anticipate will become clearer as the research continues. For instance, how does the perception of others expectations of appearance, cultural expectations, and beliefs in exercise importance play into and influence self-confidence? There is a unique relationship here that I am also wondering if it is present among other race/ethnicities?

January 20, 2020

Food as a bigger impact to obesity than physical activity. I struggle with this notion myself knowing that each play a significant role in the obesity problem across populations. One participant indicated that this was the bigger problem in her community, but I can't help wondering if she feels that way simply because she is already physically active and this is something she needs to work on herself as the next phase of her health journey. Future studies may want to investigate the role diet plays in motivation to be physically active because my belief is that nutrition follows the activity OR at the minimum you need to get one down before working on the other.

## Appendix I: Dissertation Study Codebook

| Focused Code          | Definition & When to Use                                                                                                                     | Example Codes                                                                                                                                                                                                                 | When Not To Use                                                                                                                                                                                                                 |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Commuting Is Exercise | Participant describes or labels acts of walking, running, biking to and from a space as exercise                                             | “...I totally count riding my bike to somewhere and walking to school. And even the stairs because the stairs in the school are long. Like in between classes for those 10 minutes, the walking , I actually counted that...” | This code is reserved for identifying that the participant defines exercise as walking to and from a physical space. If an individual is defining what they do for exercise, this is reserved for the “defining exercise” code. |
| Competing Priorities  | Participant identifies they have multiple tasks or activities that take up the majority of their time                                        | “I have to pick up my siblings then we go home then we eat, do assignments, do chores, back to assignments again, and then we sleep-“                                                                                         |                                                                                                                                                                                                                                 |
| Defining Exercise     | Participant engages in describing what exercise is, they may identify the type of exercise they currently engage in                          | “I’ll run on the treadmill for 15 minutes and do some weight training”                                                                                                                                                        | This code should not be used when commuting is used as a definition for exercise as it is not how exercise is defined in this study.                                                                                            |
| Defining Health       | Participant engages in describing health and what it means to be healthy/unhealthy, they provide characteristics of healthy/unhealthy people | “It’s not like you’re mental, you’re suffering from depression, but you eat so healthy like that’s no balance. You need like everything to be, like, yeah, one.”                                                              |                                                                                                                                                                                                                                 |

| <b>Focused Code</b>                      | <b>Definition &amp; When to Use</b>                                                                                                  | <b>Example Codes</b>                                                                                                                                          | <b>When Not To Use</b>                                                                                                                                                                                                                                                                                  |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Describing How to be Healthy at Any Size | Participant refers to body size/weight/composition in relationship to health                                                         | “uhm you don’t have to be completely skinny cause skinny doesn’t always mean fit-“                                                                            |                                                                                                                                                                                                                                                                                                         |
| Exercising to Look Good                  | Participant labels engaging or not engaging in exercise to change body shape and/or to look a certain way                            | “I see that uhm that dress I want to fit in for prom it’s just like I have to do this cause I want to fit in that dress, I wanna look beautiful that night..” |                                                                                                                                                                                                                                                                                                         |
| Experiencing Exercise Before High School | Participant describes experience with and characteristics of exercise that occurs before entering high school                        | “I have known about exercise, but to say when I actually started exercising, I would say around 13, 14. That's like middle school..”                          | If a participant discusses that exercise is harder or more difficult now in high school with no reason, this will be coded as “labeling personal barriers”.                                                                                                                                             |
| Experiencing Family Support              | Participant describes actions by parents/guardians and other family members that demonstrate support or lack of support for exercise | “I feel like she sets me apart a lot and she does attack me a lot on my weight..”                                                                             | If a participant indicates that there is a barrier that is controlled by the parent, for instance, if there is only one vehicle in the family and the participant has to rely on access to that vehicle to have transportation to and from the gym, this will be coded as “labeling personal barriers”. |
| Experiencing Peer Support                | Participant describes actions by peers that demonstrate support or                                                                   | “I feel like my friends motivate me more than like adults or anybody else in my life.”                                                                        |                                                                                                                                                                                                                                                                                                         |

