

UNDERSTANDING THE ROLE OF THE MOTHER-DAUGHTER RELATIONSHIP IN THE
PHYSICAL ACTIVITY AND HEALTH BEHAVIOURS OF AFRICAN NOVA SCOTIAN
ADOLESCENT GIRLS: A QUALITATIVE STUDY

by

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DEDICATION

I dedicate this thesis to my younger self. The little girl who dared to dream big and wanted to change the world. Look how far we have come. I am so proud of you.

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ABSTRACT

Introduction: Physical activity plays a vital role in adolescent health and development. In girls, puberty and adolescence often results in declining physical activity levels. There are often more barriers to engaging in physical activity and less support to allow for girls to be active. Some girls experience additional barriers to physical activity. For example, African Nova Scotian girls tend to experience even greater barriers to being active, and resultantly, are often less physically active compared with peers who are not African Nova Scotian. There are several known facilitators to improve adolescent physical activity. For example, caregivers often influence their child's health behaviours. One of the most significant familiar relationships in African Nova Scotian families is that of the mother and daughter. **Objective:** The purpose of this study was to explore the lived experiences of African Nova Scotian adolescent girls as it relates to their physical activity, and the role of the mother in supporting their daughter's engagement in physical activity. **Methods:** We used a qualitative dyadic approach to understand the relationship between African Nova Scotian mothers and their daughters as it related to physical activity. We conducted semi-structured, one-on-one interviews with five African Nova Scotian adolescent girls ages 11-17 years old and their five mothers, separately. Interviews were transcribed verbatim. We combined reflexive thematic and dyadic analyses to capture both independent and relational nuances in the data. **Results:** A total of five mother-daughter dyads participated in the interviews. All mothers identified as the primary caregiver of the child. Four mothers identified as African Nova Scotian and one mother identified as being of African descent and living in an African Nova Scotian community. Four daughters identified as African Nova Scotian and one daughter identified as African descent and living in an African Nova Scotian community. Mothers and daughters were ages 36-48 years and 11-15 years, respectively. Our reflexive and dyadic analysis generated five themes: 1) Anti-Blackness as a Barrier to Physical Activity for African Nova Scotian Adolescent Girls, 2) Inconducive Black Environments that have been Built by Racism and Create Inequitable Resource Availability, 3) Social Support and Friendship Networks for Physical Activity Participation and Retention, 4) Traditional Black Mothering as a Facet for Mother-Daughter Health Behaviour Communication, 5) Mother as Manager of their African Nova Scotian daughters' Health. **Discussion and Conclusion:** The mother-daughter relationship is critical in supporting the health of African Nova Scotian girls. African Nova Scotian adolescent girls are situated at a social disadvantage for participating in physical activity compared with peers who are not African Nova Scotian. The health journeys of African Nova Scotian adolescent girls have been and continue to be shaped by racism, sexism, and classism. There is an urgent need to centre the development and implementation of health policies in African Nova Scotian perspectives. Adequate funding must be allocated to health resources and education for African Nova Scotian communities. Health promotion strategies must adopt culturally competent approaches to address the needs of African Nova Scotian girls and women.

Keywords: African Nova Scotian, mother-daughter relationship, physical activity, health behaviours, reflexive thematic analysis, dyadic qualitative study

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CHAPTER 1: INTRODUCTION

Adolescence is a critical period when lifelong health behaviours are adopted (Kumar et al., 2015). There is overwhelming evidence that suggests that adolescents who are physically active experience many health benefits, including reduced risk of chronic disease (Hallal et al., 2006), improved sleep quality (Alvarez-Pitti et al., 2020), better cognitive functioning (Biddle, 2016), and improved social connectedness (Kumar et al., 2015). Despite the well-known benefits of physical activity, there are global and Canadian trends indicating that adolescents are not accumulating sufficient physical activity (Guthold et al., 2020; Moore et al., 2021), which is detrimental to an adolescents' health and well-being. As the adolescent period plays such a crucial role in the development of lifelong health behaviours, examining the determinants of physical activity and inactivity during adolescence is necessary to support health and well-being across the lifespan.

Promoting increased physical activity and reduced sedentary behaviour among adolescents has become a public health priority (Troost et al., 2003; van Sluijs et al., 2021). In Canada, this urgency led to the development of the 24-hour movement behaviour guidelines (Tremblay et al., 2016). The Canadian guidelines recommend that for optimal health outcomes, children and youth should engage in increased levels of physical activity (i.e., 60 minutes of moderate-to-vigorous physical activity and several hours of structured and unstructured light activities per day), decreased levels of sedentary behaviour (i.e., no more than 2 hours per day of recreational screen time and reducing long periods of sitting), and attain adequate and quality sleep (i.e., 8 to 11 hours of uninterrupted sleep per day, dependent on age) (Tremblay et al., 2011). These evidence-based guidelines were developed after a series of systematic reviews

concluded how much daily physical activity, sedentary behaviour, and sleep was necessary for children and adolescents to be healthy (CSEP, n.d.).

There are several factors that influence physical activity in children and youth. The adolescent period is a key time in which children see shifts in their social environments (Frech, 2012), including increases in peer pressures and changes in the way they view themselves (Kumar et al., 2015). Adolescents may have reduced access to organized physical activity and sport opportunities (e.g., as age increases, access to competitive sports becomes reserved to the most athletically inclined), more negative social validation (Bélanger et al., 2011), and transitions in their school environment (e.g., elementary to middle school) (Ahmad et al., 2021). Some adolescents see more disparity in and experience more barriers to their physical activity compared with others. For example, girls experience more gender-related barriers to physical activity relative to boys (Mitchell et al., 2015). Black adolescent girls are likely to experience even more barriers to physical activity and participate less (Williams et al., 2018).

There is well-documented evidence that showcases the critical role of families in shaping a child's health behaviours (ParticipACTION, 2020a). Parent's physical activity is associated with their children's physical activity (Hosokawa et al., 2023). Parental support of their youth's physical activity is a key determinant of the child's behaviour (Rhodes et al., 2020). In particular, mothers often play a role in supporting their child's physical activity by offering encouragement, modelling healthy behaviours, and managing logistics of programs (Schoeppe et al., 2017). As such, mothers who support their child's health behaviours, like physical activity, can have positive impacts on the physical activity of their child, leading to the child's improved health and well-being (Viner et al., 2012). The parent-child relationship has most commonly been investigated amongst mothers and daughters. Mothers are especially important role models and

sources of support for their daughter's physical activity engagement (Thul & LaVoi, 2011). In African Nova Scotian families, the mother is often influential to their adolescent daughters. With the known family influence in physical activity, the importance of the mother-daughter relationship in African Nova Scotian families, and the additional barriers Black girls face in being physically active, it seems timely and worthwhile to explore the lived experiences of African Nova Scotian mothers and daughters to uncover the role of their relationship in supporting their daughters' physical activity.

This thesis focused on the physical activity and health behaviours of African Nova Scotian adolescent girls. African Nova Scotians are the largest racially visible group in the province, yet little is known about the health and well-being of African Nova Scotian people (Kisely et al., 2008). Given that there is a lack of physical activity participation among adolescents (Colley et al., 2011), and a disparity among Black girls (Hallal et al., 2006), we anticipated that African Nova Scotian adolescent girls would share stories about race- and gender-specific barriers that create barriers to being physically active. We anticipated that the mothers would have a crucial role in their daughter's physical activity and that the stories of the mother-daughter relationship would be contextualized through race and gender.

1.1 Definitions of Terms

Before I begin my thesis, I feel it is important to provide an overview of commonly used terms used throughout this study to support the reader. Table 1 below includes these common terms, with their definitions, listed alphabetically:

Table 1. List of common terms used in my thesis

Term	Definition
<i>African American</i>	The term ‘African American’ is used to describe an individual of African descent who is connected to the United States.
<i>African Nova Scotian</i>	African Nova Scotians are a distinct people who descend from one of the following groups: free and enslaved Black Planters, Black Loyalists, Black Refugees, Maroons, and other Black people who inhabited the original 52 land-based Black communities in Nova Scotia (African Nova Scotian Strategy Overview Recommendations, n.d.).
<i>Black</i>	The term ‘Black’ is used to describe people of African descent, regardless of their nationality. In this study, when reference is being made to someone or a group of people of African ancestry, the term ‘Black’ is used to describe.
<i>Black Feminist Thought</i>	Black Feminist Thought is a critical social theory that recognizes the intersection of racism, sexism, and classism as experienced by Black women. (Collins, 1990a; Crenshaw, 1991).
<i>Dyadic Analysis</i>	Dyadic analysis is the collection and analysis of data from two interconnected members. The data collected is then compared to discover similarities and differences in responses (Collaço et al., 2021).
<i>Family-Centered Care</i>	Family-centered care has been described as a partnership approach to health care decision making. Principles of family-centered care include information sharing, respect and honoring differences, partnership and collaboration, negotiation and care in context of family and community (Kuo et al., 2012).
<i>Health-Promoting Behaviour</i>	Includes purposeful behaviours performed to enhance health and prevent illness prior to onset (included but not limited to vaccination, condom use and physical activity engagement) (Perrier & Martin Ginis, 2018).
<i>Pender’s Health Promotion Model</i>	This model was developed to understand how individual characteristics/ experiences and the environment interact during behaviour change processes. The goal of the model is to induce behaviour change strategies that improve health and minimize the risk of disease (“Pender’s Health Promotion Model,” n.d.).
<i>Physical Activity</i>	Any bodily movement that is produced by the contraction of skeletal muscles and that involves a substantial increase in energy expenditure (NHIS - Adult Physical Activity - Glossary, 2019). Activities may include (but are not limited to) walking, swimming, bicycling or outdoor activities (e.g., gardening). Often used interchangeably with exercise.
<i>Sedentary Behaviour</i>	Any waking behaviour of low energy expenditure (Tremblay et al., 2011); typical sedentary activities include sitting, lying, watching TV, and screen time activities.

<i>Socioecological Model</i>	The Socioecological Model understands how health is shaped by intrapersonal, interpersonal, organizational environmental and policy influences (Bronfenbrenner, 1977).
<i>Worldview</i>	Worldview means how we view and perceive the world through our own experiences, culture, and history. In research, this basic set of beliefs or assumptions guide our inquiry (Guba & Lincoln, 2005).

1.2 Statement of the Problem

Many chronic conditions have been shown to have pediatric antecedents such as cardiovascular disease, diabetes, depression, and anxiety (Guba & Lincoln, 2005). There is overwhelming evidence to support the benefits of physical activity on health and well-being across the lifespan. Gender and racial disparities in physical activity are evident. Eliminating disparities related to physical activity among racialized communities is a complex, dynamic, and multifaceted challenge (Taylor, 2015). To accomplish the goal of improving health and well-being among African Nova Scotians requires an understanding of history, culture, and family, as it relates to their physical activity. Research has demonstrated that African Nova Scotians have higher morbidity and mortality associated with preventable chronic diseases (Kisely et al., 2008) and are exposed to disproportional effects of environmental hazards in their communities (e.g., water contamination) (Waldron, 2015). Further, research has identified the importance of family, culture, and spirituality for the health of African Nova Scotians (Beagan & Etowa, 2011) and additional explorations on culturally traditional health behaviours as a resistance against racism, a way of emphasizing cultural identity and for overall family and community well-being (Beagan & Chapman 2012).

There is limited information as it relates to physical activity and other health behaviours of African Nova Scotians, particularly during adolescence and amongst girls. It is important to

understand the role of social support in the facilitation of physical activity among African Nova Scotian adolescent girls. The family is particularly influential in African Nova Scotian health and well-being. The mother is crucial as she acts as the pillar of the African Nova Scotian home and community, providing support and care to improve the health and well-being of her family. Given the urgency to promote physical activity and health amongst adolescent girls, and to reduce disparities in physical activity caused by race and race-related factors, my thesis explored the lived experiences of African Nova Scotians adolescent girls as it relates to their engagement in physical activity, and the role of their mother.

1.3 Purpose and Significance

The purpose of this study was to uncover the lived experiences of African Nova Scotian adolescent girls in being physically active, and the role of the mother-daughter relationship as it relates to the daughter's physical activity. Findings from my thesis will help to enhance our understanding of African Nova Scotian adolescent girls' participation in physical activity, and the role of their mothers. In doing so, my thesis may inform the development of culturally appropriate physical activity and health-promoting programs in schools, community health, and recreation centres that aim to enhance the health and well-being of African Nova Scotian adolescent girls. It may also speak to the importance of family health and the role of family in promoting health and well-being, particularly in African Nova Scotian communities.

The health and well-being of African Nova Scotians is at risk. African Nova Scotians continue to be overlooked, undervalued, and ignored in health research, intervention development, and policy implementation (Enang, 2001). Though there is research focused on the health and physical activity of African American and Black girls (O'Brien-Richardson, 2021;

Woolford et al., 2016), race is not a monolithic single state (Celious & Oyserman, 2001). Information specific to the determinants of the health and well-being of African Nova Scotian adolescent girls is extremely limited. Celious and Oyserman (2001) argue that within-group differences exist and shapes the life experiences of individuals from the Black community. Therefore, it is important to represent African Nova Scotian adolescent girls as a distinct population in health research to determine their unique needs. Conducting this thesis has allowed for a more in-depth understanding of African Nova Scotian adolescent girls' unique experiences as it relates to their physical activity.

1.4 Research Questions

Using a qualitative dyadic approach, and informed by Black Feminist Thought, Pender's Health Promotion Model, and the Socioecological Model, the following questions have informed my thesis as it relates to the lived experiences of African Nova Scotian adolescent girls and their mothers:

1. What barriers obstruct and what factors facilitate African Nova Scotian adolescent girls' participation in physical activity?
2. How does the African Nova Scotian's mother-daughter health behaviour communication obstruct and facilitate African Nova Scotian adolescent girls' participation in physical activity?
3. How do African Nova Scotian adolescent girls perceive their mothers' role in promoting physical activity and other health behaviours?

1.5 Researcher Positionality

In the spirit of self-reflexivity, I acknowledge my standpoint as a health-promoting researcher. Thus, I offer these findings as one possible interpretation based on my standpoint as a young, multiracial African Nova Scotian woman, and a descendent of a historical African Nova Scotian community, Beechville, through my mother. I acknowledge that my current positionalities shape my understanding of this research. I also acknowledge my preconceptions in the research, including my potential connection with the research participants. Throughout this research I have incorporated both my role as a researcher and my professional experience working alongside the African Nova Scotian community. In this regard I reference Temple and Young (2004) who describe the epistemological position of the researcher to be a catalyst for research interpretation and outcomes as “one’s position within the social world influences the way in which you see it” (p. 164).

The professional lens to which I view this research is through my previous role as Project Manager for the Delmore “Buddy” Daye Learning Institute, an Africentric institution aimed at creating educational change and opportunity for communities of African ancestry. I also view this research through my role as a Primary Healthcare Coordinator with the Nova Scotia Sisterhood, an initiative through Nova Scotia Health that provides primary care to Black and African Nova Scotian women in the province. Both professional lens to which I view this research has enabled the building of community partnerships and relationships to enhance service delivery to African Nova Scotian, Caribbean Nova Scotian, and Black communities.

The personal lens to which I view this research is through my own experiences as an African Nova Scotian daughter to an African Nova Scotian mother. My mother played an important role in my physical activity engagement throughout my adolescence and into my

young adulthood. It wasn't until my young adulthood when I began to reflect on the role of my mother in my physical activity engagement and participation in health behaviours. My mother prioritized health promotion during my upbringing by including me on health-related conversations, educating me on family health history, role modelling and co-participating in health-related activities (e.g., dance programs, meal preparation). My mother's role in my participation in physical activity and other health behaviours during my adolescence provided me with the knowledge and tools to successfully maintain a healthy lifestyle into my young adulthood. The influential role of my mother on my own health during my adolescence and into my young adulthood has been the reason for conducting this research.

In keeping with the reflexive disposition of this research, I consider my stance as an African Nova Scotian woman, and daughter to an African Nova Scotian mother. Though raised in a predominantly white suburban community in the Halifax Regional Municipality, my understanding and connection to the African Nova Scotian community remained at the core of my upbringing. Throughout my childhood, I actively participated in organized physical activity programs that included figure skating, soccer, dance, basketball, volleyball, track and field, and rugby. My mother played a pivotal role in my physical activity engagement during all stages of my development. In participating in organized sport during my childhood, I developed self-efficacy, physical literacy, and confidence in my ability to remain physically active into young adulthood. Reflecting on these experiences is necessary in understanding the shared and unshared standpoint I have with the participants.

My identity and experience as an African Nova Scotian woman, and daughter of an African Nova Scotian woman, has been the catalyst for this research project. I have chosen to focus on African Nova Scotian women and girls because I have an interest in improving the

health of other women from my community and aim to empower their ability to exert control over their health behaviours. The opportunity to advocate for the health of African Nova Scotians is my lifelong commitment as I aim to facilitate a culturally competent approach to health behaviour change strategies in Nova Scotia. With that said, I recognize that my worldview and experiences as an African Nova Scotian woman has shaped my understanding of this research project. I acknowledge the intersecting experience of being Black, and a woman, as it contributes to the lived experiences of African Nova Scotian women and girls. It is therefore my role, as an African Nova Scotian health-promoting researcher, to submerge myself within the research process, empower and centralize African Nova Scotian women and girls' voices, and to communicate my understanding of their lived experiences to the healthcare community.

CHAPTER 2: LITERATURE REVIEW

It is important to give an overview of the literature that provides a foundation for my thesis work. To understand the physical activity and health behaviours of African Nova Scotia adolescent girls, it is imperative to examine social factors like race and gender, cultural and built environments, as it relates to their lived experiences of physical activity and other health behaviours. It is noteworthy to consider physical activity and health from a historical and contemporary perspective as it has, and continues to, shape the health experiences of African Nova Scotian communities. A literature review was conducted to explore existing research related to the physical activity and health-promoting behaviours of African Nova Scotian adolescent girls, and the role of their mothers. Several research databases were used, including CINAHL, Medline, Embase, PubMed, PsycINFO, ProQuest, and Google Scholar. In this literature review, I begin by providing a history of African Nova Scotians, and how this has impacted health. I then outline movement behaviour guidelines, followed by the health benefits of physical activity and consequences of physical inactivity. I then explore physical activity and health behaviours during adolescence. I conclude the literature review by further exploring the determinants of these health behaviours.

Research focused on the health experiences of African Canadian women and girls is growing, but the unique experiences of African Nova Scotian women and girls remain limited. This literature review was conducted to provide a strong backdrop to my thesis by exploring movement behaviour guidelines, the benefits, and consequences of physical (in)activity, and physical activity and health behaviours during adolescence, and their determinants. Thus, it is important to acknowledge that most of this literature originates from participants of white, North American, or European ancestry. With this, there may be profound differences between African

Nova Scotians and populations which have been described in the literature. Considering this, my literature review will inform the basis for exploring the physical activity and health behaviours of African Nova Scotian adolescent girls, and the role of their mothers.

2.1 The Legacy of African Nova Scotians

The rich legacy of African Nova Scotians spans more than 400 years (Pachai, 2007) and yet little research is available to substantiate the effects of their history and culture on their health. African Nova Scotians have contributed to the success of today's province of Nova Scotia. There have been a great number of African Nova Scotian Pioneers who have made monumental achievements. For example, Viola Desmond, who was a Civil Rights Activist and Businesswoman advocated for the right of young Black women and challenged racial discrimination in many ways (*Viola Desmond*, n.d.). Furthermore, the successes of African Nova Scotians have been showcased through their major contributions to the development of several businesses, programs, initiatives, and institutions across the province. These successes have taken place despite insurmountable racism and injustices faced by African Nova Scotians. And, yet, there is little known about African Nova Scotian experiences and impacts to their health throughout history to present day.

African Nova Scotian communities have been faced with environmental health hazards such as water contamination due to leaking of landfill (Waldron, 2015), socioeconomic exclusion (Jean-Pierre, 2021), and lack of cultural sensitivity in healthcare delivery (Enang, 2001), to name a few. African Nova Scotian communities are generally situated in rural locations, and Jean-Pierre (2021) argues that rural living was not due to preference, but rather a racist tactic used to further marginalize the African Nova Scotian community.

The lack of respect, understanding, and inclusion used against African Nova Scotians has proven detrimental to their health and well-being. Researchers have emphasized the need to consider racism, and racism-related stress, as a determinant of the health and well-being of African Nova Scotians (Beagan & Etowa, 2011; Enang, 2001; Etowa et al., 2017). As outlined later in this literature review, this research will describe how race is amongst one of the many factors that may determine health behaviours, like physical activity, among African Nova Scotian adolescent girls.

2.1.1 African Nova Scotian: A Historical Context

Nova Scotia is home to Canada's largest Indigenous¹ Black population (Sehatazadeh, 2008) whose history extends back to the 17th century upon the first arrival of Mathieu Da Costa (Pachai, 2007). Da Costa, a former slave of the Portuguese, arrived in Nova Scotia as a navigator for the French colonists and served as an interpreter of the Mi'kmaq language (Enang, 2001). Those who arrived in Nova Scotia from the African diaspora² followed in five waves. The first, and largest wave arrived in Nova Scotia during the American Revolution with a promise of freedom and land (Enang, 2001). Nova Scotia then became inhabited by Jamaican Maroons, Black Loyalists, Black refugees and later, Caribbean migrants. These arrivals across the province of Nova Scotia later formed present-day, and historically Black, African Nova Scotian communities³.

¹ I use the term Indigenous to describe the first Black people who have settled here in Nova Scotia dating back to the 17th century.

² The Diaspora is a commonly used term to describe people of African ancestry dispersed and living in different parts of the world such as: Canada, England, the United States.

³ Historically Black, African Nova Scotian communities include: Acaciaville, Africville, Aldershot, Amherst, Antigonish, Beechville, Birchtown, Cambridge, Cherry Brook, Cobequid Road, Conway, Danvers, Dartmouth, Digby, East Preston, Gibson Woods, Glace Bay, Granville Ferry, Greenville, Halifax, Hammonds Plains, Hassett, Inglewood, Jordantown, Kentille, Lake Loon, LeQuille, Lincolnville, Liverpool, Lucasville, Maroon Hill, Middleton, Monastery, Mulgrave, New Glasgow, New Waterford, North Preston, North Sydney, Shelburne, Southville, Springhill, Sunnyville, Sydney, Three Miles Plains, Trenton, Truro, Upper Big Tracadie, Weymouth Falls, Whitney Pier, Yarmouth Town (*African Nova Scotian Community | African Nova Scotian Affairs - Government of Nova Scotia*, n.d.)

The historical reality of Black people in Nova Scotia is that they faced segregation and were marginalized in all aspects of their lives, such as access to healthcare, education, and employment. Morton (1993) said that much historical research about African Nova Scotian communities is generally through oral traditions of sharing information. Despite their resiliency, African Nova Scotians have been, and continue to face, the repercussions of anti-Black racism due to historical actions used to enforce segregation (Jean-Pierre, 2021). For example, African Nova Scotians experience low high school completion rates, low-income levels, and high rates of unemployment and underemployment (Etowa et al., 2017). In addition to education and employment challenges, the historical turmoil faced by African Nova Scotians has shaped their health status; less access to healthcare and discriminatory health screening has led to higher rates of cardiovascular disease, diabetes, depression, and anxiety amongst African Nova Scotians compared with those who are not African Nova Scotian (Kisely et al., 2008).

2.1.2 African Nova Scotian Women

In an environment where African Nova Scotians face segregation, marginalization, and racism, African Nova Scotian women experience further discrimination due to sexism and gender-related discrimination (Morton, 1993). Although African Nova Scotian women historically demonstrated incredible resiliency, they were (and continue to be) burdened with cultural stereotypes and imported models from American history (Morton, 1993). For example, African Nova Scotian women are commonly situated into a “Strong Black Woman” narrative that may have negative implications on their physical, emotional, and spiritual health (Etowa et al., 2017). The “Strong Black Woman”, also known as “the superwoman schema” (Jefferies, 2022) is an isolating myth that sets unrealistic expectations for Black women that may induce high levels of stress and burnout (Etowa et al., 2017). For example, many African Nova Scotian

women report caring for family, extended family, community members, and even the Black community, at the expense of their own health and well-being (Etowa et al., 2017). This heavy burden of caring for not only their family, but the larger community can have a negative toll on African Nova Scotian women (Bundy, 2019).

Historically, African American women have often enacted caring and nurturing roles (Etowa et al., 2017). Contrastingly, African Nova Scotian women take on multiple caregiving roles as they are the pillars of family, extended family, community members, and even colleagues (Etowa et al., 2017). Although the nurturing capacity of the caregiver role can be helpful (Etowa et al., 2017), this coping strategy raises concern as African Nova Scotian and Black women may deny their own well-being to meet the expectations of others.

The integral role that African Nova Scotian women play in both the family and community may be guided by their spirituality as their role continues in the church (Beagan & Etowa, 2011). Earlier research described the role of spirituality for Black women as a source of strength and resistance (Este & Bernard, 2006). Moreover, Beagan & Etowa (2011) examined the historical and contemporary importance of spirituality to African Nova Scotian women; key to survival, “uplifting” of the community, coping mechanism, mode of health maintenance (Beagan & Etowa, 2011). Many African Nova Scotian women value their spiritual occupations to the church as they take on volunteer roles and participate on committees (Beagan & Etowa, 2011). For African Nova Scotian women, the church is often viewed as a guide for community and connection (Beagan & Etowa, 2011), linking its importance to the well-being of the African Nova Scotian family.

2.1.3 African Nova Scotian Family Value and Structure

Early conceptions of the African Nova Scotian family structure are unexplored (Morton, 1993). Kane (2000) concludes that there is a great deal of variation across families of African descent, however, the African family is typically a source of emotional and social support (Pollock et al., 2015). There are several examples of how African families support one another. For example, one study showed that African American families often share household responsibilities (e.g., chores, financial support) (Cross et al., 2018). An additional example surfaced as African Nova Scotian families preferred family-centered care over hospital care when a family member was terminally ill (Maddalena et al., 2010). This is just one example that illustrated family-centered care and suggests collectivity in caring for the health and well-being of family members in African Nova Scotian families.

African Nova Scotian families may take on different family structures. For example, families may live in multi-generational homes, or families may include single and two parents. Multigenerational households are defined as containing two or more adult generations, or a “skipped” generation such as grandparents and their grandchildren (Hurst, 2022). Although there is limited research in the context of the African Nova Scotian family structure as it relates to multi-generational families, research suggests that multi-generational housing is common among Black families (Park et al., 2019). Furthermore, research suggests the importance of considering differences in parenting practices for multigenerational families (Chase-Lansdale et al., 1994), which may have implications on the lived experiences of African Nova Scotian adolescent girls as it relates to their engagement in physical activity and other health behaviours.

As previously mentioned, there is a dearth of research on differences that exist in the African Nova Scotian family structure, however, literature suggests that many African American

youth are born to unwed mothers (Parent et al., 2013), which may indicate that they are more likely to live in single parent homes at some point during their upbringing. Research has explored differences in health outcomes and health development that exist for children raised in single-parent versus two-parent households (Lut et al., 2021); however, this has not been examined in the context of the African Nova Scotian family. Furthermore, the quality of parent-child relationships has been found to be closely related to social class or socioeconomic status (Conger et al., 2010), which may have important implications in this study for considering the impact of classism on the experiences of African Nova Scotian adolescent girls and their mothers.

African Nova Scotians are a heterogeneous community comprised of members with diverse characteristics. Heterogenous communities are an assemblage of members who vary in age, gender, education, and knowledge (Alesina & La Ferrara, 2000). Examples of research that has considered heterogeneity that exists across the African Nova Scotian community include the examination of differences in socioeconomic status. In the context of health experiences, researchers have explored differences in socioeconomic status as it relates to median household income, unemployment rate and education level across various African Nova Scotian communities (Kisely et al., 2008). Differences in socioeconomic status has been classified as an important social determinant of health (Quon & McGrath, 2015).

Accounting for other instances of heterogeneity in the African Nova Scotian community includes the placement, and displacement, of historically Black settlements across the province, particularly as it accounts for rurality. The majority of African Nova Scotians are located in rural and isolated communities across the province (Waldron, 2020). Rurality may pose a threat to the health of those living in African Nova Scotian communities. Research indicates that Black

women living in rural and remote areas are faced with access-related barriers to healthcare (Etowa et al., 2007). Furthermore, rurality likely shapes the lived experiences of African Nova Scotian adolescent girls and their mothers, especially as it relates to their engagement in physical activity and health behaviours.

The African Nova Scotian family dynamic is a site of support. Women and mothers often take on nurturing roles in their family and broader community. However, there is limited research investigating the role of various family structures such as multi-generational, single parent, and two parent homes in the context of African Nova Scotian families. Heterogeneity exists among the African Nova Scotian community and includes factors such as differences in age, income, and education, and rurality for African Nova Scotians. Additionally, socioeconomic status is classified as a social determinant of health and is likely to be closely related to family structure. Though the focus on this thesis is related to physical activity, this study may fill some of these gaps and uncover the unique lived experiences of African Nova Scotian adolescent girls in being physically active as it relates to their family, socioeconomic status, and geographic region in Nova Scotia.

2.1.4 African Nova Scotians' Health

The health of African Nova Scotians is extremely under documented. Research on the health of the African diaspora originates predominately in the United States and United Kingdom (Kisely et al., 2008). Although Black communities have existed in Nova Scotia for centuries (Etowa et al., 2017), the lack of research on the health status of African Nova Scotians may have serious implications on health service development, delivery, and utilization. It is known that health care services were not available to Black people for several generations (Enang, 2001). Due to spatial segregation accompanied by forceful displacement and relocation, African Nova

Scotian communities have faced detrimental health and environmental repercussions (Jean-Pierre, 2021). Additionally, the rural distribution of African Nova Scotian communities introduced limitations on health service infrastructure availability that continue to present day (Enang, 2001).

The lack of health information about African Nova Scotian's reaffirms the considerable need to fill the void of race-based data in Nova Scotia. Research about African Nova Scotian health has focused on lived experiences through qualitative analyses (Beagan, & Chapman, 2012; Etowa et al., 2017; Hamilton-Hinch, 2015). Beagan & Chapman (2012) identified the tendency for health research to be conducted at the population level, which may not reflect the unique perspectives of African Nova Scotians.

2.1.5 Health and it's Dimensions in the Context of African Nova Scotians

The terms health, well-being, and wellness are often used interchangeably. Health is not a one-dimensional construct; health encompasses multiple dimensions. According to the World Health Organization (n.d.), "health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". Health can include physical, intellectual, emotional, spiritual, and social aspects (Hjelm, 2010). Moreover, well-being is a broadly defined concept and entails the combination of feeling good and functioning well (Ruggeri et al., 2020); the presence of positive emotions (e.g., happiness) (Huppert, 2009) and a sustainable condition of being that allows the individual or population to develop and thrive (Ruggeri et al., 2020). Wellness is considered, "an active process through which people become aware of, and make choices toward, a more successful existence" (*Six Dimensions of Wellness - National Wellness Institute*, 2020). The dimensions of wellness include physical, social, intellectual, spiritual, emotional, and occupational (*Six Dimensions of Wellness - National Wellness Institute*, 2020).

There is evidence that indicate how African Nova Scotians are at a higher risk for poor physical health outcomes (Enang, 2001). Physical health is, “ a dynamic state, the process of preserving and developing its biological, physiological and mental functions, optimal work capacity and social activity with the maximum life expectancy” (Koipysheva et al., 2018). The physical health of African Nova Scotians has been examined through the lens of nutrition by investigating the meanings of food, health, and well-being as it relates to food practices of African Nova Scotians (Beagan & Chapman, 2012). Although research has been conducted to explore physical activity as a predictor of physical health among the Canadian population based on ethnicity (Bryan et al., 2006) to the best of my knowledge, the proposed research project is the first to be conducted as an exploration of physical activity in the African Nova Scotian community.

Spirituality is a well-documented measure in health research in the African Nova Scotian community. African Nova Scotians may utilize spirituality as a fundamental vehicle for health and well-being (Este and Bernard, 2006), and as a coping strategy to protect against stress, including racism (Beagan & Etowa, 2011). There appears to be a connection between spirituality and mental health; spiritual occupations are often used as a coping strategy from mental and emotional health struggles (Beagan & Etowa, 2011). Kisely et al., (2008) explains how specialist visits for mental health are generally lower among African Nova Scotians relative to the provincial population. Moreover, there is a lack of mental health service utilization among the African Nova Scotian community (Beagan & Etowa 2011). However, health practitioners have been encouraged to utilize spiritual and religious venues as a resource for mental health support and alleviate stigma associated with mental health for African Nova Scotians (Beagan & Etowa 2011).

Additional research on the health of African Nova Scotians is necessary to improve overall population health and well-being (Beagan & Etowa, 2011; Kisely et al., 2008). My thesis extends the current literature on the health of African Nova Scotians by conducting a qualitative analysis of the lived experiences of African Nova Scotian adolescent girls as it relates to their physical activity and other health behaviours, and the role of their mothers. Engaging in physical activity and establishing lifelong health habits is critical for all populations, including the African Nova Scotian community. The following section provides a detailed overview into recommended health and movement behaviours to achieve optimal health outcomes.

2.2 Health and Movement Behaviour Recommendations

The health benefits of physical activity are well known. Researchers suggest that engaging in physical activity improves physiological functioning (Ojiambo, n.d.), enhances mental health (Mandolesi et al., 2018) and lowers the incidence of chronic illness (Hallal et al., 2006). Conversely, sedentary activities can undermine health, even among individuals who are physically active (Ojiambo, n.d.).

Sedentary activities are characterized by any waking behaviour of low energy expenditure (Zecevic et al., 2011); typical sedentary activities include sitting, lying, watching TV, and other screen time activities. Sedentary behaviour is not simply a lack of physical activity but is an independent behaviour and independent predictor of health (Ojiambo, n.d.). Therefore, to improve overall health, it is necessary to not only promote physical activity, but to reduce sedentary time. The urgency to promote physical activity and reduce sedentary time to improve the health of Canadians has led to the development of the 24-hour movement behaviour guidelines (CSEP, n.d.). The 24-hour movement guidelines are an integration of the recommended physical activity, sedentary behaviour, and sleep for Canadians (CSEP, n.d.).

Tremblay et al. (2016) suggests that these guidelines inform the natural and intuitive integration of movement behaviours for children and youth.

These guidelines further differentiate the recommendations based on age, which includes specific guidelines available for children and youth (CSEP, n.d.). The guidelines recommend that children and youth (ages 5 to 17 years) everyday should attain several hours of light structured and unstructured physical activity, at least 60 minutes of moderate-to-vigorous physical activity, 8 to 11 uninterrupted hours of sleep (specific guidelines are age dependent), and no more than 2 hours of recreational screen time per day to achieve optimal health benefits. The adult guidelines (aged 18 to 64 years) follow a similar structure and suggest adults attain several hours of light physical activity, at least 150 minutes of moderate to vigorous physical activity each week, 7 to 9 uninterrupted hours of sleep per day, and limit sedentary time to 8 hours or less, with no more than 3 hours of recreational screen time per day (CSEP, n.d.). The 24-hour movement guidelines suggest replacing sedentary behaviours with physical activity (e.g., breaking up sitting time with movement breaks) whenever possible to achieve greater health benefits.

Canada is known for producing and promoting evidence-informed activity guidelines for improving population health (Tremblay et al., 2010). However, these guidelines do not consider race-based differences in movement behaviours or their implications on health and well-being. Research has explored the importance of a comprehensive messaging plan by exploring optimal communication channels to reach broader populations and to increase awareness and motivation of Canadian adults aged 18 years and older (Faught et al., 2020). Research should further investigate the impact of culturally sensitive message delivery on recommendation adherence. Of note, Tremblay et al. (2016) explains that proactive dissemination plans should be prepared in order to optimize the utilization of guidelines. Faulkner et al. (2016) also recommends that

school and medical settings as additional and optimal environments for dissemination efforts. Additionally, researchers indicate that dissemination efforts should take place in various settings (e.g., school, media) and delivered by health and exercise professionals to increase opportunity for awareness and uptake (Latimer-Cheung et al., 2016).

The 24-hour movement guidelines do not differentiate between genders. As such, researchers have examined adherence to the 24-hour movement guidelines among 10- to 17-year-old Canadians and included a gender-based analysis on adherence to guidelines (Ian et al., 2017). Although researchers found that only a small proportion of 10- to 17-year-old Canadians met all guidelines for physical activity, screen-time and sleep, more boys were meeting the recommended time of moderate-vigorous physical activity relative to girls (Ian et al., 2017). Conversely, girls were more often meeting screen-time recommendations relative to boys (Ian et al., 2017). Additionally, this research demonstrated that there were no gender-based differences in meeting sleep recommendations (Ian et al., 2017).

It is important to consider whether health recommendations, such as the 24-hour movement guidelines, may or may not provide appropriate recommendations for African Nova Scotians. Research states that cultural differences exist in physical activity, thus a one size fits all framework for recommendations may not meet the needs of different racial groups (Gurleyik et al., 2022). Additionally, researchers suggest that it is important to understand physical activity from a cultural-contextual lens (Rio & Saligan, 2023) and to recognize the contribution of basic psychological needs and goal orientation when developing recommendations (Gurleyik et al., 2022). Given that adherence to these guidelines has not been evaluated in racially diverse groups (Kindratt et al., 2023), it raises concern that they may not reflect appropriate recommendations for African Nova Scotian adolescent girls.

The development of the 24-hour movement guidelines has provided a concise and practical strategy for adopting healthy movement behaviours over the course of the day. Considering the emphasis on moving more and limiting sedentary time, the following section will outline the health benefits of physical activity, and the consequences of inactivity across various aspects of health (i.e., physical, mental, cognitive, emotional, spiritual). However, future guidelines should consider how race and culture may not be considered or reflected in health recommendations and guidelines.

2.3 Health Benefits of Physical Activity and Consequences of Inactivity

It is well documented the health benefits associated with physical activity, and the detrimental effects of physical inactivity. Warburton et al., (2006) have stated that there is a linear relationship between physical activity and health status. And other researchers have specifically outlined the health benefits of regular physical activity as a mode of disease prevention (Hallal et al., 2006), a prevention strategy used to combat the development of mental disorders (Saxena et al., 2005), and as a resource for positive emotional experiences (Hogan et al., 2015) and cognitive functioning (Mandolesi et al., 2018). Conversely, physical inactivity is a modifiable risk factor of chronic disease (Warburton et al., 2006), cognitive decline (McKinney et al., 2016), and poor mental health (Paluska & Schwenk, 2000). More recently, researchers have outlined the benefits of physical activity as being accompanied by a dose-response relationship; the higher amount of physical activity engagement, the greater the health benefits such as reductions in hypertension, diabetes, stroke, cancer, and depression (McKinney et al., 2016; Warburton & Bredin, 2017).

2.3.1 Health Benefits of Physical Activity

As discussed earlier, there is a growing body of research that supports the substantial benefits of physical activity, particularly on physical health. According to the World Health Organization (n.d.) and consistent with previous research, physical activity is proven to aid in the prevention and management of noncommunicable diseases such as heart disease, stroke, diabetes, and several cancers. A narrative review described the importance of physical activity as both a primary and secondary prevention strategy to attenuate or reverse the disease process (Warburton et al., 2006). The irrefutable evidence of the effectiveness of regular physical activity on the prevention, management, attenuation, and reversibility of several chronic diseases (e.g., hypertension, obesity, depression, diabetes) (Warburton et al., 2006), indicates its importance on overall health status. For example, physical activity has been associated with reductions in the incidence of specific cancers (e.g., breast and colon cancer) (Warburton et al., 2006), and, has been proven to be a useful strategy for the prevention of type 2 diabetes, and for improving glucose homeostasis among those with type 2 diabetes (Warburton et al., 2006).

Research suggests that efforts and interventions to increase physical activity should target the physically inactive, as slight increases in activity may reflect significant gains in health status (McKinney et al., 2016). Understanding and breaking down barriers to physical activity may be one way to support people to become more active. This thesis looked at the physical activity engagement of African Nova Scotian adolescent girls and aimed to determine what strategies are necessary for the promotion of physical activity. The findings from this research are important as they may inform future initiatives and interventions that reduce physical inactivity for African Nova Scotian adolescent girls.

The benefit of physical activity extends beyond the prevention and treatment of chronic disease. Physical activity may be an effective secondary prevention strategy for the maintenance of bone health (Warburton et al., 2006), for the enhancement of musculoskeletal fitness, and for the prevention of injuries and falls (Miles, 2007), which is particularly important in elderly populations in maintaining their functional independence. Furthermore, overwhelming evidence suggests that physical activity can buffer the risks associated with having overweight or obesity (Penedo & Dahn, 2005), which may also maintain functional independence across the lifespan.

Although most attention has focused on the physical health benefits of physical activity (Saxena et al., 2005), the benefits of physical activity on mental health have become increasingly more prominent. The World Health Organization (n.d.) acknowledges the mental health benefits of physical activity for children, adolescents, adults, and older adults. Physical activity has been found to play an important role in the management of mild to moderate mental health diseases (Paluska & Schwenk, 2000), particularly depression and anxiety (Saxena et al., 2005). According to Hogan et al. (2015), even small bouts of physical activity can improve emotional response and reduce feelings of fatigue and anxiety. Moreover, physical activity has been associated with psychological well-being (Saxena et al., 2005), which is particularly important for the prevention and management of disease (e.g., diabetes) (Warburton et al., 2006). Therefore, physical activity interventions should be implemented as a potential resource strategy to support mental health and well-being.

There is growing evidence to support the benefits of physical activity on mental health. For example, Saxena et al. (2005) describes physical activity as a useful intervention for the promotion of mental health, for the prevention and treatment of mental disorders, and as a strategy in psychosocial rehabilitation for severe mental disorders (Saxena et al., 2005). Biddle

(2016) argues that the most widely researched area of physical activity and mental health is that regarding depression; physical activity has been shown to be an effective treatment for depression (Penedo & Dahn, 2005). However, according to Paluska and Schwenk (2000), excessive physical activity may lead to overtraining and cause psychological symptoms that mimic depression.

Physical activity has also been found to influence cognitive functions (Mandolesi et al., 2018). Both Mandolesi et al. (2018) and McKinney et al. (2016) indicate that physical activity can provide a protective barrier against cognitive decline and may reduce the risk of developing Alzheimer disease. The benefits of physical activity on cognitive functioning have been found from childhood into old age (Mandolesi et al., 2018), indicating the importance of physical activity across the lifespan. Biddle (2016) argues that the positive effect of physical activity on cognitive functioning can be used as a powerful tool to advocate for more physical activity in schools, as well as in older adults to ameliorate or prevent cognitive decline.

Physical activity plays a vital role in adolescent development. Adolescence is a period of heightened sensitivity to social stimuli and the increased need for peer interaction (Orben et al., 2020). Therefore, it is important to consider the social benefits of physical activity among adolescents. Research indicates that sport participation involves increased social interaction (Eime et al., 2013), and can assist in the development of social skills, teamwork, and leadership (Kumar et al., 2015). More recently, researchers have found that social connectedness has been linked to outdoor spaces (Wray et al., 2020).

There is a great deal of literature focused on the physical health benefits of physical activity, and a growing body of literature centered around the mental, emotional, cognitive, and social health benefits of physical activity. Though less, there is also literature focused on the

relationship between spiritual health, “a purposeful life, transcendence and actualization of different dimensions and capacities of human beings” (Ghaderi et al., 2018, p#1), and physical activity. It is important to note that these dimensions of health are interconnected and overlap (i.e., they are not independent or mutually exclusive). A holistic approach to physical activity for reaching all populations has been suggested due to its various benefits (e.g., spiritual, emotional, mental, physical well-being) (Hopkins, 2013). Given the significance of spirituality within African Nova Scotian communities and families (Beagan & Etowa, 2011; Este & Bernard, 2006), it may be important to explore the relationship between family dynamics, physical activity, and how families believe physical activity to impact health, including spiritual health.