| <b>Focused Code</b>                    | <b>Definition &amp; When to Use</b>                                                                            | <b>Example Codes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>When Not To Use</b>                                                                                                         |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Experience Self-Confidence             | lack of support for exercise<br>Participant labels their level of confidence of themselves and how they appear | “I think it's cute. I'm popping. That's what I think. I think that my body is cute. I have the body of a, like, 70s model like I mean, I'm not that, that skinny. But, yeah, people are always telling me I'm fit like a model, and I like it. At first, I didn't like my body, like because it was like ... I did feed into the trend, like, three years ago. But I was like, "You know what? I don't care. I can't change it, and I'm not putting injections in my body." So I like me. And, man, like, I don't check my butt when I'm going out. I just put the clothes on that I feel comfortable in and I walk out the door.” | If confidence is discussed in relation to ability to exercise this would be coded as “experiencing self-efficacy to exercise”. |
| Experiencing Self-Efficacy to Exercise | Participant labels their ability to engage in exercise                                                         | “I’m kind of like self-conscious about going to the gym.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                |
| Feeling Overwhelmed                    | Participant describes general feelings of stress                                                               | “I’m getting there but I’m not there yet but uh just it’s just so much like it, it’s so much to think about and process when you get in high school cause I know like uhm I don’t know just like college and then your social                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                |

| <b>Focused Code</b>                    | <b>Definition &amp; When to Use</b>                                                         | <b>Example Codes</b>                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>When Not To Use</b>                                                                                                                   |
|----------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Feelings Post Exercise                 | Participant labels how they feel after exercising                                           | life, and then sports, and outside activities it's just a lot."<br>I kind of have to cause I'm planning on going to medical school so and exercising relieves stress and since medical school is like crazy and I'm going to spend a lot of time sitting down anyways like building in like an hour to go out and run around and like let all my stress and energy go so I can go back to books, it has to be part of my priorities." | Participants who indicate that this is impacting their future health post high school will be labeled as "thinking about future health". |
| Feelings Pre-Exercise                  | Participant labels how they feel prior to exercising                                        | "I'm like oh my gosh this is so much work like exercising is so much work."                                                                                                                                                                                                                                                                                                                                                           | Participants who indicate they are not motivated would be coded as "revealing lack of motivation".                                       |
| Finding Inspiration to Exercise Online | Participant describes characteristics of using online tools/persona's to engage in exercise | "Not really I feel like those were the most people, those were the people and the YouTubers now, they're I'm really consistent with them."                                                                                                                                                                                                                                                                                            |                                                                                                                                          |
| Finding Intrinsic Motivation           | Participant describes reasons for exercise that are internally satisfying                   | "I just really want to exercise, continue to exercise and keep it consistent and eating healthy, is also important to me."                                                                                                                                                                                                                                                                                                            |                                                                                                                                          |
| Gendering Exercise                     | Participant labels a facet of exercise or expectations in reference to gender               | "I think it's a unisex thing. I don't think there's a gender on exercise."                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                          |

| <b>Focused Code</b>                   | <b>Definition &amp; When to Use</b>                                                                                    | <b>Example Codes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>When Not To Use</b> |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Identifying Community Characteristics | Participant describes social, cultural, and physical characteristics of their environment and how they impact exercise | “I would see people in my family or people in like the black community that were just overweight and they just didn’t seem to care and just not like it’ll make me want to just keep working harder to not be part of that group, to not be another statistic, another uhm, another number-“                                                                                                                                                                                                                        |                        |
| Identifying Sports Impact             | Participant ties their experience with sport to an action or emotion related to exercise                               | “So I guess not having a sport that I can play for the time being- TZ: Okay. Patricia: makes it harder.”                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| Labeling Personal Barriers            | Participant identifies individual barriers to exercise within or not within their control                              | “Other than school and parents (Long pause) I would not say. Maybe I have other personal stuff. Yes, like you know females stuff. TZ: Mhm. Patricia: When I have my cramps, I'm not in the mood to do anything. TZ: Right. Patricia: I just want to sit down and relax even though I did notice that when you're cramping, it actually helps to exercise- TZ: Mhm. Patricia: because like the pain is being taken away by you moving. And I realize that sometimes I do that, but sometimes I just want to lay down |                        |

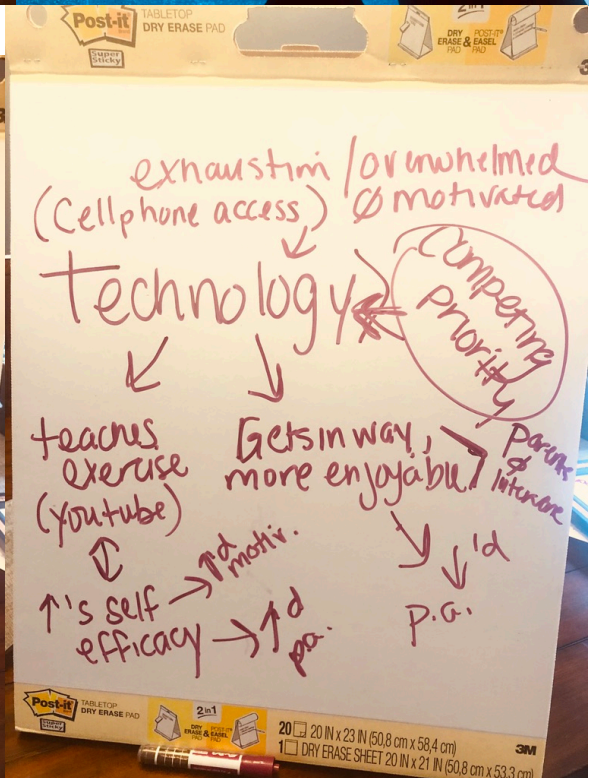
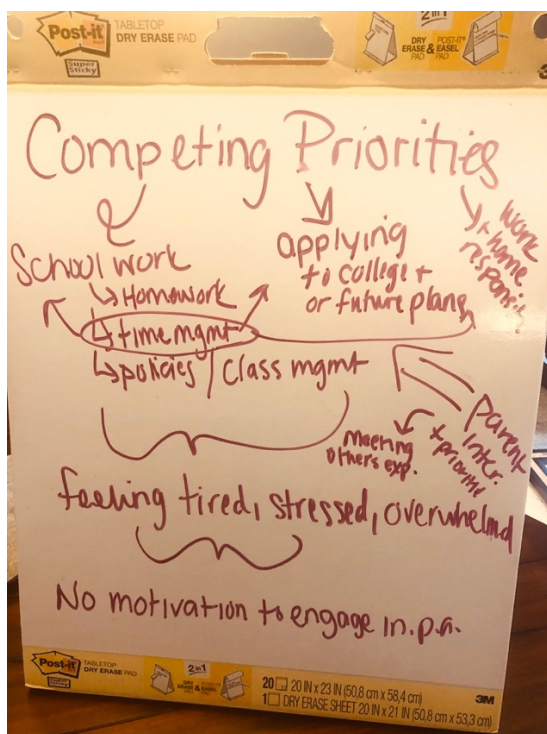
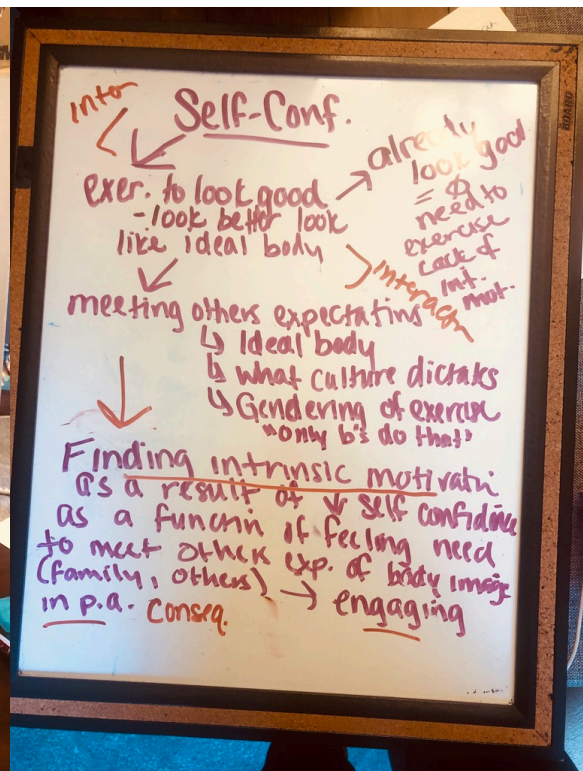
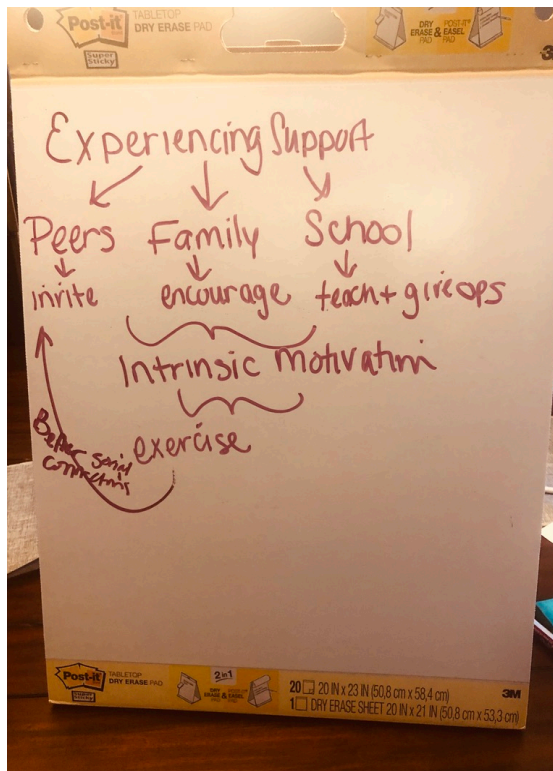
| <b>Focused Code</b>                | <b>Definition &amp; When to Use</b>                                                                                   | <b>Example Codes</b>                                                                                                                                                                          | <b>When Not To Use</b>                                                                                                                                                                                                                                                                                                     |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    |                                                                                                                       | on my stomach and let it cool down by itself.”                                                                                                                                                |                                                                                                                                                                                                                                                                                                                            |
| Labeling What Exercise Does For Me | Participant identifies how exercise impacts their day to day life                                                     | “ballet is supposed to help me with uhm my flexibility and my upper body strength”                                                                                                            | Participants who identify how exercise impacts their future health such as: “later on as you get older some type of disease or health issues starts to develop, so to prevent those, exercise so like later on in my life, those type of stuff won't be an issue for me.” Would be coded as “thinking about future health” |
| Maintaining Home Responsibilities  | Participant describes what home responsibilities they have                                                            | “I have to do like chores where I have to move around the house and clean and do the dishes like vacuum and like make the beds up”                                                            |                                                                                                                                                                                                                                                                                                                            |
| Managing Time                      | Participant describes their experience with time and time management                                                  | “if I had more time I would be able to do like so many more things but I have so much stuff jam packed into my schedule I don't have time for anything anymore and that's, that's stressful.” |                                                                                                                                                                                                                                                                                                                            |
| Meeting Others Expectations        | Participant identifies expectations of others and the pressure to meet them and/or describes their perceptions of the | “...these unrealistic body standards they want to put on females is like you're either thick but when their thick is what I just said like small waist, small arms, skinny body.”             |                                                                                                                                                                                                                                                                                                                            |