In one study, African American women said that physical activity helped them align with their spiritual purpose, build connections with others, and supported holistic self-care (Joseph et al., 2017). African Nova Scotian women have also noted that spiritual health is a fundamental aspect of self-care and a critical part of their health and health behaviour decision-making (Este & Bernard, 2006). Furthermore, research revealed a strong interconnectedness between young African Nova Scotian women’s’ health and their church, family, and community (Watson, 2009). Some of the findings of this thesis addressed these connections -- between physical activity, spirituality, and family dynamics -- among African Nova Scotian girls and their mothers.

2.3.2 Health Consequences of Physical Inactivity

The health consequences of physical inactivity are pervasive; the negative consequences have become increasingly more recognized as a major global health problem (Pratt et al., 2014). As the fourth leading cause of mortality at the global level (Pratt et al., 2014), physical inactivity has become categorized as a global pandemic that requires public health priority (Kohl et al., 2012). To no surprise, research suggests that physical inactivity is linked to a myriad of health

consequences such as disease development (Warburton & Bredin, 2017) and poor mental health (Saxena et al., 2005). This is even independent of physical activity, where even physically active people can experience health consequences due to higher levels of inactivity. Physical inactivity has a direct link to the development of chronic disease and premature death (Warburton et al., 2006), and to the development of some of the world's major non-communicable diseases of coronary heart disease, type 2 diabetes, and breast and colon cancers (Lee et al., 2012). Interestingly, researchers suggest that targeting and reducing the burden of physical inactivity may increase life expectancy at the global level (Lee et al., 2012).

The harmful effects of physical inactivity have been linked to the ongoing obesity epidemic; the widespread global problem of physical inactivity coexists with the rising rate of obesity (Miles, 2007), including in children and adolescents (Raj & Kumar, 2010). According to Penedo and Dahn (2005), regular physical activity can buffer risks associated with higher rates of overweight or obesity, whereas physical activity is associated with low body weight or lower rates of overweight or obesity (Ojiambo, n.d.), as well as improved body composition (Miles, 2007). There are particular concerns in adolescent girls (Groth & Morrison-Beedy, 2011) and within the Black community (Barrington et al., 2021) as there are gender and racial disparities within the obesity epidemic.

Black women are placed into a society whose cultural views of body weight and health are greatly reflected by Eurocentric standards. There is significant research that looks into racial differences in body fat distribution (Rahman et al., 2009; Weinsier et al., 2001), and differences in weight perception among Black and white women (Allan et al., 1993; Chithambo & Huey, 2013; Hendley et al., 2011). Although there are concerns that overweight and obesity has become a major health problem for Black women (Gillum, 1987), research has indicated that

there are serious knowledge gaps in health behaviour change for Black women as it relates to obesity prevention and/or management (Agyemang & Powell-Wiley, 2013). One researcher has suggested that further attention should be directed to exploring family function and poor mental health as it relates to obesity in African American women (Davis et al., 2005).

The relationship between physical inactivity and mental health or illness has become more prominent in research. Physical inactivity was found to be related with negative mental health outcomes (Galper et al., 2006), and was found to be associated with clinical depression (Miles, 2007), and symptoms of anxiety (Bélair et al., 2018). Physical inactivity is also related with higher rates of cognitive decline across age compared with physically active individuals (Aichberger et al., 2010). Though, Lipnicki and Gunga (2009) suggests that findings in the literature are largely inconsistent to substantiate the relationship between cognitive functioning and physical inactivity (i.e., cognition improved, declined, or there was no change).

As noted, physical activity tends to relate to positive health outcomes and physical inactivity with negative health outcomes. Remember, however, that this literature review relies heavily on research originating from white North American or European data. We know significantly less about the unique experiences of Black individuals, and even less of African Nova Scotians as it relates to the health benefits of physical activity and the types of barriers and facilitators that may exist as it relates to healthy movement.

2.4 Physical Activity and Health Behaviours During Adolescence

Adolescence represents a critical stage of development when personal life choices and behaviour patterns establish (Kumar et al., 2015). Sometimes adolescents experience changes in their health-related behaviours, and may adopt health behaviours with negative consequences,

such as smoking and substance abuse, unsafe sexual practices, poor eating, and lack of exercise or physical activity (Salam et al., 2016). Research suggests that behaviours adopted in adolescence are more likely to track into later years (Ojiambo, n.d.), indicating the importance of laying the foundation for good health during adolescent years. As the adoption of healthy behaviours during adolescence may set the pattern for adulthood (Hallal et al., 2006) and healthy behaviours decline across adolescence into adulthood, it is important to assess barriers to health behaviours and support healthy behaviours during the period of adolescence.

Adolescents experience a great deal of change in their social environment, which may negatively impact their health behaviours and, later, their health trajectories (Frech, 2012). Social change may include shifts in independence and identity (Christie & Viner, 2005), and there are often changes in the parent-child relationship during this time which influence both how independent a child is, and how they identify (Laursen et al., 1998). These social shifts account for changes in health behaviour; more independence taken by the child and decreased monitoring by parents can be associated with decline in the child's health behaviours (Frech, 2012). Socially, a child may shift their attention from family to a peer group, and, depending on the peers, this may be associated with the adoption of unhealthy behaviours (Pringle et al., 2018). Researchers suggest that adolescence is the optimal stage of development to target health-related behaviour, given all the changes they are experiencing. For example, adolescent girls tend to become more inactive across puberty, and change the way they engage in physical activity pursuits (Telford et al., 2016). If we can assess barriers and intervene during adolescence, perhaps this will reduce the loss of physical activity at this time, and this may support healthy choices across the lifespan (Salam et al., 2016). This thesis explored the physical activity and health behaviours of African Nova Scotian adolescent girls, and the role of their mothers.

Findings from this research may provide useful insight into interventions and strategies to promote physical activity for African Nova Scotian girls.

The promotion of physical activity engagement during adolescence continues to be a public health priority (Troost, 2003). There is strong evidence to support the benefits of participating in the recommended amount of physical activity during adolescence; improved physical and mental health, sleep quality, brain development, bone health, and social, psychological, and cognitive health (Alvarez-Pitti et al., 2020). Research also suggests that physical activity during adolescence has a direct influence on adult health (Hallal et al., 2006).

Adolescence is characterized by changes in one's behaviours and social environment. And adolescence is a time of pubertal changes when many transitions occur from juvenile to an adult (Holder & Blaustein, 2014). Most females enter puberty between the ages of 8 and 13 years old which is associated with emotional, hormonal, and physical changes (Breehl & Caban, 2023). However, differences during these developmental years may exist in different populations, such as among African Nova Scotian adolescent girls. For an example, research suggests that there are racial disparities in pubertal timing (Bleil et al., 2017), which may be associated with different experiences in physical activity and health behaviour engagement.

Research has traced pubertal differences that exist between girls of different racial backgrounds during their adolescence (Reagan et al., 2012). Black girls display symptoms of puberty as early as 6 years old (Osinubi et al., 2022). Physical signs of puberty include the development of secondary sex characteristics. For Black girls, there is earlier onset of pubic hair development (Keenan et al., 2014), early menarche (Reagan et al., 2012) and early breast development (Osinubi et al., 2022). Although it is well reported the early physical differences

associated with puberty for Black girls, it is important to consider how early onset puberty may influence other areas of their health.

Pubertal development for Black girls has various implications on their lived experiences as it relates to their health. For example, research suggests that girls who report earlier onset of pubertal development often experience more racial discrimination experiences (Seaton & Carter, 2019). Given that Black girls experience early onset puberty more often than their counterparts, Black girls are at an increased risk for experiences of racial discrimination. Additionally, early onset puberty may be associated with lower self-control (Laube & Fuhrmann, 2020) and the likelihood of engaging in risky behaviours (Cheng et al., 2022), which raises concern for their engagement in physical activity and other health behaviours.

Adolescence is a critical stage of development in which young adolescents begin to prioritize friendship networks (Yu et al., 2023). Forming and maintaining friendships is a core developmental task for adolescents, which sometimes shifts an adolescent's focus away from family relationships (Güroğlu, 2022). Therefore, it is important to consider how changes associated with puberty may impact adolescents' social circles. Research has found that girls value the elements of friendship during adolescence more than boys (Claes & Poirier, 1993). Furthermore, research suggests that adolescents with higher pubertal development are more likely to lose friendships of peers who do not engage in certain behaviours such as delinquency or alcohol use (Franken et al., 2016). Therefore, given that Black girls often develop earlier in age, they may be at risk of shifts in their social circle and friendship networks.

Furthermore, research has explored how pubertal timing and relative age may predict physical activity discontinuation during adolescence (Gallant et al., 2023). Research suggests that girls who enter puberty earlier are at risk of physical activity discontinuation (Gallant et al.,

2023), which warrants further concern for Black girls who experience early onset puberty. Given that this study will explore the lived experiences of African Nova Scotian adolescent girls, it is important to consider how the likelihood of early development may shape their experiences with physical activity and other health behaviours.

Despite the well-known benefits of physical activity on adolescent health, a large proportion of Canadian adolescents do not engage in physical activity to the extent recommended (Colley et al., 2011). Conversely, adolescents spend substantial time each day engaging in screen-time activities (i.e., watching television, using smart technology) (Kumar et al., 2015). Researchers suggest that the lack of, or decline in, physical activity may be associated with key determinants: increased self-consciousness and peer pressure (Kumar et al., 2015), negative social validation, poor social support and barriers related to access (Bélanger et al., 2011) and interpersonal, school environment and social factors (Ahmad, 2021). Moreover, parenting processes (e.g., monitoring, encouragement), as well as parents' own physical activity levels have been associated with a decline in their children's' physical activity levels (Bradley et al., 2011). Given that research often overlooks race-based differences in physical activity among adolescents and determinants of those behaviors, my thesis was able to fill this gap by providing insight into the unique experiences of African Nova Scotian adolescent girls as it relates to their physical activity and other health behaviours.

2.5 Determinants of Physical Activity During Adolescence

The health of adolescents is strongly determined by a host of factors. It is presumed that the level of physical activity declines during the lifespan, particularly during adolescence. Consequently, researchers have been interested in examining modifiable and non-modifiable

factors that may contribute to the shift in physical activity engagement. Current research tends to focus on the impact of modifiable risk factors on health such as lifestyle factors (e.g., tobacco use, harmful use of alcohol, and unhealthy diet) (WHO, n.d.). However, gender, race, family structure (amongst others) are considered non-modifiable risk factors. They introduce systemic and systematic barriers to health behaviours. This thesis explored gender, race, and family structure – and specifically assessed the role of the mother in the health behaviours of the daughter, in an African Nova Scotian context.

According to the World Health Organization, many factors combine to affect the health and well-being of individuals and communities: geographic location, environment, genetics, relationship with family (WHO, n.d.). Many of these factors are considered non-modifiable, as they are not within an individual's control. Researchers suggest that the strongest determinants of adolescent health are structural (non-modifiable) factors such as wealth, income inequality, and access to education (Viner et al., 2012). Of note, adolescents living in multicultural families may be exposed to stressors and environmental vulnerability in the family, school, and community systems, which may influence their health (Shin et al., 2021). The following sections will evaluate non-modifiable factors that influence health such as gender, race, and family networks.

2.5.1 Physical Activity and Health Behaviours of Girls

There is gender-based disparities in physical activity that occur across adolescence and into young adulthood. Research suggests that girls report larger declines in physical activity (Craggs et al., 2011), receive less support from their parents (Troost et al., 2003), participate less in organized sport (Vella et al., 2014) and report lower self-efficacy and perceive more barriers and fewer perceived benefits for physical activity as they age (Ahmad et al., 2021).

Contrastingly, previous research has suggested that self-efficacy has an extremely important role in the promotion of physical activity among teenagers (Borhani et al., 2017), indicating the importance of ensuring the delivery of self-sufficient physical activity interventions for adolescent girls.

A recent systematic review summarized factors that influence physical activity behaviours among adolescent girls (Duffey et al., 2021). For example, the most mentioned barriers to physical activity were lack of support from peers, family, and teachers, followed by lack of time (Duffey et al., 2021). Contrastingly, adolescent girls continually reported peer, family, and teacher support as a major facilitator to physical activity (Duffey et al., 2021). Other research has suggested similar findings for lack of time as a significant barrier (Corr et al., 2019), and lack of support from family, peers, and teachers as both significant barriers and facilitators to physical activity (Allender et al., 2006; Corr et al., 2019). This common theme of social support in physical activity among adolescent girls indicates its importance in my thesis as I will investigate the supportive role of the mother-daughter relationship in promoting healthy behaviours, particularly physical activity of the daughter.

Research suggests that the gender-based disparity in physical activity is amplified in Black adolescent girls; Black girls are at a higher risk for inactivity (Hallal et al., 2006), and African American women report alarmingly low levels of physical activity engagement (James et al., 2014); suggesting that physical inactivity may be a common concern across the life course of Black and African American women. My thesis has investigated the physical activity of African Nova Scotian adolescent girls and their mother. Further, my thesis has discussed how shifts in physical activity engagement may often occur during the stages of adolescence and therefore

may provide insight into gender-based and race-based disparities in physical activity during the developmental years of African Nova Scotian adolescent girls.

2.5.2 Racial Impacts on Physical Activity Engagement

Race is a key determinant in healthy behaviours, including physical activity. Physical inactivity is more common among the Black population (Wilson-Frederick et al., 2014), and research suggests social context may be particularly important in examining racial disparities in physical activity (Wilson-Frederick et al., 2014).

Qualitative research has explored various barriers; safety has been outlined as a barrier to outdoor activity for Black Americans (Joseph et al., 2018), and more recently running outdoors in white neighborhoods (Hornbuckle, 2021). These barriers indicate that safety concerns associated with outdoor physical activity may prevent Black adolescents from participating in outdoor activities. Furthermore, Joseph et al. (2018) conducted an integrative review of barriers to physical activity among African American women and found significant intrapersonal barriers (i.e., lack of time), interpersonal barriers (i.e., lack of social support), and environmental barriers (i.e., lack of facilities). And although research has provided an overview of barriers faced by African Americans to participate in health promoting behaviours, further research is needed to describe barriers and facilitators of physical activity among this population, particularly from a Canadian context.

One important barrier to physical activity that has been described in the literature as it relates to African women and girls is concerns related to their hair (Hall et al., 2013; Joseph et al., 2018; O'Brien-Richardson, 2019). Research suggests that African American women often avoid physical activity due to hair maintenance (Hall et al., 2013) and societal expectations about

their hair (Joseph et al., 2018). Consistent with previous research, Woolford et al. (2016) found that African American adolescent girls avoided physical activity to not only protect their hair, but to also protect their social identity. More recently, hair related concerns have been noted in school-aged girls, where research noted that Black adolescent girls were concerned about maintaining their hair during physical education class (O'Brien-Richardson, 2021). This means that hair may be an important factor in examining the barriers to physical activity among African Nova Scotian adolescent girls.

It is important to note that there is little research on the experiences of African Nova Scotian women and girls, and that most aforementioned literature has largely focused on African American literature. The experiences of Black Canadians (specifically African Nova Scotians) are unique and may differ from the African American context. This thesis has focused on racial impacts of physical activity engagement for African Nova Scotian adolescent girls. More specifically, this research speaks to the barriers faced by the women and girls in this study as it relates to their race and gender.

2.5.3 The Mother-Daughter Dyad

Parents play a major role in their child's health. Research suggests that parents may affect their children's health through numerous processes: modelling behaviours (i.e., being active, drinking alcohol, reducing screening) (Viner et al., 2012), supporting their children's health behaviours (i.e., encouraging physical activity or sport or play) (Zecevic et al., 2010) facilitation (i.e., transporting a child to an activity) (Welk et al., 2003) and co-participation (i.e., playing with their child) (Pyper et al., 2016). This indicates that parents may affect their child's health in both positive and negative ways.

Social support provided by parents is clearly a highly influential factor in the health behaviours of their children. Research suggests that parenting style may be associated with levels of their child's physical activity (Jago et al., 2011); parenting styles characterized by warmth and support, and providing autonomy may be important for achieving recommended levels of physical activity (Ornelas et al., 2007). Furthermore, research suggests that maternal and paternal roles may illicit different modelling influences on a child's physical activity (Schoeppe et al., 2017), indicating the need for research to explore both the role of the mother, and of the father separately in relation to physical activity. These roles may also be further modified based on culture and cultural family norms. My thesis will fill this gap by specifically examining the role of the mother-daughter relationship in relation to physical activity in an African Nova Scotian context.

Research suggests that maternal modelling of health behaviours may have a greater influence on children compared to paternal modelling (Schoeppe et al., 2017). The importance of the mothers' role on health behaviours has formed the basis for understanding the role of the mother in this research. Research on mother-daughter physical activity interventions have been explored (Barnes et al., 2018; Brennan et al., 2021; Dlugonski et al., 2021), even among African-American girls (Alhassan et al., 2018). However, there is a lack of understanding in the African Nova Scotian mother-daughter relationship, and its potential as a locus for health promotion. Importantly, research suggests that the mother-daughter bond may vary across cultures (Gore et al., 2018), introducing a cultural-dependent component to this relationship. Therefore, this research fills the gap and provides insight into the uniqueness of the African Nova Scotian mother-daughter dyad.

Existing research has explored the mother-daughter relationship as a potential locus for health promotion (Mosavel et al., 2006). And more recently, researchers have explored the role of the mother-daughter relationship on the daughters' body image (Goslin & Koons-Beauchamp, 2022; McBride et al., 2017). Research consistently suggested that a positive mother-daughter relationship (i.e., supportive, facilitative) elicits health behaviours of the daughter (Gore et al., 2018), and even that, in turn, daughters may shape their mothers' health behaviours (Mosavel et al., 2006). There is a lack of research on the type of social support needed to reinforce adolescent girls' physical activity. This study will examine how the mother-daughter relationship is a site of social support by understanding what processes are used for the promotion of physical activity and health behaviours among African Nova Scotian adolescent girls and their mothers.

The mother-daughter dyad is a powerful relationship known to impact the health of the daughter, particularly during the developmental stages of adolescence. However, there are differences that exist between mother, mothering, and women. The meaning of the term "women" is simply an adult female human being (*Merriam-Webster*, n.d.). However, for many women they may have experiences of being a mother or mothering. The meaning of the term "mother" is a female parent (*Merriam-Webster*, n.d.). Definitions of the term "mothering" exist such as the work of raising a child (*Collins English Dictionary*, 2024), or even the process of bringing forth a child during childbirth (*Merriam-Webster*, n.d.). However, it is important to consider how mothering is socially constructed and may be influenced by factors such as race, culture, and family structure.

Social constructions of mothering are described as the desire for nurturance and child-rearing (Williamson, 2023). Further research has illustrated how as a culture, we tend to measure mothering (Kukla, 2008). This led to the idea that a "good mother" is associated with a set of

pre-determined characteristics (Johnston & Swanson, 2006). However, research suggests that racial differences exist in mothering (Nomaguchi et al., 2024), which may create discrepancies in differentiating between what is and isn't characteristic of a "good mother". This study will consider how mothering from the perspective of African Nova Scotian mothers may impact the physical activity and health behaviour experiences of their daughters.

Non-biological family members, such as othermothers, play an important role in the Black community and Black family structure. The othermother is a woman, including a mother, who provides care for children who are not biologically her own (P. Collins, 2005). Research suggests that the othermother plays a central role in the transmission of health beliefs, health behaviours and decision-making regarding health prevention and promotion (Spruill et al., 2014). Although there is a lack of research on the role of the othermother in the African Nova Scotian community, it is important to consider how the othermother may shape the experiences of African Nova Scotian adolescent girls as it relates to their engagement in physical activity and other health behaviours.

Recently, ParticipACTION released the 2020 Report Card on Physical Activity for Children and Youth (*Family Influence: How Parents Can Be Active Role Models for Their Kids* | ParticipACTION, n.d.). As a supplement to the report card, a consensus statement on the role of the family was included (Rhodes et al., 2020). This consensus statement described the role of the family structure on physical activity engagement amongst children and youth. The statement serves as a comprehensive model for the promotion of healthy movement behaviours amongst children and youth and how the family structure can support physical activity via joint engagement and family involvement (Rhodes et al., 2020). Current literature states that family

structure plays a crucial role in physical activity engagement (Langøy et al., 2019), but does not describe how these relationships may be different by race, for example, in Black families.

2.6 Summary

This chapter has compiled the growing body of research regarding physical activity during adolescence and the role of gender, race, and social / family support. African Nova Scotians health is largely unknown, specifically the unique experiences of African Nova Scotian women and girls as it relates to their health. Given that adolescence is a time of significant change in health behaviours, including declines in physical activity, especially for girls, this research aims to explore more of the barriers and facilitators to physical activity for African Nova Scotian adolescent girls. Physical activity during adolescence is also heavily influenced by their social environment, relationship with peers, their own self-consciousness and social support networks. Social support, particularly from a child's mother, may be a useful tool for the promotion and maintenance of physical activity and health-promoting behaviours. Therefore, the objective of this thesis is to explore the lived experiences of African Nova Scotian adolescent girls as it relates to their engagement in physical activity and health behaviours, and the role of their mothers. Specifically, using qualitative dyadic methodology, I uncover various barriers and facilitators experienced among African Nova Scotia girls as it relates to their engagement in physical activity. A qualitative dyadic approach offered an in-depth and rich understanding from two perspectives, which informed the implications of this research for the development of culturally sensitive health promotion activities for African Nova Scotian families. The next chapter outlines the study design, frameworks that informed this study, research participants, measures and proposed procedures and analysis plan.

CHAPTER 3: METHODOLOGY

This chapter outlines the methodological procedures used for this study. This chapter begins by outlining the conceptual framework that guided the inquiry followed by the research design, methodology, data collection and analysis. The emergent nature of a qualitative dyadic approach informed by hermeneutic phenomenology set a context for deep exploration and interpretation of meaning behind the lived experiences of African Nova Scotian adolescent girls as it relates to their engagement in physical activity and other health behaviours, and the role of their mother. The theories described in this chapter also provide guidance for understanding the lived experiences of the women and girls in this study. The transformative worldview focused on the needs uncovered through experiences and provided an opportunity to centralize voices that have been historically marginalized. Later in this chapter I further outline methods and procedures of this study.