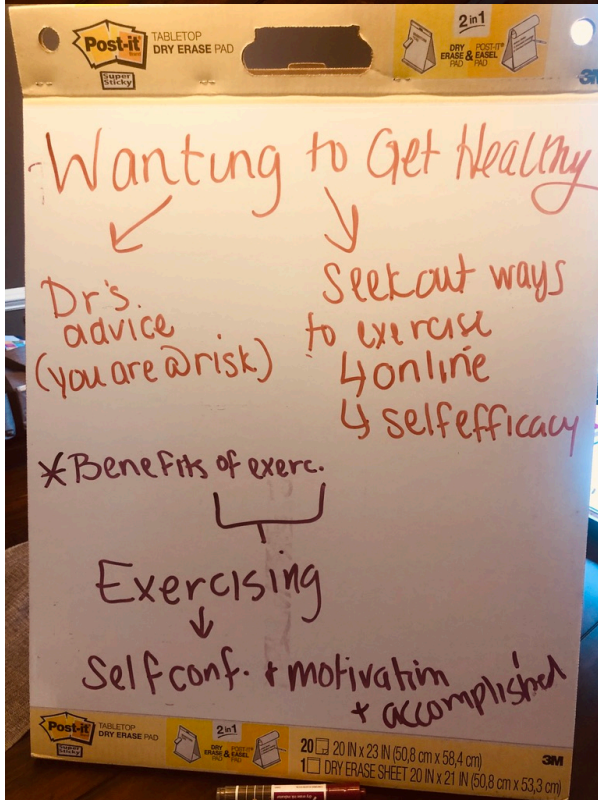
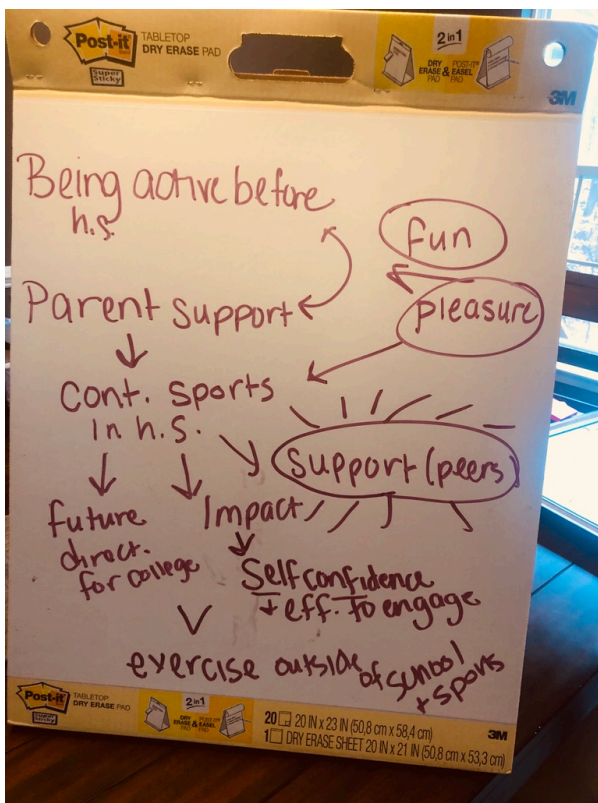
| <b>Focused Code</b>       | <b>Definition &amp; When to Use</b>                                                                                                                     | <b>Example Codes</b>                                                                                                                                                                                                                                                                        | <b>When Not To Use</b>                                                                                                                                                                                              |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Perceiving Schools Impact | ideal body which are based on others points of views<br>Participant labels the school and factors associated with attending as a facilitator or barrier | “I feel like schools should pay more attention in like elementary school because that’s when it all starts.”                                                                                                                                                                                | If a participant mentions the college application process and the deadlines associated with it, this would be coded as “Competing Priorities” to reserve “Perceiving Schools Impact” for direct high school impact. |
| Programming Advice        | Participants provides advice for future programming                                                                                                     | “I feel like more kids like like doing things after school than during school cause it’s like I’m doing this on my time, I’m sure this isn’t being opposed on me- TZ: right. Nell: it’s not a class, not a grade. It’s not a requirement for them, it’s something I want to do for myself.” |                                                                                                                                                                                                                     |
| Prioritizing Exercise     | Participant indicates that exercise is or is not a priority for them.                                                                                   | “I feel like it's necessary. I feel like everybody should do some type of exercise because if they're not, then that messes up mental health and physical health.”                                                                                                                          | If a participant discusses how there are multiple priorities, this would be coded as “Competing Priorities”.                                                                                                        |
| Receiving Doctor’s Advice | Participant describes experience with a healthcare provider related to their exercise behavior or refers to previous health/illness                     | “it’s okay to gain weight in a way but I just know for me since like I have like so many health problems and like my family has a history of health problems..”                                                                                                                             |                                                                                                                                                                                                                     |