3.1 Worldview

A transformative worldview was used to inform this qualitative dyadic research study. The transformative worldview provided an opportunity to place central importance on the lives and experiences of groups that have often been marginalized (Mertens, 2007). The transformative worldview aligns with the qualitative dyadic approach to this study by providing the opportunity to capture important perspectives and dialogue from community members (Mertens, 2007). The transformative worldview offers the opportunity for research participants to become active agents in the research process (i.e., help design questions), and for agents to reap the benefits of the work (Creswell & Creswell, 2018). Approaching this research from a transformative worldview will allow for a deeper understanding of “why” adolescent girls are

physically (in)active, and “how” does their mothers play a role in their physical activity and health-promoting behaviours.

3.2 Frameworks and Models Informing this Study

3.2.1 Theoretical Framework

A theoretical framework is a foundational review that provides a structural roadmap for the entire research (Grant & Osanloo, 2014). It reflects the researchers philosophical, epistemological, methodological, and analytical approach to the research (Grant & Osanloo, 2014). In employing a theoretical framework to this study, the research will be informed by a theory-driven approach. The selected theories will reflect how the researcher understands and plans to approach the research topic, representative of a theoretical “blueprint” (Grant & Osanloo, 2014).

This study will employ three theoretical frameworks to define the viewpoint that this research will take in analyzing and interpreting data. The first, Black Feminist Thought, will place African Nova Scotian women and girls at the center of their own narrative and consider how their experiences are shaped by the overlap of racism, sexism, and classism (Collins, 1990b). The second, Pender’s Health Promotion Model, will provide the basis for examining background influences and non-modifiable factors influencing the lived experiences of African Nova Scotian adolescent girls in being physically active (“Pender’s Health Promotion Model,” n.d.). And lastly, the Socioecological Model, will conceptualize the complex interaction between factors affecting the health experiences of African Nova Scotian adolescent girls. \

3.2.2 Black Feminist Thought

Black feminist thought is a field of knowledge that situates Black women at the center of the discourse. Black feminists argue that to address a Black women's identity, both gender and racial identities must be acknowledged (Collins, 1990b; Crenshaw, 1991). Considering the unique physical activity experiences of both girls, and Black individuals, Black feminist thought is an appropriate framework for exploring the experiences of African Nova Scotian adolescent girls.

Black feminist thought was coined by Patricia Collins in the 1990s as a framework for reconceptualizing race, class, and gender as an overlapping system of oppression faced by Black women (Collins, 1990b). Simply put, Collins (1990b) aims to acknowledge the inequities of race, gender, and class as it relates to the struggles faced by Black women. Black feminist thought is an important framework in this study as it constitutes the subordination of their structural positions as it relates to the (possible) intersection of racism, sexism, and class oppression faced by African Nova Scotian women and girls.

According to Black feminist thought, Black women have faced economic, political, and ideological oppression (Collins, 1990b). Collins (1990b) describes how economically Black women were exploited in labor fields, politically deprived of rights, and ideologically subjected to false and negative stereotypes. These acts of oppression placed upon Black women were intended to situate them in an inferior position (Collins, 1990b). Despite their resiliency and acts of resistance (Collins, 1990b), Black women are faced with the present-day social repercussions. Consequently, Black women's issues are continually mapped onto the margins of policy agendas and often omitted due to the overlapping systems of oppression through being Black and being a woman.

Attempts to tackle health disparities faced by Black women have been repeatedly explained by either their racial or gender identity. However, research has often overlooked a wholistic approach to understanding health disparities faced by Black women. For health-promoting behaviours, this suggests that health policy and interventions developed to aid women in exerting control over their health in male-dominated spaces, or Blacks in under-resourced environments, do not service to the distinctive Black female experience (Ray, 2014). In using Black Feminist Thought as an epistemological approach to health promotion, health research can begin to recognize how complex overlapping systems of oppression shape the experiences of Black women (Collins, 1990b). Therefore, in exploring the experiences of African Nova Scotian adolescent girls and their mothers, Black feminist thought recognizes the complex social locations of Black women, and how it shapes their subsequent actions.

3.2.3 Pender's Health Promotion Model

The theoretical rationale for this study has its roots in the Health Promotion Model (HPM). The HPM was developed in 1982 by nursing theorist and author, Nola Pender, after she had witnessed health professionals intervening only after patients had developed acute or chronic health problems ("Pender's Health Promotion Model," n.d.). However, Pender believed in a preventative approach in that patients' quality of life could be improved by the prevention of problems before they occurred ("Pender's Health Promotion Model," n.d.). Through her dedication to the fields of nursing, psychology, and public health, she developed a model aimed towards positive motivation, the Health Promotion Model.

The HPM provides a suitable foundation for understanding physical activity and other health-promoting behaviours of African Nova Scotian women and girls; it provides an

opportunity to examine background influences of this population as it relates to health promotion activities that can improve health and quality of life (“Pender’s Health Promotion Model,” n.d.). This recognizes the usefulness of exploring non-modifiable factors, such as race, gender, and family as it relates to physical and health promotion activities. The theory behind this model recognizes that each person has unique characteristics and experiences that shape their subsequent actions (“Pender’s Health Promotion Model,” n.d.).

Throughout this study, the methodological approach will intersect with and explore predetermined health behaviour determinants as proposed in Pender’s HPM: individual characteristics and experiences (i.e., race, gender), behaviour specific cognitions and affect (i.e., perceived benefits to physical activity), and situational / interpersonal influences (i.e., social support) (“Pender’s Health Promotion Model,” n.d.). These background factors are found to be largely unmodifiable (Srof & Velsor-Friedrich, 2006), similar to the previously mentioned aim of this study to examine unmodifiable factors influencing physical activity for African Nova Scotian adolescent girls.

The HPM provides a solid foundation for this study. The HPM considers background influences that may shape health. In utilizing this framework, alongside that of Black Feminist Thought, we can account for multiple overlapping identities and background influences that shape the lived experiences of African Nova Scotian adolescent girls as it relates to their engagement in physical activity and other health behaviours.

3.2.4 Socioecological Model

The Socioecological Model (SEM) is a framework for acknowledging the complex interplay between multiple factors that may impact health. The SEM was first proposed by

Bronfenbrenner (Bronfenbrenner, 1977) in the 1970s as an ecological systems theory, and was later polished by McLeroy et al. (1988) as an ecological perspective on health promotion programs. Since then, the Centers for Disease Control and Prevention has created a four-level model of the factors affecting health as informed by the socioecological model (*The Social-Ecological Model*, 2022). This four-level model accounts for factors at the individual, social environment, physical environment, and policy level (*The Social-Ecological Model*, 2022).

In the SEM, factors affecting health behaviour are displayed in layers. The adapted SEM as proposed by McLeroy et al. (1988) believes that behaviours are viewed as being determined by intrapersonal factors, interpersonal processes, organizational factors, community factors and public policy. The SEM requires health promotion to examine beyond intrapersonal behavioural factors (McLeroy et al., 1988), which reflects the work of this study. This study will focus on factors influencing the physical activity and health behaviours of African Nova Scotian adolescent girls across all levels.

The intrapersonal level accounts for individual characteristics that may include knowledge, attitudes, and behaviours (McLeroy et al., 1988). In this study, the intrapersonal level may account for perceived knowledge, beliefs/ attitudes, age, and sex as it shapes experiences participating in physical activity. The interpersonal level accounts for formal and informal networks and social support systems (McLeroy et al., 1988). The interpersonal level is of strong interest in this study as it aims to uncover the role of social support in the mother-daughter relationship for the promotion of physical activity and other health behaviours. The organizational level involves social institutions with organizational characteristics (McLeroy et al., 1988), which may involve the role of the home, neighbourhood, and school as it relates to participation in physical activity. The community level constitutes relationships among

organizations and institutions (McLeroy et al., 1988), which may include availability of resources. And lastly, the policy level accounts for local, state, and national laws and policies (McLeroy et al., 1988), which could provide high level insight into fair and equitable distribution of resources, rules that prevent participation in physical activity, and accessibility/transportation constraints.

Employing the SEM to this study will allow for a better understanding of multiple factors that shape the lived experiences of African Nova Scotian adolescent girls in participating in physical activity and other health behaviours. In broadening the focus and examining multiple factors, this study will provide insight into multiple pathways for intervention development that increase physical activity participation among African Nova Scotian adolescent girls.

3.2.5 Summary of Frameworks and Models

Black Feminist Thought, Pender's Health Promotion Model and the Socioecological are used in this research to investigate and acknowledge how overlapping systems of oppression, background influences and multileveled factors shape the lived experiences of African Nova Scotian adolescent girls. I acknowledge that these frameworks will guide the research in a way that reflects the lived experiences of those involved in this study. Therefore, the research participants for this study will include African Nova Scotian adolescent girls and their mothers.

3.3 Research Design

A qualitative dyadic approach informed by hermeneutic phenomenology was used to address the goals outlined in my thesis. Qualitative research is most appropriate for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell and Creswell 2018). This methodology has value in improving our understanding of

the lived experiences of African Nova Scotian adolescent girls as it relates to their engagement in physical activity and other health behaviours. Qualitative data was collected through mother and daughter interviews and explored physical activity and other health-promoting behaviours of African Nova Scotian adolescent girls, and the role of their mother. In conducting in-depth interviews, I explored individual experiences and perceptions in rich detail. Due to its ability to inform the development of interventions, or by understanding barriers and facilitators to the successful implementation of these interventions (Denny & Weckesser, 2019), qualitative inquiry was chosen as the methodology for this study.

The dyadic analysis of the African Nova Scotian mother-daughter dyad allowed for exploration at the dyad level to uncover interdependent perceptions and experiences between the two participants. The dyadic approach allowed the researcher to uncover African Nova Scotian mother-daughter attachment, conflict, learning and influence as it relates to the daughters' physical activity and health behaviours. By employing a dyadic approach to this research, we gain more insight beyond the individual, and begin to synthesize two accounts of rich data from both the mother and daughter (Collaço et al., 2021).

Phenomenology is both a philosophy and also a research paradigm. Phenomenology is “a design of inquiry coming from philosophy and psychology in which the researcher describes the lived experiences of individuals about a phenomenon as described by participants” (Creswell & Creswell, 2018, p. #61), which allowed for the interpretation of meaning behind the lived experiences of the women and girls in this study. In adopting a phenomenological approach in this study, I uncovered phenomena in learning, behaviours, and communication (Neubauer et al., 2019). I chose phenomenology for this study to allow for participants to actively share their lived experiences of how social (i.e., racism, family, school) and behavioural (i.e., knowledge,

motivations) phenomenon shape the physical activity and other health-promoting behaviours of African Nova Scotian adolescent girls, and the role of their mother in these behaviours.

Phenomenology has valuable insights into the lived experiences of others from both a descriptive and interpretive standpoint (Neubauer et al., 2019). More specifically, this study adopted a hermeneutic phenomenological (interpretative) approach. Hermeneutic phenomenology, more specifically, is focused on the subjective experience of individuals and groups by uncovering the world as experienced by the subject (Kafle, 2011). Hermeneutic phenomenology acknowledges that the researcher cannot be without preconceptions, and instead recognizes the researcher's past experiences and knowledge as valuable guides to the inquiry (Neubauer et al., 2019). This will allow for the researcher to actively reflect on their own subjective experience in data collection, analysis, and writing (Neubauer et al., 2019). These rich descriptions will raise attention and inform the development of intervention programs that ensure African Nova Scotian adolescent girls have the capacity to participate in physical activity and other health-promoting behaviours.

3.4 Research Participants

3.4.1 Sample

3.4.1.1 African Nova Scotian Adolescent Daughters

The primary person of interest for this study was the daughter. The inclusion criteria for the daughter were that they must identify as African Nova Scotian⁴ and/or be connected to an

⁴ African Nova Scotians are a distinct people who descend from one of the following groups: free and enslaved Black Planters, Black Loyalists, Black Refugees, Maroons, and other Black people who inhabited the original 52 land-based Black communities in Nova Scotia (*African-Nova-Scotian-Strategy-Overview-Recommendations.Pdf*, n.d.).

African Nova Scotian community for the majority of their upbringing. The rationale for the inclusion criteria was that preference was given to those with ancestral roots connected to an African Nova Scotian community, however, for the purpose of this study, daughters who were raised in and very closely connected to an African Nova Scotian community and family environment were also considered. It was thought that those raised in an African Nova Scotian community environment for most of their upbringings would uncover similar lived experiences to those with ancestral roots to the community. The participant daughters must also be between the ages of 11 and 18 years old and disclose their gender identity as a girl.

3.4.1.2 African Nova Scotian Mothers

Although the primary person of interest for this study was the daughter, there was interest in gaining the mother perspective. The inclusion criteria for this research were as follows: Participant mothers must identify as African Nova Scotian and/or be connected to an African Nova Scotian community. Mothers must also be considered the primary caregiver of the participant daughter for at least the previous twelve months. This was to ensure that mothers and daughters had spent ample time together throughout each season of the year.

The mother role was characterized as a woman who provides primary care for the daughter, meaning that both biological mothers and non-biological mothers (“other mother”) will be included in the mother criteria for the purpose of this study. The other mother is classified as a woman who provides maternal assistance and who takes on motherly responsibilities within the family structure (Case, 1997). The other mother role is a common vehicle for education and cultural transmission in the African American community (Case, 1997), which forms the basis for including the other mother in this research inclusion criteria. It is important to consider the

role of the other mother within the African Nova Scotian community, and the social support they may offer to adolescent girls of African descent.

3.4.2 Recruitment

Recruitment for this study involved social media outreach using a recruitment poster (Appendix A). Support was received from numerous African Nova Scotian community-based organizations in circulating the recruitment poster including Delmore “Buddy” Daye Learning Institute (DBDLI) and Promoting Leadership in Health for African Nova Scotians (PLANS). Additional recruitment strategies included the primary researcher circulating and posting the recruitment poster in various community, recreation, and health centers and in African United Baptist Churches located in African Nova Scotian communities. This research recruited five mother-daughter dyads (n=10) from the African Nova Scotian community through purposeful sampling. The aim of recruitment was to recruit dyads from each of the six geographic regions across Nova Scotia (see Figure 1). Participants were sent a virtual invitation letter to participate in this study (Appendix B). From each mother-daughter dyad, both the mother and the daughter participated in an interview. Only those who provided consent were eligible to participate in this study. Any identifying data that was collected throughout the entire research project was removed and replaced with pseudonyms before being included in the report.

African Nova Scotians – A Distinct People

“There is a long history of resistance and resilience by African Nova Scotians and they have developed a distinct culture, traditions and social and political practices.”

United Nations Working Group of Experts on People of African Descent, 2017

Dalhousie University, “recognizes African Nova Scotians as a distinct people and acknowledges how they have shaped this province and University over centuries”

University Proclamation of the International Decade for People of African Descent, 2018

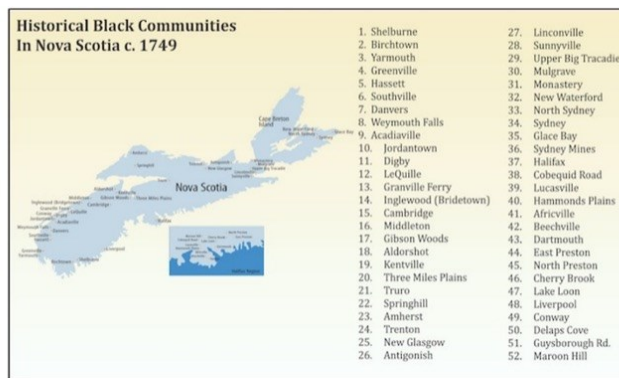


Figure 1. Map illustrating 52 historically Black settlements in Nova Scotia

3.5 Measures

3.5.1 Interview Guide

The interview guide was used as a tool to direct the participant and researcher towards uncovering the lived experiences of African Nova Scotian adolescent girls. In a hermeneutic phenomenological research study, the semi-structured interview guide should capture the research aims in what the research is trying to reveal (Oerther, 2021). According to Van manen (1997) the purpose of interviewing through a hermeneutic phenomenological approach is to (1) explore and develop a rich understanding of the phenomenon being studied and (2) to develop a conversation around the meaning behind the experience. Thus, as suggested by Van manen (1997), the interview guide was developed to engage the participant in a conversational interview.

Interviews with African Nova Scotian adolescent girls and their mothers were conducted at either Dalhousie University or online via video/teleconference on Microsoft Teams. The mother-daughter dyad chose the location that best suited their needs. The daughter interview and mother interview were conducted separately. Each interview was approximately one hour in duration and consisted of semi-structured open-ended questions. The researcher followed an interview guide (Appendix C) and took reflexive notes throughout the entire interview process.

The interview guide helped to direct the conversation between participant and researcher. As the stories were told by the mothers and daughters in this study, the interpretation began by using the reflexive journal held by the researcher. The researcher held a reflexive journal to begin extracting meaning from the experiences shared by the women and girls in this study. The researcher would note down any information pertaining to the research participants during the interview process. This may have included facial expressions, body language, tone of voice, to name a few. The researcher used this valuable information about participants during analysis and interpretation of the data.

The interview questions prompted the participants to tell a story around their lived experiences. The daughter interview began with demographic questions. They were then asked to share about their current physical activity and health behaviours and any associated barriers and facilitators to their physical activity participation. Next the interview was focused on their perceptions of their mothers-daughter relationship and its role in promoting physical activity and other health-promoting behaviours. The mothers' perspectives were also assessed through a qualitative interview and focused on their experiences in being physically active along with their role in promoting physical activity and health behaviours for their adolescent daughter.

3.6 Data Collection

This study was conducted at Dalhousie University⁵. The researcher clearly indicated that participants may stop, take breaks, or withdraw from the study at any time without consequence, up until 2 weeks following their interview. Once both participants from the mother-daughter dyad agreed to participate in the study, written consent was obtained from the mother (Appendix D) and written consent was obtained from the daughter (Appendix E). Once consent was obtained from both the mother and daughter participants, dyads were deemed eligible, and participants were formally contacted to participate in the study.

Each mother and daughter were contacted via email to determine the location, date and time for their interviews. Both the mother and daughter from each mother-daughter dyad were interviewed on the same day, consecutively. Participants had the option to interview in-person at Dalhousie University, or online via video/teleconference platform (Microsoft Teams). The data collection procedures for this study involved two separate interviews for each mother-daughter dyad.

3.6.1 Dyadic Interviews

Dyadic interviews have been known as a successful tool, particularly within the field of family studies (Szulc & King, 2022). So, for this study, both the mothers and the daughters participated in dyadic semi-structured interviews, separately. Dyadic interviews may be conducted with both research participants, however, there are also good rationale for completing interviews separately. For example, various sensitivities may exist between research participants

⁵ Dalhousie University is located in Mi'Kma'ki, the ancestral and unceded territory of the Mi'kmaq People. We are all treaty people. We acknowledge the histories, contributions and legacies of African Nova Scotian people and communities who have been here for over 400 years.

that may limit what they opt to share (Szulc & King, 2022). Given the power dynamics that can exist between mother and daughter, we conducted the interviews in this study separately.

Daughters were invited to be first to participate in an interview. The interview began by asking demographic information (i.e., age, gender identity, family structure) to describe the sample of participants in the study, relationship to mother (i.e., biological, non-biological) and to gain insight into family characteristics. The questions in the daughter interview followed the interview guide as previously described above and lasted approximately 1 hour in duration. The primary researcher took field notes via reflexive journaling during the interview to collect additional information (i.e., body language, hesitancy, discomfort, tone). The researcher also used the reflexive journal to note down their own sentiments during data collection which would be used during the data analysis procedures. All interviews were audio-recorded, with permission from the participants, to allow for transcription upon the completion of interviews.

Mothers were invited second to participate in an interview once the daughter interview was completed. The interview began by asking demographic information (i.e., age, gender identity, family structure) to describe the sample of participants in the study, relationship to daughter (i.e., biological, non-biological) and family structure. The mother interview guide was followed as described above and lasted approximately 1 hour in duration. The primary researcher took field notes via reflexive journaling during the interview to collect additional information (i.e., body language, hesitancy, discomfort, tone). All interviews were audio-recorded, with permission from the participants, to allow for transcription upon the completion of interviews.

3.6.2 Reflexive Journal

The reflexive journal was used as an informal data collection tool to manually collect field notes during interviews and throughout the research process. The data collection was taken in a notebook held and monitored by the researcher throughout the research process and noted in analysis. The reflexive journal is an important tool in achieving a rigorous research process. More specifically, the reflexive journal presents an audit trail, which is an important strategy for supporting dependability of the research (Forero et al., 2018; Smith, 1999). The audit trail clearly indicates the procedural steps taken throughout the research process to enhance transparency (Jasper, 2005). The researcher kept an audit trail by documenting methodological decisions during the research process and procedures and recording any ethical considerations or challenges that arose during the research process. The audit trail was continually updated throughout the research process.

The reflexive journal allowed the researcher to be personally reflexive in noting their own self-awareness throughout the research process (Smith, 1999). This can allow for full transparency in how the researchers potential influence may shape the understanding of the research, and the interpretation of the research findings (Darwin Holmes, 2020). In other words, this acknowledged the role of the researcher in how they approach, develop and interpret the research. Reflexivity, therefore, asks the researcher to remain aware of and articulate how their own positionality shapes the research (Jamieson et al., 2023). By encouraging the researcher to be self-reflexive, the researcher can engage in a genuine an in-depth critical analysis of the data to uncover undertones in participants' narrative.

Lastly, the reflexive journal is a useful tool used in phenomenology as it reveals hidden contextual information that may enhance the methodological aims of the study (Smith, 1999).

This included the capturing of non-verbal cues such as observations (i.e., participants being distracted), body language (i.e., fidgeting with item) and emotional responses (i.e., responding with hesitancy or discomfort) from each participant during the interview process. Field notes taken during interviews were reviewed during data analysis in order to interpret meaning behind participant sentiments and other non-verbal cues as it relates to their lived experiences shared during the interview process.

3.7 Analysis

The researcher analyzed the data to extract meaning from the lived experiences of African Nova Scotian adolescent girls and their mothers. Mother and daughter interviews were conducted separately to gather the qualitative data for this study. However, data analysis was conducted at both the individual level and at the dyad level. Adapting the dyadic analysis process has been previous done using other methods, such as the framework method (Collaço et al., 2021). For this study, in order to adapt the dyadic analysis process, we mapped onto reflexive thematic analysis as proposed by Braun and Clarke (Braun et al., 2023). Reflexive thematic analysis is a method used to identify, analyze, and report patterns (themes) in the data in rich detail (Braun & Clarke, 2006). The steps in conducting reflexive thematic analysis include the following six steps: familiarization with the data, generating codes, generating themes, reviewing, and developing themes, finalizing themes, presenting the results (Braun et al., 2023). An adapted dyadic analysis was used as the core stages of analysis for this study (Figure 2). The steps in conducting our adapted dyadic analysis include the following seven steps: familiarization with the data, generating the codes, generating individual codes, generating dyad codes, developing themes, finalizing themes, presenting the results.

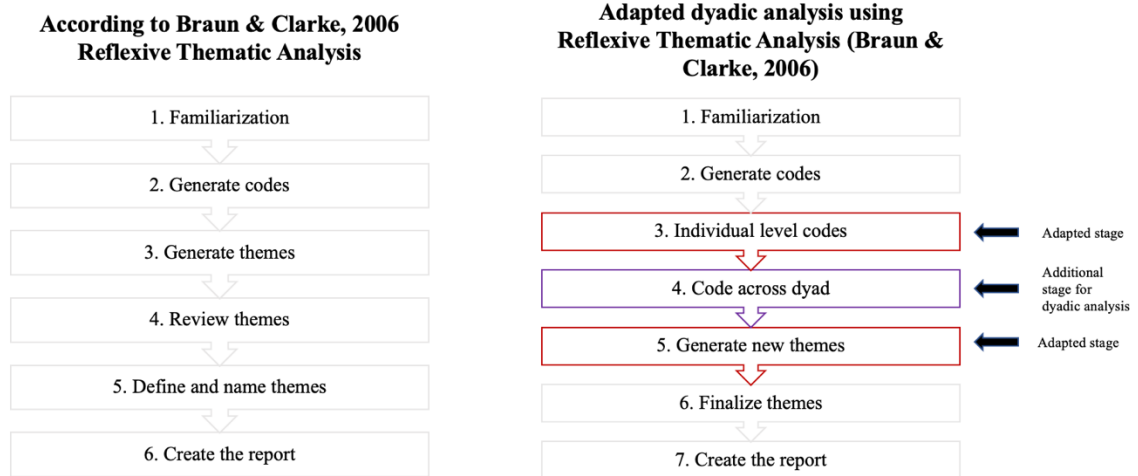


Figure 2: Adapted Dyadic Analysis Process Using Reflexive Thematic Analysis

Dyadic analysis in qualitative research allows the researchers to better understand and identify overlaps in contrast between members of each dyad interviewed, especially if they have been interviewed separately. This enables the researchers to see beyond the individual perspective and into the perceptions of the dyad (Manning & Kunkel, 2015). Research from Eisikovits and Koren’s (2010) method of dyadic analysis and Yosha et al., (2011) methodology was drawn upon and adapted in this study (Yosha et al., 2011). Eisikovits and Koren’s (2010) article on the approaches to and outcomes of dyadic analysis discussed the details of dyadic analysis in the context of phenomenological traditions, by analyzing the overlaps and variations between the two versions of the dyad in the study: e.g., husband/wife. The dyadic analysis in this study allowed for the researcher to first analyze each participants data on an individual level, then map the data across each mother-daughter pair (Collaço et al., 2021). In collapsing the

findings across each mother-daughter dyad, I was able to uncover comprehensive perceptions that was equal to more than the sum of the two individual participants (Eisikovits & Koren, 2010).

Our qualitative dyadic analysis began by transcribing each interview verbatim. Once interviews were transcribed, the next step in analysis was to become familiar with the data (Braun & Clarke, 2006). In conducting hermeneutic phenomenology, it is crucial the researcher gain an understanding of the whole text as a means to extract meaning from each part (Alsaigh & Coyne, 2021). This involved the primary researcher immersing in the data; repeatedly reading, specifically in a way that is actively searching for meaning and patterns (Braun & Clarke, 2006). The researcher transcribed verbal data into written form and utilized both written and verbal transcripts to review the data actively and repeatedly.

Once familiar with the data, the second phase of analysis involved generating the initial codes from the data (Braun & Clarke, 2006). The data derived from transcription were uploaded to NVivo and manually coded by two qualified researchers for both individual codes and for dyadic codes (Braun & Clarke, 2006). The researcher developed a codebook to describe each code (Appendix F). It is important to note that this phase involved generating codes, “coding interesting features of the data in a systematic fashion across the entire data set (Braun & Clarke, 2006), which differs from generating themes (Braun & Clarke, 2006). The coding process for our adapted dyadic analysis using reflexive thematic analysis first coded participant interview transcripts at the individual level. Once all interview transcripts were coded at the individual level for both the mothers and for the daughters, codes were developed at the dyadic level. Coding at the dyad level involved looking across each mother-daughter dyad to identify

overlaps. Once individual and dyad codes were identified, and an extensive list of codes were constructed, the search for themes began (Braun & Clarke, 2006).

The next phase in our adapted dyadic analysis followed suit with reflexive thematic analysis in searching for themes, something that is important in the data as it relates to the research question and represents a patterned response in the data (Braun & Clarke, 2006). Once several themes are identified from both individual and dyad codes, each theme underwent additional review. The next phase involved the refinement of previously established themes (Braun & Clarke, 2006). This process included eliminating themes, collapsing themes, deconstructing overarching themes into subthemes and combining subthemes to form overarching themes (Braun & Clarke, 2006). It is important to note that revisions took place with both codes and the entire data set to ensure that codes were properly captured in the themes and that themes represented the data set (Braun & Clarke, 2006). Also, the researcher followed suggestions of hermeneutic phenomenology in an attempt to relate themes to the meaning of the whole experience (Alsaigh & Coyne, 2021).

As suggested by Braun & Clarke (2006), a thematic map was formulated to visually represent common themes, and identified the relationship between codes, themes, and subthemes (see Appendix G). Visual mapping was an important tool for organizing ideas and themes during the analysis process, and group them together. This mapping was helpful to look for nuances across participants, but also important as it helped to identify patterns of meaning across participants. Once the thematic map was constructed, defining and naming themes began (Braun & Clarke, 2006).

In the final stages of our adapted dyadic analysis, each identified theme was defined and named, which was followed by extensive refinement (Braun & Clarke, 2006). During this stage,

each theme was clearly defined by describing the scope and content of each theme which then formulated the overarching names of themes for the final report (Braun & Clarke, 2006). Once themes were defined and refined, the final write-up of the report began (Braun & Clarke, 2006). This stage involved providing a concise, coherent, logical, non-repetitive and interesting story that accounted for the emerging themes and subthemes within the data (Braun & Clarke, 2006). Meanings were sought from the lived experiences of the women and girls in this study. Both my own horizon and the participants' horizons were fused into an interpretation of their experiences (Alsaigh & Coyne, 2021). The goal of the report is to provide sufficient evidence of the theme (Braun & Clarke, 2006), which would link back to the research question. All data for this adapted dyadic analysis was used from the interviews with African Nova Scotian's mothers and daughters.

3.8 Ethical Considerations

Ethics approval was received from the Social Sciences and Humanities Research Ethics Board (REB) of Dalhousie University (Appendix H). There is a need to account for ethical considerations as it relates to working with our African Nova Scotian population. Unethical research and experimentation conducted with Black populations has indebted a mistrust between African Americans and the research community (Scharff et al., 2010). The lack of trust has ultimately led to lower levels of health research participation among African Americans (Scharff et al., 2010). Research must incorporate reasonable action to minimize mistrust and build rapport when working with the African Nova Scotian community. Strategies for improving recruitment and retention on participants includes reducing barriers to participation, offering accessible locations, and providing incentives (Webb et al., 2019). This research included actionable steps

such as ensuring authenticity, honesty, and transparency about who I am as a researcher and community member, why this research is being conducted and the benefit of participation for the community. Participants of this study were also offered various locations for participating in the interview (i.e., private space at Dalhousie, or online via secured platform) and participants were adequately compensated for their time.

3.9 Quality and Rigour

The attributes of quality and rigour has been consistently considered throughout the stages of this study. Quality and rigour were considered throughout the design, implementation and reporting of this qualitative research. Best practices for demonstrating rigour in qualitative research is focused on trustworthiness, which is comprised of four main criteria: credibility, transferability, dependability, and confirmability (Guba & Lincoln, 1989).

Credibility ensures that the study is reflective of its intention and that it is a true reflection of the social reality of participants in the study (Maher et al., 2018). To achieve credibility, I allowed prolonged engagement with the data by taking ample time to fully understand the social setting and phenomenon of interest to develop consistent themes (Braun et al., 2023).

Dependability ensures that the findings of the research are consistent and repeatable (Forero et al., 2018). To ensure dependability of this study, I provided a clear, thick and detailed description of the research context, setting and research methodology. Transferability warrants that the study findings may be transferred to other contexts or settings (Maher et al., 2018). Transferability was achieved through purposeful sampling. Adopting purposeful sampling techniques in this study allows for a diverse range of participants who can offer various perspectives on the phenomenon of interest. And lastly, confirmability assures the minimization of investigator influence by

acknowledging the researchers' predispositions (Maher et al., 2018). This is one concern that I carefully and continually considered throughout the stages of this study. To assure the results of this study reflected the narratives of participants, my aim was to be genuine, self-reflexive and honest, and by auditing the data. The reflexive journal that I kept throughout the research process helped me to be reflexive about my own role and assumptions and fuse my pre-conceptions to interpret meaning of the experiences shared by the women and girls in this study.

3.10 Summary of Methods

This research employed a dyadic qualitative approach. The dyadic analysis was an adapted approach from reflexive thematic analysis which allowed for an understanding of each participants' experience and for an understanding of their relationship with one another. Using Black Feminist thought situated research participants at the center of the discourse and allowed for an in-depth exploration of both gender and racial identities as it shaped the unique and overlapping experience. The health promotion model provided the framework for exploring background influences, such as African Nova Scotian history and settlement, as it relates to current physical activity and health behaviours. And lastly, the Socio-ecological lens in this study allowed for a multi-level exploration of physical activity and health behaviours among African Nova Scotian adolescent girls.

CHAPTER 4: RESULTS

This chapter compiles the thoughts and perceptions of African Nova Scotian daughters and their mothers as it relates to their physical activity and health behaviours, and role of their mother-daughter relationship as it relates to the daughters' physical activity and health behaviours. The first section describes the characteristics of the mothers and daughters who participated in my study. The following section describes the findings of this study from the lived experiences of African Nova Scotian adolescent girls and their mothers. The findings of this study are derived through reflexive thematic analysis as proposed by Braun and Clarke (Braun et al., 2023) and adapted dyadic analysis.

Once I describe the women and girls in this study, I follow by sharing findings of this study. The first three themes were developed through reflexive thematic analysis and showcased the lived experiences of African Nova Scotian adolescent girls and their mothers. These themes uncovered how Anti-Blackness and inconducive Black environments are barriers to physical activity for the girls, but that friendship networks facilitate physical activity engagement for African Nova Scotian adolescent girls. The two themes that followed were developed through the dyadic analysis and involved interpreting meaning of the narratives shared between each mother-daughter dyad. These themes uncovered how traditional Black motherhood influences mother-daughter communication about health and the managerial role of the mother on her daughters' physical activity and health behaviour engagement.

The analysis of all themes involved diving deep into the meaning behind the stories of the women and girls' lived experiences as it relates to their physical activity and health behaviours. According to Reflexive Thematic Analysis, the researcher should look beyond surface level and focus on interpreting undertones in the narrative to uncover deeper meaning (Braun et al., 2023).

The uncovering of deeper meaning was sought throughout both the Reflexive Thematic Analysis and the dyadic analysis for this study. Through the stories shared by the women and girls in this study, and the reflexive journal kept throughout the research process, I attempt to uncover the true meaning behind the lived experiences of these women and girls.

The reflexive journal was utilized for two main purposes in this study. First, the journal held notes as it pertains to the participants' body language, facial expressions, physical reactions and tone of voice during interviews. Research suggests that body language is an important indicator for interpreting feelings that may not be shared in narrative (Abdulghafor et al., 2022). This helped to interpret beyond both verbal and non-verbal communication as expressed during interviews. Second, the journal helped the researcher to practice reflexivity in keeping in mind their own experiences and how this may shape their interpretation of the research.

Through my interpretation of these findings, I provide several quotes to support my interpretation of meaning, illustrate ideas, illuminate experience, and evoke emotion (Sandelowski, 1994). The participants excerpts shed insights into the lived experiences of African Nova Scotian adolescent girls and their mothers. The quotes are intended to elevate the voices of the women and girls in this study and support the findings of this research.

4.1 The Girls and Women in this Study

A total of five mother-daughter dyads participated in the virtual interviews. All mothers identified as the primary caregiver of the child. Mothers and daughters lived in the following communities: Beechville, Cole Harbour, Dartmouth, and Eastern Passage. Four mothers identified as having ancestral roots to an African Nova Scotian community and one mother identified as being of African descent and living in and connected to an African Nova Scotian

community. Four daughters identified as having ancestral roots to an African Nova Scotian community and one daughter identified as being of African descent and living in and connected to an African Nova Scotian community. Mothers were between 36-48 years old, and their daughters were between 11-15 years old. Almost all mothers reported being physically active (80%) and engaged in regular physical activity (4 days per week, on average). While one mother indicated that her physical activity engagement is inconsistent. All daughters also reported being physically active (100%) and engaged in regular physical activity (4.4 days per week, on average).

4.2 Anti-Blackness as a Barrier to Physical Activity

The first theme “Anti-Blackness as a Barrier to Physical Activity”, was generated through reflexive thematic analysis. This theme continually threaded its way through the lived experiences of both African Nova Scotian adolescent girls, and their mothers. In reviewing my reflexive notes, it was evident that the experiences of Anti-Blackness for these women and girls appeared to be a difficult and uncomfortable conversation as they uncovered how their experiences of physical activity and health are shaped by Anti-Blackness. Anti-Blackness was described as a barrier to physical activity, not only for African Nova Scotian adolescent girls, but also their mothers.

The mothers in this study reflected upon their own experiences of Anti-Blackness during their adolescent years and into present day. From my reflexive journal in noting tone of voice and body language, some of the mothers presented as distressed and aggravated when discussing their own experiences of Anti-Blackness. Examples of their body language included crossed arms, exasperated sighs and dismissive hand-waving. Despite their own frustrations, all mothers

in this study raised concern, and placed focus on, their own daughters' experiences, and potential future experiences of Anti-Blackness as it relates to their physical activity and health behaviours.

Meanwhile, many of the adolescent daughters in this study rarely verbalized direct concern for Anti-Blackness as a barrier for their participation in physical activity. Perhaps, the girls in this study felt the need to self-silence in fear of speaking out about their own experiences of Anti-Blackness. Nonetheless, from my reflexive notes, the girls in this study presented with hesitancy and shyness by looking away and fidgeting in sharing their lived experiences of Anti-Blackness as it relates to their physical activity and health behaviours. For example, some of the stories shared by the adolescent girls were centered around not feeling represented in sport and physical activity, not seeing other Black girls in sport and physical activity, and not having many (or any) Black women role models in physical activity.

Furthermore, physical attributes associated with being Black significantly shielded African Nova Scotian adolescent girls from participating in physical activity. Many of the girls in this study felt the need to fit into their social circle by attaining a certain body image and appearance. Desired physical attributes were usually associated with their hair being in certain styles that were accepted by their peers and portraying a certain body image. I have expanded upon each of these factors affecting the physical activity of African Nova Scotian adolescent girls below.

4.1.1 Lack of Representation in Physical Activity

Most African Nova Scotian adolescent girls and their mothers in this study shared their experiences of feeling othered, excluded and/or not reflected in physical activity and sport programs. For example, one mother in this study described how her daughter was participating in

a summer camp physical activity program. The mother illustrated how her daughter felt othered and socially excluded in the program, *“I think 3 days in, she didn't even finish the week. She said by day three, she's still eating her lunch by herself on the stage, nobody like welcomed her”* (Mother 1). The mother further described the lack of representation in the program and how this was associated with discomfort, *“And they were all white kids, right? And they had all the nice sneakers, you know, like. And so, she just felt very out of place and uncomfortable”* (Mother 1). The mother also discussed and raised concern for how the social exclusion and lack of representation made her daughter reluctant to continue the physical activity program. The mother explained her daughters' response about continuing the program, *“I just feel really uncomfortable and out of place, nobody talks to me. No one is kind of helping me and I just I don't wanna do this anymore”* (Mother 1 explaining Daughter 1).

In addition, many of the mothers in this study expressed particular concern for their daughters' lack of Black women role models in physical activity. One mother described how one of the biggest barriers to her daughters' participation in physical activity is not seeing role models, *“I think [hesitates] the barriers [to physical activity] for her might be just not seeing as many role models. And not seeing as many of her kind of peers, that looked like her on her team or many of the other teams, to be honest. So, I think that is a bit of a barrier to her”* (Mother 2). Additionally, many girls felt that they did not have any Black women role models. One daughter hesitated, *“I don't think I've ever had a Black instructor before”* (Daughter 5).

While the lack of Black role models was a concern of the mothers in this study, their adolescent daughters were more troubled by the lack of participation in physical activity and sport by other Black girls. Oftentimes, the daughters in this study felt supported and encouraged to be physically active when the program was well-attended by other Black girls. One daughter

described how she had moved around different dance studios, and that her current dance studio was most welcoming as she built and maintained friendship networks, *“It helped me make friends, but then it also, I already had friends and then they joined”* (Daughter 2). When asked to elaborate on the importance of her social setting as it relates to her physical activity engagement, the daughter expressed, *“Yeah, actually my [dance] studio is very diverse and it's a lot more for Black, there's way more Black dancers in there, especially Black girls”* (Daughter 2).

Both African Nova Scotian adolescent girls and their mothers shared their lived experiences regarding their engagement in physical activity and other health behaviours. Much narrative shared by the mothers was centered around their concern for their daughters' lack of Black women role models in physical activity and health behaviours. The mothers felt Black women role models to be an important outlet for their adolescent daughters as it encourages representation in physical activity. The daughters' agreed with their mother's concern of the lack of Black women instructors and coaches in their physical activity. However, the experiences of the girls in this study were centered around their social circles in physical activity as they felt that Black girls do not often participate in physical activity and sporting programs.

4.1.2 My Hair Versus My Health

African Nova Scotian adolescent girls and their mothers shared stories around the cultural significance of their hair and how it is linked with their identity. From my reflexive journal, in noting tone of voice and expression, many of the adolescent girls felt excited to discuss their hair and what it means to their identity. Also, quite a few mothers discussed that their adolescent daughters have begun to develop a sense of self, and therefore, have become more concerned with their hair and appearance. When asked to elaborate, one mother explained, *“Yes [I would*

say my daughter's hair is a barrier to her being physically active]. Yeah, yeah, she's very, I notice now that she's very conscious about how her hair looks. [Hesitates] what kind of style she wants, and I'm actually teaching her how to manage her hair” (Mother 1). Although the daughters felt empowered by and celebrated their hair, the importance of their hair posed a threat to their engagement in physical activity.

Both the mothers and the adolescent daughters explained the challenges in navigating physical activity as a Black woman and as a girl with Black hair. The mothers and daughters in this study expressed various emotions related to the upkeep, maintenance, and styling of their hair. For example, from my reflexive journal in noting tone, some of the daughters conveyed feelings of frustration as it relates to their hair, *“So, like, [hesitates] it’s really hard to do my hair, because it needs a lot of water, because when it doesn’t have water, it gets stiff. And it takes a long time to put my hair in a style”* (Daughter 1).

In sharing their lived experiences around their hair in physical activity spaces, many mothers and daughters in this study focused on socially acceptable hairstyles. For example, one daughter mentioned how her hair had to look a certain way when she was engaging in sport. When I asked the daughter to elaborate, she explained, *“Because you can't have your hair in a certain style for sports”* (Daughter 1). Most mothers agreed that even for themselves, they felt conscious of their hairstyles. One mother explained her experiences in public gyms and how she felt uncomfortable about her preference to cover her hair, *“but sometimes when you have on the bandana and the wave cap and stuff, it might give off this like I'm not approachable”* (Mother 1).

The mothers and daughters in this study that expressed concern for their hair in physical activity spaces often also discussed avoiding high intensity physical activities, especially swimming. One daughter mentioned how she would choose between swimming in the summer

or maintaining her hairstyle. When asked to explain why there was a discrepancy between hair and swimming, she hesitantly explained, *“I mean, if it's in the summer and I just get my hair straightened, I don't like going swimming (Daughter 3).* Another daughter described how she enjoys swimming, but endures some discomfort with certain hairstyles, *“Sometimes it's really hard to swim with heavy braids. I'm not going to lie, so most of the times I just have to pack it up really tight and bear with it” (Daughter 5).* The daughter further expressed concern for protecting her hair when swimming, *“Yeah, it's really hard to get my hair into a swimming cap because it my braids are really big” (Daughter 5).*

Some of the mothers described that despite the challenges in managing their daughters' hair in being physically active, they would find hairstyles and routines that would be easy to manage. One of the mothers in the study described, *“Even if it got on my damn nerves, I would just do it like I would braid it before we went swimming. I comb it and wash it after she'd swim. Sometimes I even wash it at the pool. [Pause] But I just [pause] It was just one of those things that I was like, OK, because I knew it stopped me when I was a kid because my mom didn't want to deal with me and my sister's hair. And we both had a lot of hair. That was just like, OK, well, her hair isn't that bad, so I can. I can. I'll just deal with it. I'll just. I'll just suck it up and deal with it” (Mother 3).*

Lastly, certain physical activities were avoided by African Nova Scotian adolescent girls in order to maintain preferred hairstyles. Most of these activities included those that required maximum effort or a lot of high intensity workouts. One of the mothers described, *“And biking, biking was the other thing [that we would avoid] because depending on, you know, your hairstyle. Umm whether it's up or down or whatever, it's hard to get helmets on sometimes, and you have to take down your hairstyle sometimes. So, I found that especially [difficult] with my*

daughter, I found that was a big thing” (Mother 4). Both African Nova Scotian adolescent girls and their mothers discussed hair as an unspoken barrier to physical activity. Some mothers said that hair has become a more distinct barrier as their daughters have reached adolescence due to the importance of their appearance and desire to maintain certain hairstyles outside of their physically active lifestyles.