| <b>Focused Code</b>              | <b>Definition &amp; When to Use</b>                                                      | <b>Example Codes</b>                                                                                                                                                                                                                                              | <b>When Not To Use</b>                                                                                       |
|----------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Revealing Lack of Motivation     | Participant recognizes no or little motivation to exercise                               | “..they just don’t want to do anything they just want to sleep, eat, and make money.”                                                                                                                                                                             |                                                                                                              |
| Seeing Exercise As Fun           | Participant labels exercise as enjoyable or desires it to be fun                         | “...sometimes when I exercise it’s just more for fun like I want to go out and have fun with my siblings so we’ll go on the uhm driveway and play basketball or we’ll go to the court uhm like five minutes from our house and shoot, shoot around a little bit.” |                                                                                                              |
| Setting Future Plans to Exercise | Participant describes exercise as something they will do in the future, post high school | “Oh I’m definitely going to do it a lot more. I have so many plans for when I go off to college it’s like I’m going to join some intramural sports, uhm I want to be part of ASA, so they have like a lot of dances and performances-“                            |                                                                                                              |
| Setting Goals                    | Participant identifies the role goals play in their exercise behavior                    | “..you know when like you procrastinate it’s like ok I’m gonna you say you’re going to do something but then you don’t end up doing it? I feel like that’s with me.”                                                                                              | If a participant discusses future plans to exercise (post high-school) this is not coded as “Setting Goals”. |
| Thinking About Exercise          | Participant indicates a desire to engage in                                              | “There are times when I’ve thought of exercising for a long period of time.”                                                                                                                                                                                      |                                                                                                              |