4.3 Inconducive Black Environments

This theme was also generated through reflexive thematic analysis and illustrates environmental challenges that may prevent physical activity engagement for African Nova Scotian adolescent girls. Inconducive Black Environments specifically focuses on highlighting how the lived experiences of African Nova Scotian adolescent girls and their mothers is shaped by years of environmental racism that has led to a lack of infrastructure in African Nova Scotian communities and other predominantly African Nova Scotian neighborhoods. In addition, this section discusses how poorer built environments are impacting the participation in physical activity for African Nova Scotian adolescent girls. Many mothers of African Nova Scotian adolescent girls describe how environmental challenges in access and availability significantly impact their daughters’ experiences in physical activity and health behaviour engagement.

4.3.1 The Environment Built by Racism

Mothers of African Nova Scotian adolescent girls talked about how their daughter’s participation in physical activity is disadvantaged due to the impact of environmental racism. For example, in Nova Scotia, environmental racism includes the lack of walkability (i.e., lack of sidewalks or lack of paved roads) in Black communities. Many of the mothers in this study

described the built environment in their neighborhood and communities. One mother described her concern for the lack of walkability, specifically the lack of no sidewalks, in their neighborhood, *“There’s a boardwalk on the waterfront that’s as far as I’ve gone up to that the boardwalk area. And that’s about it. It’s not very walkable friendly because there’s no sidewalks at all”* (Mother 2). Some of the other mothers in this study agreed that many of their communities had poor walkability.

Furthermore, mothers described a lack of playground equipment, basketball courts, baseball diamonds and other environmental infrastructure. One mother explained how their community had a playground, but due to safety concerns, it was torn up and removed, but never replaced, *“Well, the one closest probably playground we had, they just they just tore it up”* (Mother 4). It was clear that mothers felt frustrated by the lack of environmental resources to support their daughters’ engagement in physical activity. Some daughters also expressed hesitancy towards their safety when participating in outdoor physical activity, *“I don’t really know [if I feel safe to participate in physical activity in my neighborhood] because like, I don’t really know that many people around here”* (Daughter 2).

From my reflexive notes, I can conclude that the mothers in this study were channeling their frustration into advocating for better environmental resources for their daughters. Given that many of their stories and experiences were focused on the environment, the mothers also spoke to their experiences with or without adequate community-based resources.

4.3.2 Inequitable Resource Availability

Mothers of African Nova Scotian adolescent girls discussed how they are left in resource deserts as it relates to physical activity and health programs. Meaning, they were located in

communities that had very little resources available to support the physical activity and health behaviours of their daughters. One mothers' experience was mainly focused on her desire to utilize programs in her own community that were affordable and designed for Black and African Nova Scotian girls. However, she described how these programs were often unstructured and underfunded, *"It's just like the rec centre camp or whatever, they're not very structured because of the funding. I think, right. And so that's really in the Black communities, what we're left with, right"* (Mother 1). Another mother in this study had similar experiences where she discussed how the resources in the Black community were inadequate, and that she was required to travel far distances outside of her community to access physical activity programs for her adolescent daughter. The mother explained, *"I need to drive her to Spryfield and Canada Game Center [for physical activity programs]. But the lakeside [recreation centre] is in walking distance, but there's nothing there so* (Mother 5). I can conclude that inequitable resource availability arose other barriers in the experiences of the mothers and daughters in this study, such as transportation barriers and even financial barriers.

Almost all mothers in this study mentioned how cost is often a barrier to their daughters' physical activity engagement. Additionally, mothers discussed how they often manage the costs of multiple children participating in physical activity programs. One mother described how she is balancing competing priorities between children for a physical activity program due to the high cost of many sporting activities, *"Because we don't have that kind of money like there is three kids and it's \$250.00 a week like that is a lot, right. And we just couldn't afford it"* (Mother 1). Other mothers in the study amplified the financial burden associated with large families and multiple children. One mother in the study explained, *"Yeah, we are pretty close to the*

sportsplex but it's very expensive, so that's a barrier when you know like, again when you have a group of five people” (Mother 4).

Other mothers in this study agreed that there is a need for more financial supports and its importance for many families with children, *“I was using any kind of financial assistance that I could get [to support my daughters’ physical activity engagement] (Mother 4).* I asked the mother how financial supports had helped alleviate some of the financial stress associated with physical activity programs for her and her daughter, and she explained that, *“It [government financial assistance] was usually like it worked out to be half [of the total cost of physical activity programs] or something like that. I still found it to be a stretch” (Mother 4).* I further asked if there were any barriers to receiving funding from governmental organizations, and the mother responded, *“For a single parent of two kids, I find that the threshold that they have for financial assistance is quite low, right? So, I don't qualify anymore like the last few years I don't qualify” (Mother 4).*

4.4 Keeping Girls in the Game

This theme was uncovered through reflexive thematic analysis and provides insight into the lived experiences of African Nova Scotian adolescent girls in how and why they participate in physical activity. The mothers and daughters in this study discussed how there is often a decrease in physical activity participation around adolescence. Given that friendship networks often become more prioritized during the developmental ages of adolescence, it is important to consider the role of friends on physical activity engagement and retention for African Nova Scotian adolescent girls. Both the African Nova Scotian adolescent girls and their mothers in this

study highlighted how social support, specifically from friends are major facilitators to physical activity participation for the daughters.

4.4.1 Friendship Networks and Physical Activity

African Nova Scotian adolescent girls discussed the importance of their friendship networks on their physical activity participation, including the likelihood of their retention in sporting programs (i.e., dance lessons or soccer teams). Social support, specifically from friends, was described as a motivator for physical activity and sport participation. Many of the girls in this study described how they felt more comfortable and welcomed in physical activity spaces and programs when they were supported by their friends. When asked to elaborate, one daughter discussed, *“Yeah, because I think it's better [being physically active with friends]. I guess it's better for me to be doing it with somebody than by myself. I feel more comfortable doing it [physical activity] with somebody than by myself”* (Daughter 2). It was clear from my reflexive notes that the daughters in this study presented their body language and tone as feeling comfortable and supported by their friends in their physical activity engagement.

The daughters in this study had participated in various types of physical activities during their adolescence. One daughter mentioned, *“I do indoor swimming and gym”* (Daughter 5), another, *“Yep, we go to the park and do lots of walking”* (Daughter 4). However, most of the daughters participated in group physical activities, such as sport programs. One daughter stated, *“I do sports. I've done a lot in the past, but currently I do dance and soccer”* (D3). I can conclude that the girls in this study expressed preference for sport and group physical activity programs as it enabled social support and helped them to either make new friends or to

participate in physical activity with existing friendship networks. All daughters agreed that physical activity was more enjoyable in groups, specifically with their close friend groups.

Mothers of African Nova Scotian adolescent girls discussed how their daughters were more motivated to be physically active in certain social spaces and how social support, specifically from their friends and peers, resulted in higher likelihood of physical activity uptake and retention. I asked the mothers why friendship networks may be an important facilitator to physical activity engagement for their daughters, one of the mothers responded, *“I think she's working on a summer body, but that's why I I guess that's her motivation I think within her friend's group, I don't know, but I I think they have some goal”* (Mother 5).

Besides, mothers explained how without social connection from their friends, their daughters were hesitant to participate in physical activity. Some of the mothers described how their daughters were hesitant to participate in physical activity if they did not have friendship networks. One mother explains, *“She's just like Mommy, like I just. I just feel really uncomfortable and out of place, nobody talks to me. No one is kind of helping me and I just I don't wanna do this anymore”* (Mother 1). In addition, mothers mentioned how their daughters oftentimes wanted other African Nova Scotian friendship networks in their physical activity programs, for example, *“I know the friends part, because oftentimes and specifically these two who are African Nova Scotian, it was like, OK, it's time to go practice. Well, is this person going? Is that person going? So, I know that's part of what you know, encourages her to go because she wants to ensure that her people are there”* (Mother 4).

As African Nova Scotian adolescent girls grow older, both the mothers and their daughters explained how their friendship networks became a priority. Both African Nova Scotian

adolescent girls and their mothers highlighted the importance of social support, specifically from friends, influenced participation and retention on physical activity engagement.

4.5 Meaning of Motherhood in Black Culture (Traditional Black Mothering)

This theme transitioned into the relational aspect of the dyadic analysis as we uncover narrative on how African Nova Scotian adolescent girls and their mothers describe their mother-daughter relationship. All mothers noted how being Black influences their mother-daughter relationship, specifically their communication and protective parenting behaviours. Mothers described their experiences of their mother-daughter relationship as a site of closeness and safety for their daughters. Mothers also described their relationship through the lens of traditional Black mothering.

When asked to describe their experiences of their mother-daughter relationship, many mothers used descriptions of strictness, and open communication. One mother explained her relationship with her daughter as being somewhat strict, *“I mean it's definitely different than your your you know, your Black mother daughter relationship would be different than your typical white mother daughter relationship where is is, you know, the parenting styles I can find where usually more to the either middle ground or stricter side”* (Mother 5). Another mother explained, *“mm, one where, you know she, I hope [laughing] and just you know by our communication and conversations, she feels like the the door is always open to discuss whatever she wants. So yeah, we have a great relationship”* (Mother 4).

Mothers also noted their mothering as a Black mother raising a Black daughter in society. Some mothers described how they provide their daughters with knowledge on how to navigate society as a Black girl. One of the mothers explained, *“Yeah, so yeah, I would say I would say*

for me, yeah, just being conscious of the fact that, you know, I'm raising the next generation of of Black people. So, I gotta keep them safe. But I also gotta arm them with knowledge and information. So, they understand that the world that they're facing and they're they're not blind to it. And they're not blind to the people who claim that they're blind to it, or not blind to it. So, they're aware of things that it can hopefully they'll be better prepared than I was” (Mother 3).

As a result of traditional Black mothering techniques, mothers responded by describing how they must arm their daughters with knowledge, keep them safe and ensure they engage in healthy behaviours. Mothers described safety as a concern for their daughters’ outdoor physical activity participation such as, *“Everybody's out walking in the daytime, and I don't know, but I probably wouldn't go [outside] at nighttime”* (Mother 3).

One of the mothers further explained how being a Black mother was associated with expectations, *“So yeah, I I feel like generally there's expectations of me as a Black mother and their expectations of her as a a Black girl that sort of comes into the dynamics of how we relate and what the things we talk about”* (Mother 5). There were several similarities in the ways mothers and daughters viewed their mother-daughter relationship.

The daughters in this study often did not elaborate on their relationship with their mother. However, African Nova Scotian adolescent daughters often described their relationship with their mothers as healthy, supportive, and as a site of closeness. Although mothers’ communication strategies were often shaped by Black motherhood, African Nova Scotian adolescent girls did not mention their mothers’ parenting style as being shaped by traditional Black mothering. However, as mentioned by many mothers, daughter’s oftentimes explained how their mothers are somewhat strict. One of the daughters described her mother as, *“She's half*

strict and half like not strict. Umm, I think she does pretty well for parenting, but I feel like she's uh, less strict with my brothers because they're younger. That's about it" (Daughter 3).

African Nova Scotian adolescent girls described how they were receptive towards their mothers' health recommendations. Furthermore, although many African Nova Scotian adolescent girls described their mothers as strict, some described how they felt supported to engage in health behaviours as a result of their mothers' communication, *"Yes, she always encourages me to eat healthy before and after games, and mainly during dinner"* (Daughter 3). While other daughters described their mothers' communication strategies as overbearing, *"Sometimes I just feel like she's like more into it [physical activity] than I am, and I kind of just get into a shy. "I'm like, no, go away". I just wanna be here and then she's just like. No, no, no. It's like it a butthead situation"* (Daughter 2). Much communication between the mothers and daughters in this study was focused on informing and educating the daughters on physical activity and health behaviours. Some mothers not only educated their daughters on the health benefits but took action to inform their daughters on certain health disparities that are affecting the Black community.

4.5.1 Shining a Light on Health Disparities in the Black Community

African Nova Scotian mothers often mention the importance of communicating about health with their daughters. Mothers described the need to educate their daughters on health disparities in the Black community as a means to be proactive in preventing chronic disease development. One mother expressed concern for educating her daughter on health, *"And there's a lot of obesity I see in the Black community. And uhhh just like, you know, if the parents aren't informed then like the children, really don't really have like a solid start"* (Mother 1). Most

mothers agreed and described how they would communicate the importance of health with their daughter through co-participating in physical activities and other health behaviours, *“And then, umm, something that we both are kind of encouraging each other is like, OK, let's we wanna do a workout together. So, most times the only time we can do that is before school and work. So, we're like, OK, let's set our alarm for 6:00 o'clock and we'll get up. And sometimes we do, sometimes we don't. But we do make an effort to do that together”* (Mother 4). While mothers focused on raising awareness about health issues in the Black community, daughters did not acknowledge their mothers' efforts on promoting physical activity and health behaviours as a means to prevent chronic diseases that are prevalent in the Black community.

4.5.2 Body Positive Language

Some mothers of African Nova Scotian adolescent girls mentioned how their daughters had expressed body image concerns, specifically during adolescence. This was centered around not fitting in with their peers, or how they experience shifts in their appearance during adolescence. Oftentimes, mothers would mention how their daughters would compare themselves to their peers and friends. One daughter explained how her body goals for the summer was largely influenced by social media, *“the summer my goal is to at least get some abs, you know, I want muscle. I want abs so sometimes I look online, and I just see people working out”* (Daughter 5).

Furthermore, the construction of body image for their African Nova Scotian adolescent daughters were often shaped by Eurocentric beauty standards. Some of the mothers would not only educate their daughters, but use positive language, *“There's a general sense that even though, like with her BMI, she's way below, like, she's pretty OK. But you know, sometimes you*

would hear comments like *“I feel like my thighs are really big compared to this person, this person”*. And I'm like, *you're not fat. It's just your body type because you know, so I feel like some of those come up, hair is a huge one”* (Mother 5).

Mothers of African Nova Scotian adolescent daughters also discussed the importance of body positive language when communicating health with their daughters. Mothers described how they use certain words to communicate health with their daughters, *“So, we're encouraging them to be on, we don't, we don't use the word diet in our house because it's just like healthy eating, not so much like you need to be on a diet because that automatically sends the message that you're not good enough”* (Mother 1). Mothers expressed how there are many societal pressures for Black girls as it relates to their appearance during adolescence. Another mother described, *“The word I would use and and thick like you just, you know, some of us are just happy with just being thick and voluptuous”* (Mother 1). Several mothers also shared how they aim to empower their daughters when communicating about health and taking control over their health.

4.6 Mother as Manager

The last theme, the “Mother as Manager” was revealed through the dyadic analysis and describes how African Nova Scotian adolescent girls describe their mothers’ role in promoting their physical activity and health behaviours. All mothers in this study discussed how they take on multiple roles in promoting their daughters’ physical activity and health behaviours. Many mothers felt their influential role to be an important outlet for their daughters’ own engagement in physical activity and health behaviours. All daughters echoed that of their mothers by describing how their mothers took on managerial type roles in their physical activity and health behaviour engagement. Many daughters felt supported and encouraged through their mothers’

managerial role. Each subtheme represented an occupational role mothers engaged in in their daughters' physical activity and health behaviours.

4.6.1 The Role Model

All mothers in this study took up the responsibility of the Role Model for their African Nova Scotian adolescent girls in participating in physical activity. Role modelling behaviours looked different for each African Nova Scotian mother-daughter dyad. However, many daughters when asked to describe their mothers' lifestyle, they discussed their mothers' engagement in physical activity and health behaviours. One daughter mentioned, "*She does workouts, running basketball and walking and soccer*" (Daughter 4). Another daughter described her mother's lifestyle as, "*She would go to the gym and do yoga at home but also like exercising at home*" (Daughter 1). And another daughter shared about her mother, "*She does like jogging and workouts, and sometimes weightlifting, a bit of that*" (Daughter 5).

Some of the mothers in this study described much of their experiences of physical activity and health behaviours as intentional and to set an example for their daughters. One mother discussed being intentional in her pursuit to model physical activity for her daughter, "*I'm not on any teams, but I think that, uh, my daughter sees that I make an effort and I'm intentional about, you know, working out with my partner like he's long distance. So, we get on zoom and we're, we're, working out or just going out for a run umm and different things like that*" (Mother 4). It is clear from my reflexive notes that mothers sometimes did not feel motivated to engage in physical activity, however, they felt accountable for modelling healthy lifestyles and filling the gap of Black women role models for their adolescent daughters.

Not only did the mothers in this study take action to model physical activity and health behaviours for their daughter, but they would encourage co-participation. One daughter explained how her mother would model health behaviours, teach her about health behaviours and participate with her, *“Like she [my mother] would go to the gym and do yoga at home but also like exercising at home. She would eat well, but she would also be telling me to eat well, and she would also eat well with me”* (Daughter 1). Another mother talked about how she has tried for herself and her daughter to develop a routine of participating in physical activity together, *“So, I will say in the past couple of months, we've done a lot more workouts together than previously”* (Mother 5).

All mothers and daughters in this study shared their experiences of being or having a role model in physical activity and health behaviours. The daughters emphasized the behaviours that their mothers would model such as being physically active, eating healthy, drinking water, and receiving adequate sleep. Most daughters said that they were motivated by watching their mothers engage in physical activity and other healthy behaviours. From my reflexive notes, I can conclude that many daughters felt empowered, encouraged not only by their mothers' modelling of behaviours, but their co-participation in physical activity and health behaviours. These mothers took on more than one supportive and managerial role in their daughters' physical activity and health, as many mothers would support their daughters in accessing physical activity programs and health resources.

4.6.2 The Advocate

"The Advocate" describes how mothers would often offer support for their daughters by helping them access physical activity resources. It was clear that the mothers in this study felt empowered and proud to advocate for their daughters' physical activity. Mothers often searched

for their daughters' interest in different physical activity and sport programs, as explained by one daughter, *"Well, it was more like my mom gave me the option [to start dance] and I guess I just agreed to it, and I just took off from there"* (Daughter 2). Another daughter explained, *"She [my mother] would look for my interests into sports that I'm interested in and see if there's any available"* (Daughter 1). It was clear that from their enthusiasm that the daughters in this study felt extremely supported by their mothers in advocating for their physical activity engagement.

Some daughters in this study even described how their mothers valued their experiences in trying new and adventurous activities. One daughter described how her mother would advocate for her trying new outdoor activities, *"We do like waterfall climbing, we did that once..... and we do hike a lot of trails"* (Daughter 3). Another daughter explained how her mother encouraged outdoor activities and discussed the health benefits of doing so, *"Most times my parents will push us to go outside and get vitamin D because we still need a growing"* (Daughter 5).

It was clear that many daughters were open and curious to try new physical activities as suggested and recommended by their mother, however, many focused on a physical activity modality that they found to be enjoyable and attended by their friends.

Transportation was continuously mentioned as a large supportive role by the mothers in this study. Most mothers said transportation could be difficult at times as they were faced with competing priorities, *"I provide transportation and that can be difficult sometimes just being one person trying to get two people in in two different places"* (Mother 4). Some mothers in this study mentioned how they would arrange for transportation support outside of the family structure to ensure that their daughters could attend practices and programs. One mother stated, *"We'll just transport, make sure she gets to her practices to her games umm you know, making"*

sure she has an arranged drive if can't take her. Then make sure you know we got a backup drive” (Mother 3). The mother elaborated on her role in transporting her daughter to physical activity programs, *“Like she's she plays sports, and she goes to dance, so I make sure you know I get her there, I make sure I make the time in my schedule to transport her there, and pick her up and drop her off”* (Mother 3).

African Nova Scotian adolescent girls recognized the mothers’ advocacy work as an important part of their physical activity engagement. The daughters in this study showed appreciation for their mother’s advocacy work and desired their mother’s involvement in their physically active lifestyles. Within the realm of advocacy work for their daughters, the mothers in this study placed an emphasis on their financial role in their daughters’ physical activity participation and health behaviours engagement.

4.6.3 The Banker

“The Banker” highlights how mothers took on the financial responsibility to support their daughters’ participation in physical activity. Most of the mothers’ experiences with financially supporting their daughters’ physical activity was associated with stress, pressure and struggle. Although mothers highlighted the financial burden associated with sports and physical activity programs for their daughters, they felt physical activity to be a priority for their daughters’ overall health. Mothers often searched for affordable physical activity opportunities for their daughters. One mother mentioned an example, *“I got her into a free SMU program for this summer for basketball”* (Mother 1). Another mother explained how she accessed financial assistant programs to support her daughters’ physical activity, *“So, when they first started [engaging in sport], you know, I was using any kind of financial assistance that I could get,*

which was usually like worked out to be half or something like that. Still.... found it to be a stretch” (Mother 4).

Mothers not only discussed their financial role in supporting their daughters physical activity, but also in supporting their health behaviours. Most mothers discussed the cost of nutritious foods. One mother talked about the rising cost of food and not worrying about whether the food was nutritious or not, *“It's not a priority [eating healthy] and maybe it's because of the fact that, like you know, unless you've come from a wealthy family, when you can afford to just eat what you want all the time, meaning healthier stuff. Fresh produce is a barrier, fresh seafood or meat or fruit is a barrier all year round, and especially now more than ever. You know, like the cost of everything has gone up a lot” (Mother 3).*

Most daughters recognized the financial role of their mothers for their physical activity and health behaviours engagement. Some daughters felt confident in their mothers ability to support their physical activity and health and did not express worry or concern. However, all daughters in this study did not elaborate on their thoughts around the financial role of their mothers on their physical activity and health behaviours. For example, when one daughter was asked to elaborate, she simply stated, *“Probably [she supports my sports programs] financially.....I guess” (Daughter 3).* From my reflexive notes, I conclude that the daughters in this study did not feel the weight of finances during their adolescence. Furthermore, the daughters felt the resiliency of their mothers and therefore did not feel the need to worry or stress about finances as it relates to their physical activity and health behaviours.

From my reflexive journal, I conclude that the mothers in this study felt financially obligated and responsible for the health of their daughters. However, many mothers did not want

to share the financial stresses with their daughters, but rather, would go to whatever lengths necessary to support their physical activity and health behaviours.

4.7 Summary of Results

This chapter compiled the stories and experiences of the African Nova Scotian adolescent girls and their mothers who participated in this study. Through reflexive thematic analysis, we uncover how Anti-Blackness is a significant barrier to African Nova Scotian adolescent girls' participation in physical activity. More specifically, the lack of representation in physical activity and the need to choose between their hair and their engagement in physical activity. We also uncover how inconducive Black environments sustain environmental challenges built by years of marginalization, displacement, and a lack of infrastructure. It further perpetuates inequitable resources availability to the women and girls in this study. Our last findings derived from the reflexive thematic analysis was centered around keeping girls in the game by highlighting how friendship networks are an important avenue for physical activity participation and retention.

The relational component of the dyadic analysis uncovered two major themes from this study. The first was centered around traditional Black motherhood and how mothers often educate their daughters on health disparities that exist in the Black community. Further, the mothers discussed how they aim to utilize body positive language with their daughters. The daughters in this study were receptive towards their mother's communication of educating them about health disparities and utilized this to make health-positive decisions. The final theme, which was derived from the dyadic analysis, was the mother's role in managing their daughters' health. The mothers in this study took on a managerial role in prompting health by role modelling and co-participating in health behaviours, advocating for their daughters and

providing financial support to their engagement in physical activity and other health behaviours. The findings from this study will inform future interventions, programs and initiatives that will meet the needs of African Nova Scotian adolescent girls.

CHAPTER 5: DISCUSSION

The primary purpose of this study was to explore the lived experiences of African Nova Scotian adolescent girls as it relates to their engagement in physical activity and the role of their mother-daughter relationship. This study had three main objectives as it relates to the lived experiences of the women and girls in this study: 1) understand the barriers and facilitators to physical activity for African Nova Scotian adolescent girls; 2) explore how African Nova Scotian mother-daughter communication influences the daughters' physical activity and health behaviours; and 3) understand how African Nova Scotian adolescent girls perceive their mothers role in promoting physical activity and other health behaviours.

This study was examined through the lens of Black Feminist thought as a means to recognize the intersection and overlap of racism, sexism and classism as experienced by African Nova Scotian adolescent girls and their mothers. This considered how overlapping systems of oppression produce gender and racial inequalities that impact the lived experiences of African Nova Scotian adolescent girl's as it relates to their engagement in physical activity and other health behaviours, and their mother-daughter relationship. I also utilized Pender's Health Promotion Model to actively reflect upon what needs may exist for African Nova Scotian women and girls to help them achieve optimal health outcomes. Lastly, the socioecological model to provide a comprehensive framework to understand how multiple determinants may impact physical activity and other health behaviours. Through incorporating multiple lens' throughout this study, I developed a framework interpreting my understanding of the lived experiences of African Nova Scotian mothers and their daughters.

We recognize that anti-Black racism remains an ongoing and deeply ingrained social issue for our African Nova Scotian communities. Both systemic and systematic racism runs deep

within our African Nova Scotian communities which has impacted their health and well-being for over 400 years. Therefore, it is critical that we recognize the health disparities for African Nova Scotians and advocate for change. This research is important as African Nova Scotians, as an under researched and under cared for community, are faced with numerous barriers to accessing and receiving healthcare and health services. In addition, health services in Nova Scotia rarely adopt a culturally responsive approach to health service delivery which continues to fail to meet the needs of our African Nova Scotian community.

While recognizing that there is limited research available on the lived experiences of African Nova Scotians as it relates to their health, this study illuminated the experiences of five African Nova Scotian mothers and their daughters. Besides from one mother and daughter, the women and girls who participated in this study were all African Nova Scotian and connected to, or resided in, one of the 52 historically Black settlements in Nova Scotia. One mother and daughter of African descent who were included in this study described that they did not identify with ancestral roots to an African Nova Scotian community, but have been closely connected to, and resided in an African Nova Scotian community. It is important to consider how this discrepancy with inclusion criteria may have implications in this study.

Research suggests that there is a tendency to treat Blackness as a monolith (Badr, 2023). And although similarities exist in the Black population, there are many complexities associated with race and identity that are shaped by our unique histories, experiences, cultures and worldviews (Thompson, 2001). African Nova Scotians' lived experiences are shaped by years of slavery, imposed segregation, exploitation, and discrimination (Jean-Pierre, 2021). Given that one mother in this study did not identify as African Nova Scotian, it is important to note that her own lived experiences, particularly as being Black and being a woman, may differ from the other

women and girls in this study. For example, her experiences of the mother-daughter relationship may be shaped by factors not examined in this study, such as immigration. In order to fully understand the meaning in her lived experiences, there would be a need to consider her own unique history, culture and worldview.

Throughout this research, it is important to amplify voices that have been marginalized. The mothers and daughters in this study engaged in storytelling about their experiences participating in physical activity and other health behaviours. Much of the storytelling centered around their experiences of being Black, being a girl, and the intersection of both identities.

This study found that African Nova Scotian adolescent girls are faced with race-based, and gender-based barriers to physical activity. Although being Black was not explicitly stated as a barrier to physical activity by African Nova Scotian adolescent girls, many of the girls discussed race-based challenges they have encountered throughout their youth and adolescence. Contrastingly, African Nova Scotian adolescent girls expressed a desire for social support, specifically friendship networks in their physical activity participation. The girls in this study acknowledged the significant and multifaceted roles of their mother for supporting their physical activity and health behaviours. Moreover, mothers of African Nova Scotian adolescent girls uncovered the invisible work they do to support their daughters.

In conclusion, this study contributes to the body of knowledge needed to understand the health of African Nova Scotians and reimagine strategies that may improve overall health and wellness of African Nova Scotian women and girls. This discussion chapter will unpack and interpret the significance of each theme found in this study. The chapter will simultaneously link the present findings with other literature. To conclude, the chapter will discuss health promotion related implications and argue the need for improved health service development,

implementation and delivery that recognizes and meets the needs of our African Nova Scotian community. I conclude this chapter by describing the strengths and limitations of this study and making final recommendations for future directions in policy and health promotion.

5.1 Breaking Down Barriers Built Against Blackness

When reviewing the information shared by African Nova Scotian adolescent girls and their mothers, I found many similarities in the stories that they shared. Previous research has indicated that the lived experiences of Black women is shaped by racism (Settles et al., 2008), including experiences related to their health (Prather et al., 2018). Therefore, as expected, both mothers and their daughters in this study related their experiences of physical activity and healthy behaviours to being Black. Historically, anti-Black racism, as a social determinant of health, has significantly impacted the lives of African Nova Scotians. Current literature emphasizes the detrimental effects of anti-Black racism that continues to undermine the health of our communities. As such, the mothers in this study discussed how anti-Black racism have negatively impacted their health and the health of their families for generations.

Mothers in this study placed emphasis on the disconnect between health and the Black community which has limited their ability to promote physical activity and health for their African Nova Scotian adolescent daughters. For example, supporting findings from this current study, Began & Chapman (2012) indicate how the meaning of food for African Nova Scotian's is not reflected in mainstream nutrition discourses. Many mothers in this study discussed food and nutrition from a generational perspective being that their food choices were based on what was accessible and affordable rather than healthy and nutritious.

Furthermore, eating patterns have been associated with culture. As found in this study, Beagan and Chapman (2012) has highlighted how culturally traditional eating patterns are costly in terms of health. This speaks to the need to enforce healthy food as a right rather than a privilege to our African Nova Scotian communities. However, not only does this finding support the right for adequate and nutritious food, but it speaks to honoring, celebrating, and preserving Black culture through traditional eating practices and food.

The geographic location of a community can greatly decide what resources may or may not be readily available to its community members. The mothers and daughters in this study who were both located in African Nova Scotian communities and not, as in previous studies (Bundy, 2019; J. Etowa et al., 2017; Waldron, 2020), recognize how African Nova Scotian communities are socially disadvantaged. Others have discussed the detrimental health and environmental injustices faced by African Nova Scotian communities (Jean-Pierre, 2021).

The same conclusions were drawn from the stories of the women and girls in this study as they discussed environmental challenges as it relates to their physical activity and health behaviours.

Rurality, as experienced by African Nova Scotian communities, has placed limitations on health resources (Enang, 2001). Although all mothers and daughters in this study were centrally located in Nova Scotia, their experiences of rurality were reflected in their concern for the limitation of recreation centers, parks, playgrounds, sidewalks, structured physical activity programs and other accessible resources related to physical activity and health in their communities. Mothers wanted to advocate for more necessary physical activity and health resources in their communities to support their daughters' engagement in health behaviours.

To the best of my knowledge, the cultural significance of hair was not deeply explored among African Nova Scotian women and girls. However, the cultural significance of hair for

Black women, and its associated barriers to physical activity engagement, has been well documented in African American research (Hall et al., 2013; Joseph et al., 2018; O'Brien-Richardson, 2021; O'Brien-Richardson, 2019; Woolford et al., 2016). Given that hair and identity are closely linked, we would expect similar experiences of hair and physical activity for African Nova Scotian women and girls. Consistent with African American literature, the findings of this study found that hair created challenges for African Nova Scotian women and girls in their physical activity engagement. Mothers discussed how their daughters have begun to develop a sense of self during adolescence, which has placed central importance on their appearance. African Nova Scotian adolescent girls often linked their hairstyle choices to keeping up with their body image, fitting in at school and their overall appearance.

Many of the mothers in this study indicated how their own experiences with their hair and physical activity were challenging which may speak to how mothers may or may not empower their daughters' self-confidence as it relates to appearance and their health. Research supports the notion of hair as a challenge to physical activity for Black women and girls. Many researchers have indicated that Black women style their hair to meet societal expectations and that they are burdened with additional stressors in managing and styling their hair for physical activity (Hall et al., 2013; Joseph et al., 2018; O'Brien-Richardson, 2019). It will require a great deal of dismantling societal expectations and beauty standards of Black women to truly unveil the stressors associated with maintaining their hair and maintaining their health.

Although African Nova Scotian adolescent girls' worldview was not necessarily cemented in Blackness, they recognized their Blackness as a barrier to physical activity and health behaviours. The daughters in this study discussed how they oftentimes do not encounter other Black girls in sports and physical activity programs. And not only did the daughters in this

study express a lack of representation in sport, but they also oftentimes struggled to recognize a Black health leader, advocate, or role model in physical activity. This is particularly problematic as the lack of Black people in sport was linked with African Nova Scotian adolescent girls' decreased motivation to participate in sport and physical activity. For many daughters in this study, their mothers were their primary role model in physical activity. As discussed in previous literature, the mother will likely model much health behaviours for their daughters (Mosavel et al., 2006). This speaks to the powerful role of instilling healthy behaviours during adolescence, and the role the mother may have in modelling health behaviours for their daughters.

Without Black women as role models for physical activity and health, girls who look like them, and the next generation of Black women may struggle with the overlap of their identity, culture and health. Furthermore, both African Nova Scotian daughters and their mothers raise concern for being situated in environments that did not favor Blackness. Meaning, the historical injustices of the built environment in African Nova Scotian communities continues to undermine the health of its members. The experiences of the women and girls in this study demonstrates how race has a negative impact on their ability to participate in physical activity and other health behaviours to achieve optimal health outcomes. As a result, inconducive Black environments may lead to lower levels of physical activity and health behaviour participation among our African Nova Scotian adolescent girls.

5.2 An Ode to the Many Hats of African Nova Scotian Mothers

African Nova Scotian women, particularly mothers, adopt numerous roles in their community and family structures. They are oftentimes support systems, caregivers, mothers, wives, sisters, daughters, other mothers, just to name a few. Previous research has highlighted

the many roles of African Nova Scotian women and placed emphasis on the fact that oftentimes they neglect their own well-being at the expense of their community (Etowa et al., 2017). This notion was prominent in this study as many mothers prioritized their daughters' health and well-being. Furthermore, African Nova Scotian mothers engaged in much invisible work to support and prioritize their daughters' health and well-being. As such, this section is an ode to the many hats of African Nova Scotian mothers, and their role in promoting physical activity and healthy behaviours for their African Nova Scotian adolescent daughters.

The commendable role of mothers in the Black community is well documented in the literature. Historically, Black women have been the holders of strength and unity in their families and broader community. The mothers in this study discussed their natural tendency to love and support their daughters throughout their upbringing. However, mothers also mentioned their need to be strict and disciplinary as they educate their daughters on navigating life through a gendered and racialized lens. Research suggests that parents of Black children remain both hypervigilant and overprotective of their Black children to shield them from racial violence (Stirling-Cameron et al., 2023). Similarly, the mothers in this study described their protective instincts to guide their daughters and equip them with the knowledge to navigate the world as a Black girl, and soon Black woman.

Despite the pressures associated with Black motherhood, and raising a Black daughter, the mothers in this study continually emphasized the importance of supporting their daughters' health. The mothers in this study were not only protective, supportive and loving, but they were a Manager of health for their African Nova Scotian adolescent daughters. The Manager role often entails invisible work that is likely not immediately recognized or acknowledged. However, mothers' invisible work is critical for their daughters' engagement in physical activity and health

behaviours. The mothers in this study provided examples of their invisible work: organizing transportation to physical activities and sport activities, providing water and healthy snacks, managing sport-appropriate hairstyles, to name a few. Regardless of the immeasurable amount of invisible work contributed by African Nova Scotian mothers, the mothers in this study were not resentful of the labor, but rather considered it as an inborn tendency to support their daughters' health.

When reviewing the interviews of African Nova Scotian adolescent girls, I found similarities in their narratives as they discussed their mothers-daughter relationship and the role of their mother in their physical activity and health behaviours. Previous literature has highlighted how the mother-daughter relationship may vary by culture (Gore et al., 2018) which has helped to interpret how being Black may influence the experiences of the mother-daughter relationship in this study. Regardless of any challenges or conflicts in their mother-daughter relationship, daughters spoke highly of their mothers' efforts to promote their physical activity and health behaviours. Previous research has highlighted how mothers' social support is critical for their daughters' participation in physical activity and other health behaviours (Schoeppe et al., 2017; Viner et al., 2012). And the daughters in this study recognized their mothers' social support as encouraging and critical for their physical, mental, emotional, and social health.

Within the confines of the mothers' Manager role, African Nova Scotian mothers were also role models for their daughters' physical activity engagement. Supporting findings in this current study, previous research had indicated the significant influence of maternal modelling of healthy behaviours on their daughters' own healthy behaviours (Schoeppe et al., 2017). The findings of this study demonstrates that this holds true as many daughters described not only how their mothers would model physical activity, but that they noticed positive health outcomes from

their mothers' participation in physical activity and other healthy behaviours (i.e., improved mental clarity, emotional stability). Furthermore, the mothers' modelling of physical activities and healthy behaviours elicited motivation in African Nova Scotian adolescent girls to join their mothers or to engage in similar physical activities and healthy behaviours. Most mothers in this study described their motivation to participate in physical activities and healthy behaviors to encourage their daughters to subscribe to the same principles.

Some other managerial roles of the mothers in this study included providing transportation for their daughters to attend sport and physical activity programs. Furthermore, in the case where mothers did not have the capacity to provide transportation due to competing priorities, they would ensure alternative arrangements. Additionally, mothers oftentimes explained how they would volunteer their time to support other children. As expected from the literature, the support offered by many Black mothers in this study reflects the roles of the other mother, which has been described as a woman who provides care to children who are not biologically her own (Case, 1997). This was evident as mothers in this study would drive other children to sporting games and practices and provide support to children in the community as a means to promote their engagement in physical activity and other health behaviours.

Further, the mothers in this study discussed how they would financially support their daughters' physical activity and healthy behaviours. Some mothers considered sport and physical activity participation as an investment in their daughters' health. Unfortunately, research suggests that financial stress is a common experience in the Black community and has led to poorer health outcomes (Savoy et al., 2014). While only some mothers disclosed the financial burden they faced from their daughters' physical activity and healthy behaviours participation, all mothers admitted the need for sport programs to accommodate lower income families and

families with multiple children. This highlights how the social determinants of health, particularly disparities in wealth, significantly impact the health of our African Nova Scotian community.

The invisible managerial work of Black motherhood is associated with increased responsibility to support the health of their African Nova Scotian adolescent daughters. Blackness significantly impacted mothering and the ability to provide support for the physical activity and healthy behaviours of African Nova Scotian adolescent girls. Not only did mothers support their daughters, but they were faced with balancing competing priorities to support their community, Case (1997) explains how Black mothers often provide motherly care to children that are not biologically her own, which held true in this study as many mothers offered support to other children in the community. Mothers in this study also emphasized the desire for their daughters to feel supported in physical activity through friendship networks and other social connections.

5.3 I See You, Girl: Black Girl Friendships and Health

Friendship networks are critical for development and connectedness during adolescence. This was evident in this study as many African Nova Scotian adolescent girls described the importance of social support from their friends as it relates to their participation in physical activity. This finding supports previous research which has highlighted peer support as a critical component to physical activity engagement in adolescent girls (Duffey et al., 2021). Furthermore, the lack of peer support may be of concern for adolescent girls' engagement in physical activity (Duffey et al., 2021). Demonstrative of this may be when some of the daughters in this study described their hesitancy to attend physical activity and sport programs when their

friends were not present. Furthermore, the girls in this study shared their thoughts on the numerous health benefits of physical activity, specifically the social health benefits of physical activity. This speaks to the importance of physical activity for African Nova Scotian adolescent girls as it relates to their development of social connectedness, participating in social settings, and developing friendship networks.

Many of the girls in this study also discussed the importance of socialization involved in physical activity. This included the need for team building, learning, and adhering to rules and regulations in physical activity and sport programs, and to accept and navigate challenges in physical activity and sport, to name a few. This pattern of understanding speaks to the importance of physical activity during these critical developmental years. Previous research has spoken to the social benefits of physical activity, particularly during adolescence. Kumar et al. (2015) stated that physical activity, particularly sport participation, can assist in the development of social skills, teamwork, and leadership. This held true in this study as many mothers explained how their daughters become more confident, built more friendship networks, and participated in more social interaction following sport participation. Further, sport participation may be an important modality for African Nova Scotian adolescent girls as they participate in the development of their life skills.

African Nova Scotian adolescent girls and their mothers are experts on their own experiences of physical activity and healthy behaviours, as demonstrated in this study. Considerations of the barriers and facilitators to physical activity, and the role of the mother is critical to inform the development and implementation of health programs, policies and health promotion initiatives that meet the needs of African Nova Scotians. By understanding the

experiences of the women and girls in this study, Nova Scotia can build upon programs and initiatives that improves the health of our African Nova Scotian community.

5.4 Research Significance and Implications

This study is of significance for several reasons. First, findings from this study can reinforce the needs of African Nova Scotian women and girls in supporting their physical activity and healthy behaviours. When reviewing the literature that informs this study, it became evident that there are significant gaps in relation to the health experiences of African Nova Scotian women and girls. Additional gaps were identified as it pertains to the role of the mother-daughter relationship from an African Nova Scotian perspective. This study uncovered the challenges and stressors in daily life for these women and girls to support a healthy lifestyle. Secondly, understanding how various race-based and gender-based factors shape and create conditions to both support and undermine the health of African Nova Scotian adolescent girls and their mothers can support decision-makers to transform and create policies, programs, practices, and interventions that cater to the needs of these women and girls. The findings of this study are intended for Black and African Nova Scotian based organizations, policy makers and health promoters and other health professionals.

5.4.1 Implications for Health Policy

Failure to include the African Nova Scotian perspective in health policy development deliberately undermines the ability for our community members to benefit from healthcare. Policy and how it is developed is important for African Nova Scotian families and their access to health programs, information, education, and services. Historically, African Nova Scotians have

been burdened by systemic and systematic inequality that has largely excluded their needs from health policy. Therefore, there is an urgent need to center and amplify the voices of African Nova Scotian's as they speak to the very policies that impact their health and community. Furthermore, this research illustrated the impact of inconducive environments and the need for adequate resources in Black communities that support physical activity and other healthy behaviours. Therefore, there is a critical need for policy makers to consider interventions that meet the needs of African Nova Scotian communities. The following recommendations are based on the findings from this study:

- **Giving Voice to the Voiceless:** There is an urgent need to break the cycle of silencing Black voices. Limiting the narrative of African Nova Scotians has singlehandedly excluded them from important policies that impact their health. We must systematically include the perspectives of African Nova Scotians through increased representation on boards and committees and to empower, center and elevate the African Nova Scotian perspective in decision making. **Recommendation:** (1) Listen to multiple perspectives in community to inform policy, (2) partner with community organizations to build trust with community in policy development.
- **Shaping a Healthy Community:** There is a need to consider health-supportive built environments in African Nova Scotian communities. The built environment is very much linked with physical activity. The lack of sidewalks, bicycle lanes, walking paths and unpaved roads in African Nova Scotian communities contribute to increased sedentariness due to safety and accessibility concerns. Additionally, creating resources to support health behaviours engagement, such as healthy eating, is crucial for our African Nova Scotian communities. Moreover, there is a need to consider the role of green

spaces, parks and playgrounds as it relates to increased physical activity, social connectedness and community health, specifically for African Nova Scotian families.

Recommendation: (1) Offer safe pedestrian infrastructure in Black communities. (3) Develop healthy community/ green space environment by developing community gardens and planting trees.

- **Underfunded and Forgotten:** There is a need for increased grants and funding for Black health focused initiatives. It is clear that African Nova Scotians, as a forgotten community, do not receive adequate resources to achieve optimal health outcomes. Many programs that are accessible to African Nova Scotians are unstructured and highly underfunded. Health policy must consider strategies for mobilizing resources within African Nova Scotian communities. This may include reevaluating the allocation of funding and resources to ensure adequate support is given to programs most needed for our African Nova Scotian community. Furthermore, this includes ensuring equitable access and that all community members have the capacity to access resources in considering the social determinants of health. **Recommendation:** (1) Conduct needs assessments to determine where funding should be allocated to meet the needs of the African Nova Scotian community. (2) Fund community-based organizations and initiatives that promote health and physical activity programs in/ for African Nova Scotian communities.