| <b>Focused Code</b>          | <b>Definition &amp; When to Use</b>                                                                                            | <b>Example Codes</b>                                                                                                                                                                                                                                                                                                               | <b>When Not To Use</b>                                                                                                                                                                                |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thinking About Future Health | exercise in the near future<br>Participant describes how they may be considering their future health in their exercise choices | “Sometimes, you don't want to have to have those health risk later up in your life, and I feel like exercising, everybody should feel like, "Okay, even if I just do 20 minutes of like a little exercise that will like help me feel better or help me make sure I don't have any type of inhibitors where I'm be getting older.” | “And then also like maybe I do want to go hang out with my friends, so I might not go to this practice or I might not go to the gym this day. So I feel like that can like prevent me from exercise.” |

## Appendix J: Sample Axial Coding Diagrams





## **Appendix K: Participant's Definition of Health**

### **Defining Health**

To better understand the perspectives of these sixteen participants, it is necessary to include how they define health and what being healthy means to them. Participants were asked to describe what being healthy means to them. They were further asked to describe how a healthy person looks and feels. Participants overall held a holistic perspective of health describing it as “*always moving physically and mentally*”. Phrases such as “*equilibrium*”, “*flow*”, and “*in order*” were used to discuss optimal health. Often participants discussed the “*ability to do all the other activities that anybody else can do*”. Emphasis on mental health was given with many equating “*happiness*” and “*not being stressed*” with the feelings experienced by a healthy person. What these participants are describing is how health is directly related to being able to carry out typical activities of daily living, or what can be termed as quality of life.

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&LCT=LL&FS=S1&FR=R1&FG=G1&FA=A1&FI=I1&FP=P1&FSL=S1&FRL=R1&FGL=G1&FAL=A1&FIL=I1&FPL=P1&PV=&TST=False&C1=&C2=&QP=G&DP=1&VA=CI&CS=Y&SYID=&EYID=&SC=DEFAULT&SO=ASC

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