5.4.2 Implications for Health Promotion and Health Professionals

Health promotion is a process of enabling people to exert control over, and to improve their health (*Health Promotion*, n.d.). My aim, as a Health Promoter, is to unmask the wide-scale

health-related issues that are affecting our African Nova Scotian communities and to reimagine a culturally responsive approach to health service development, implementation, and delivery.

Through continuous efforts to amplify the African Nova Scotian perspective, we begin to dismantle and rebuild a system that has failed our community for generations. The following are recommendations for health promotion and health professionals as it relates to the needs of our African Nova Scotian community:

- **Family-Centered Health Promotion:** Family is at the core of the African Nova Scotian community. The African Nova Scotian family structure expands beyond traditional definitions. African Nova Scotian's define family through social connectedness, community and kinship. Regardless, there is a need to consider family-centered care in health promotion. There is a need to provide services that assure the health and well-being of the entire family structure. By adopting family-centered health promotion activities, we engage all members through education, knowledge sharing, respect and collaboration. **Recommendation:** (1) Include perspectives of the whole family in the development and implementation of health promotion programming.
- **Culturally Responsive Health Promotion for African Nova Scotians:** There is a need to recognize how universal health promotion strategies have not, and will not, sufficiently protect and promote the health of African Nova Scotians. Although, recently, programs have been developed to support the distinct health needs of African Nova Scotians, many continue to lack cultural humility in service development and delivery. Current health promotion strategies must shift their priorities to understand the needs of our African Nova Scotian communities. Future health promotion strategies should consider accessibility and affordability barriers, sociocultural barriers, and other concerns from

African Nova Scotian communities in seeking and utilizing health services. Culturally responsive health promotion programs should be developed and led by Black and African Nova Scotian health professionals which should focus on the promotion of community-based programming. **Recommendation:** (1) Consult community members to determine their needs. (2) Develop the program in consultation with community and other African Nova Scotian subject matter experts (3) Bring health promotion programs (i.e., physical activity workshop) into their community spaces.

- **Saving Soul Food for Sundays:** Both historically and in present day, traditional soul food has been a principal component to many Black family gatherings and other occasions. Typical soul food includes large amounts of meat, fat and sugar which may lead to unhealthy eating patterns. As a result, there is an urgent need to educate our African Nova Scotian communities on the importance of a healthy diet and healthy eating patterns. Accompanied by an educational program, there is a need for addressing food deserts, affordability of healthful foods, food insecurity and accessibility restraints for African Nova Scotians in seeking healthful foods. **Recommendation:** (1) Develop culturally relevant food guide and nutritional education programs that reflect traditional foods and ways of eating for African Nova Scotians. (2) Bring nutrition education programs into African Nova Scotian communities.

5.5 Strengths

The strength in conducting qualitative research is that it allows the participants to tell a story in rich detail about their experiences. This allowed for the researcher to use open-ended questions and probes for African Nova Scotian adolescent girls and their mothers to discuss their

experiences engaging in physical activity and health behaviours, and the role of their mother. Furthermore, this allowed the daughters and their mothers to raise issues that matter most to them in relation to their physical activity and their health.

Secondly, recruitment of both mothers and daughters provided two perspectives into the lived experiences of African Nova Scotian adolescent girls. The analysis process looked into both the individual level and the dyadic level. The dyadic analysis allowed for the interpretation of two accounts of rich data by identifying overlaps between each mother-daughter dyad. Also, this study included a broad range of ages for both the African Nova Scotian adolescent girls, and for their mothers. By including age diverse participants in this study (within the inclusion criteria), we begin to gain meaningful insight into numerous perspectives from early adolescence up until late adolescence. For the adolescent daughters, this showcased different experiences at different developmental milestones.

Lastly, the strength of the conclusions drawn from this research is highly dependent on the standards of quality and rigor throughout the design, data collection, data analysis, and interpretation (Johnson et al., 2020). The credibility, dependability, confirmability and transferability of this research are significant strengths as they ensure trustworthiness of the study (Guba & Lincoln, 1989). More specifically, due to the four considerations of trustworthiness, this research is credible, repeatable in other research settings, and a true reflection of those that participated in this study.

5.6 Limitations

As with any research, there were some limitations to this work. Firstly, the majority of participants were located in the central regions of Nova Scotia. Therefore, this may limit

generalizability as it may not accurately represent the unique experiences of African Nova Scotians located outside of the central region, who are located in various geographical regions across the province.

The researcher included the option for online interviews (i.e., Microsoft Teams) to enable inclusion and lift geographical constraints. However, there are several limitations to consider. Firstly, there is no physical proximity between the researcher and participant, which in other cases may be useful in creating a comfortable and welcoming environment and to build rapport with research participants. The researcher may not observe a full range of non-verbal cues such as body language and non-verbal communication. This may limit the value of assessing rich contextual information during analysis. Lastly, the researcher cannot control the environment to which the participant is situated. This may introduce background noise in audio-recordings that may hinder the quality of their communication. It may also introduce distractions in the home environment.

5.7 Future Directions

The stories shared in this study heighten our understanding of the lived experiences of African Nova Scotian adolescent girls and their African Nova Scotian mothers. This research has demonstrated that there are several gaps in the literature, and it emphasizes the need for further research that explores the health experiences of African Nova Scotians. Although the aim of this research was to recruit from across Nova Scotia, future directions should focus on exploring how geographic region and rurality may influence physical activity and healthy behaviours for African Nova Scotian adolescent girls and their mothers. This may include interviewing mothers

and daughters who reside in rural locations and African Nova Scotian communities located outside of Central zone.

There are several important themes in this study that are worthy for more in-depth exploration in future research. Firstly, this study suggests that African Nova Scotian adolescent girls' worldview is not necessarily cemented in Blackness. However, their life experiences are very much shaped by Blackness. Therefore, future research should explore African Nova Scotian girls' and women's' worldview, and their perceptions of Blackness, across the lifespan from youth up until adulthood. Furthermore, the role of the other mother was infrequently mentioned in this study, but an important avenue to consider when exploring the African Nova Scotian mother-daughter relationship.

There were important areas of health promotion that were not explored in this study that should be considered in future research. Firstly, given the stress associated with Black womanhood, the pressures to balance competing priorities, and the high levels of burnout, it is important for future research to conduct a more in-depth exploration of mental health in the African Nova Scotian community, specifically for African Nova Scotian adolescent girls and their mothers. It is important to acknowledge there is a deeply ingrained stigma associated with mental health in Black communities that may prevent conversation. So, future research should explore strategies for promoting positive mental health and preventing mental illness in the African Nova Scotian community.

There are various recommendations for research that were uncovered through hearing the lived experiences of African Nova Scotian adolescent girls and their mother. Firstly, there is a need to adopt an Afrocentric lens when conducting research with the African Nova Scotian community. This includes building rapport with participants through active listening and genuine

interest. Researchers can also build trust with community by considering location when conducting research. This means offering various locations for data collection (i.e., online, in-person), specifically conducting research in community spaces where participants are already familiar and comfortable.

Lastly, future research exploring the lived experiences of African Nova Scotian women and girls as it relates to their physical activity and health behaviours could adopt a photovoice strategy for empowering women and girls to document their lived experiences. Photovoice engages participants in the research process by allowing them to share their experiences through photographs and personal narratives (Kile, 2022). By empowering the voices of African Nova Scotian women and girls through photographs and narrative we can capture important detail and raise awareness of community need to inform future policy and health promotion initiatives.

CHAPTER 6: CONCLUSION

6.1 Reflections

I did not expect a master's thesis to have such an impact on how I envision my current and future role in health promotion. More specifically, I did not imagine how much work is needed to rebuild a system that has failed our people for far too long. There were days I stood staring at an intimidating blank page. There were days I felt defeated by the amount of work left to do. Ultimately, I feel thankful to have met the women and girls who have participated in this study. Storytelling, as a facet for passing down the experiences, traditions, and values of our ancestors, remains at the core of the African Nova Scotian community. I feel honored and privileged to have exchanged stories with these women and girls from my own community.

Throughout this study I have continually reflected upon my positionality and how my own experiences have shaped my interpretation of this research. My connection to this research is two-fold. I view this research through a professional lens as a health-promoting researcher, community advocate, and primary healthcare professional within Nova Scotia Health. My perspective of this research is also shaped by my own personal experiences as an African Nova Scotian woman who was raised by an African Nova Scotian mother. I feel privileged to have been raised in an environment where my physical, mental, emotional, spiritual, and social health was prioritized, and not stigmatized. My own upbringing and my relationship with my mother have equipped me with the motivation, knowledge, and ability to complete this research and continue my efforts in improving the health of African Nova Scotian women and girls.

Although writing this reflection indicates the completion of this study, the completion of this study has left me with a large task. I feel empowered to advocate for social change and transformation within our health system to meet the needs of our African Nova Scotian

communities. I intend to disseminate these findings by connecting with several African/ Black-centered organizations in Nova Scotia to exchange findings and develop solutions for improved health in our communities. Furthermore, I intend to continue to work with our African Nova Scotian community to ensure their voices are reflected in decision-making as it relates to current and future policies, programs, initiatives, and protocols. Lastly, I will advocate for the needs of our community and partner with people in positions of power to ensure adequate health education, health services and programs, and justice is delivered to and for our African Nova Scotian community.

I do reflect on what I hope this study has to offer to the field of health promotion in Nova Scotia. My hope is that this research informs positive change for our African Nova Scotian families and community. With that said, I envision positive possibilities despite the dark times that have shielded the health of our people. Positive change would include a more physically active and healthy community that feels empowered to control their own health. This may only be achieved by ensuring physical activity programs and health education is developed by and for African Nova Scotians. Additionally, the development of these programs and education must be in the best interest of and reflect the needs of our African Nova Scotian community. These programs and health education must be accessible, affordable, and delivered by culturally competent Black health professionals. A personal hope is that I continue to build on the work I have done in this study and to increase my knowledge on the needs of our African Nova Scotian community in order to focus my efforts on and advocate for the health of our people.

6.2 Conclusion

African Nova Scotian adolescent girls are situated at a social disadvantage for participating in physical activity and other healthy behaviours. Many African Nova Scotian adolescent girls acknowledged the importance of physical activity for one's physical, mental, emotional, and social health. However, they reported that there is less opportunity for sport participation for girls compared to boys, particularly as they got older. Furthermore, they experience sociocultural barriers to physical activity participation such as hair-related barriers, appearance, and body image barriers. Both African Nova Scotian adolescent girls and their mothers acknowledge race-related barriers to physical activity, a lack of Black peers participating in sport, a lack of Black role models and environments that do not support Black health. However, the mothers of African Nova Scotian adolescent girls work tirelessly to ensure their daughters adopt a lifestyle focused on physical activity and healthy behaviours.

It is evident that the African Nova Scotian mother-daughter relationship is a site of support. Their health journeys have been and continue to be shaped by racism, sexism, and classism. Any analysis of women of African ancestry must consider the complexities of overlapping identities (Collins, 1990; Crenshaw, 1991). These women's and girls' voices demonstrated ways in which African Nova Scotian women and girls navigate their health, but also encounter challenges on a daily basis.

This research has resulted in policy and health promotion recommendations that can be used to inform a health system that understands and reflects the needs of our African Nova Scotian community. This study also speaks to the importance of family-centered care programs for our African Nova Scotian community. Emphasis needs to be placed on addressing accessibility and affordability gaps as it relates to physical activity, sport participation and health

behaviours, specifically for African Nova Scotian families. I understand that change to this magnitude does not happen overnight, however, I feel empowered to be able to envision a future where the needs of African Nova Scotians are prioritized in health policy, programs, interventions, and services.

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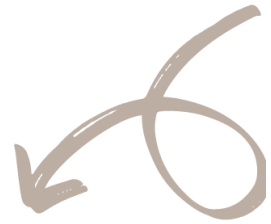
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APPENDIX A: RECRUITMENT POSTER



Understanding the Role of the Mother-Daughter Relationship in Physical Activity and Health Behaviors of African Nova Scotian Adolescent Girls



Participate in our research study!



WE ARE INVESTIGATING:

Physical activity and other health-promoting behaviors of African Nova Scotian adolescent girls, and the role of their mother. We want to hear from African Nova Scotian mother-daughter dyads about barriers and facilitators to physical activity participation among African Nova Scotian adolescent girls, and the role of their mother in promoting health.

Eligible to Participate:

- **Daughter:** African Nova Scotian, aged 12-18 years old and identify as a girl.
- **Mother:** African Nova Scotian, primary caregiver of the daughter for at least the previous year.

YOU WILL BE ASKED TO:

- Both mother and daughter participate in separate interviews (online or in-person). Interview will discuss barriers and facilitators to physical activity, the role of the family and mother in daughters' participation in physical activity and other health behaviors (60 minutes).
- Consent to have both mother and daughter participate in an interview.

For more information or if you are interested in participating in this study, please contact as522590@dal.ca

All participants will be compensated for their time.

Dalhousie REB # 2022-6398



APPENDIX B: INFORMATION LETTER

A Qualitative Approach to Understanding the Role of the Mother-Daughter Relationship in Physical Activity and Health Behaviours of African Nova Scotian Adolescent Girls.

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve on your behalf. Please take time to review the following information carefully. Do not hesitate to ask questions if anything is not clear or if you would like more information.

Introduction

My name is Ashley Preston. I am a second-year master's student at Dalhousie University in their graduate-level Health Promotion Program. I am kindly requesting participation in a master research study that I am conducting titled: A Qualitative Approach to Understanding the Role of the Mother-Daughter Relationship in Physical Activity and Movement Behaviours of African Nova Scotian Adolescent Girls. The intention of this study is to explore barriers and facilitators to physical activity and health-promoting behaviours of African Nova Scotian adolescent girls, and the role of their mother.

Explanation of Procedures

This study involves the participation of African Nova Scotian's mothers and daughters. Each mother and daughter will be asked to participate in an interview facilitated by the primary researcher. Interviews will be conducted either at Dalhousie University or online via video/teleconference platform (i.e., Microsoft Teams). Each interview will be approximately 1 hour and is relatively informal.

All interviews will be audio-recorded for the purpose of data collection and analyzation. The primary researcher will take field notes during the interview process. Participation is completely involuntary, and you may withdraw at any time without consequence. You have the right to refuse to answer any question you may be asked during this study.

Confidentiality

The information gathered during this study will remain anonymous and confidential in secure premises during the entire duration of this project. All identifying information will be kept by the primary researcher and not disclosed to anyone besides the research team. There will be no identifying information released; they will be coded in the final report. Signed consent forms and original audio-recordings will be stored safely until the completion of the study. All data will be destroyed 1 year following the completion of this study. The results of this research will be published as a researcher paper, and potentially in a professional journal or presented at professional meetings.

Risks and Discomforts

There are minimal risks or discomforts that are anticipated from your participation in this study. Potential risks or discomforts may include possible psychological distress, emotional feelings or sadness when asked questions during the interview.

Benefits

The anticipated benefit of your participation in this study is the opportunity to discuss feelings, perceptions, barriers and facilitators as it relates to physical activity and other health-promoting behaviours of African Nova Scotian adolescent girls, and the role of their mother. Participation may contribute to the development and implementation of culturally sensitive physical activity and health-promoting behaviour interventions that promote health in African Nova Scotian adolescent girls.

Further Information

You are welcome to ask the researcher any questions at any time, including any that may occur during the interview. If you have any questions once the interview is complete, you may contact the researcher using the information provided below.

Researcher Contact Information:

Ashley Preston, BSc., MA Health Promotion Candidate
as522590@dal.ca

Faculty Supervisor Contact Information

Dr. Sarah A. Moore, Ph.D.
Sarah.Moore@dal.ca

APPENDIX C: INTERVIEW GUIDE

Note: The following are questions that are intended to serve as a framework for the interview sessions. The interview questions for mothers and for daughters are both included in two separate sections. These are example questions that may change given the direction of the interview

ADOLESCENT DAUGHTER INTERVIEW SCRIPT:

Hello [Participant Name], thank you so much for meeting with me today.

So, before we begin, I always like to give a bit of background about myself, my research and where I come from. So, my name is Ashley, and I am a graduate student at Dalhousie University. I previously completed my undergraduate degree in psychology and neuroscience at Acadia University. I am currently working towards my master's in health promotion. I am a member of the African Nova Scotian community; my mom is from both Halifax and Beechville. I grew up in Halifax, moved outside of the city for four years to complete my undergraduate degree and have since returned for work and my masters. With that being said, this interview will help support my research project to fulfill the completion of my master's degree.

- The interview format for today is intended to be informal.
- I want to talk to you about your mother's role in promoting physical activity and health behaviours.
- I will be asking you a series of questions. The information that you share with me today will help with my research project.
- Participation in this interview is completely voluntary and you can skip questions, take breaks, stop or withdraw at any point in time.
- All information that you tell me today will not be shared with anyone outside of our research team and will be kept confidential.
- Your responses will not be connected to your name or identifying information when presented in reports or presentations.
- Although quotes may be used in reports or presentations, your name or identifying information will not be shared.
- Your interview is expected to last approximately one hour.
- And, to help with the research project, and with your permission, the interview today will be audio-recorded. The recordings will be transcribed word for word by either myself or a research assistant who will sign a confidentiality agreement. All identifying information will be removed.

Do you have any questions so far before we begin the interview?

Do you consent to participate in this interview? Yes No

Do I have permission to audio-record this interview? Yes No

(ONLY IF NO) Do I have permission to take notes during this interview? Yes No

Do I have permission to use anything you say as a quote in any of the research reports? And just as a reminder, you will not be personally identified in the quote. Yes No

Participant Information

I'm going to start off by asking a few demographic questions. These questions will help describe the group of individuals that participate in the study.

1. May I ask how old you are in years?
2. May I ask your gender?
3. May I ask if you grew up in an African Nova Scotian community?
4. May I ask if you currently reside in an African Nova Scotian community?
5. May I ask what is your current city of residence?
6. How many members are in your immediate family? (i.e., parents, siblings, spouse, children)
7. What is your relationship to your mother? (in terms of biological/ non-biological)
 - a. Do you live together full-time?
 - b. How would you describe your relationship to your mother?
 - c. How would you describe your mothers parenting style?
 - d. Do the two of you participate in any activities together? (i.e., chores, shopping, cooking, any extracurricular activities)

Section 1: Current Physical Activity and Other Health Behaviours

1. Can you tell me about your current physical activity and health behaviours?

Probes:

1. What does physical activity mean to you?
2. Do you engage in physical activity?
 - a. What types?
 - b. How often are you physically active?
3. Would you say that you enjoy physical activity?
 - a. What types do you enjoy?
4. What types of environments do you participate in physical activity?
 - a. Is your environment ever a barrier to physical activity?
 - b. Is your environment ever a facilitator to physical activity?
5. Do you participate in physical activity at school? (if the participant is of school age)
 - a. Do you enjoy gym class?
 - b. Are there opportunities for sports teams or physical activity opportunities?
6. Do you participate in physical activity in your neighborhood or at home?
7. How important is physical activity for your health?
 - a. Spiritual
 - b. Physical
 - c. Emotional
 - d. Cognitive
 - e. Social
8. How does physical activity influence how you feel about your appearance or body image?
 - a. Does your body image or appearance prevent you from being physically active?
 - b. Does your body image or appearance encourage you from being physically active?
9. As an African Nova Scotian girl, would you ever consider hair to be a barrier to physical activity?
10. Do your friends or peers participate in physical activity?
11. How has your physical activity changed during adolescence?

Section 2: Barriers and Facilitators to Physical Activity

2. Can you tell me about what prevents you from being physically active, and what encourages you to be physically active?

Probes:

1. Are you motivated to be physically active?
 - a. Why do you enjoy physical activity?
 - b. Why don't you enjoy physical activity?
2. What would motivate you to participate in more physical activity?
3. Do you have time in your day to be physically active?

- a. What other daily commitments prevent you from being physically active?
4. Can you be physically active in your community (i.e., walking trails, playground, parks)?
5. Do you have recreation centres in your community?
 - a. Are they accessible?
 - b. Do you feel welcomed in the center?
 - c. Do you feel safe in the center?
6. What kind of resources are available with physical activity programs near you?
 - a. Church, community centers, day camps
7. Do you feel safe to participate in your community?
8. Do you feel that others influence your participation in physical activity?
 - a. Do any of your friends or peers participate in physical activity?
 - b. Do you feel encouraged and supported to be physically active by your friends and peers?
 - c. Do you ever see Black women role models who participate in physical activity?
9. Does being a girl shape how you participate in physical activity? (i.e., do you feel that some sports/ physical activity is not meant for girls or any other barriers in being a girl)
10. Does being African Nova Scotian shape how you participate in physical activity?
 - a. Does being African Nova Scotian prevent you from being physically active in anyway?
 - b. Does being African Nova Scotian facilitate you in being physically active in anyway?
11. Can you describe what benefits you may gain from participating in physical activity?
12. Can you describe how you feel before participating in physical activity?
13. Can you describe how you feel after participating in physical activity?
14. Do you feel physically capable to participate in physical activity?
15. Do you feel confident to participate in physical activity?

Section 3: Family and Mother-Daughter Relationship

3. Can you tell me about the role of your family, particularly your mother-daughter relationship and how it influences your physical activity and health behaviours?

Probes:

1. How did your family talk about physical activity growing up?
2. Who had the most influence on your participation in physical activity growing up?
 - a. Do any other family members engage in physical activity?
3. Does your mother engage in physical activity?

4. Does her physical activity motivate you? Would you be more motivated if she was more physically active?
5. Do you and your mother participate in physical activities together?
 - a. What types?
 - b. How often?
6. Does your mother encourage you to be physically active?
7. In what ways does your mother influence you to be physically active?
 - a. Financially support your physical activity?
 - b. Model physical activity?
 - c. Transport you to physical activity programs?
 - d. Encourage you to be active/ talk about the importance of physical activity?
8. Can you describe the type of support your mother provides for your participation in physical activity?
9. Do you and your mother communicate about health? (i.e., nutrition, smoking, alcohol)
 - a. How often do you talk about health?
 - b. Are conversations about health productive for you? (i.e., you feel confident that you learned something)
 - c. If you have questions about health or are curious about something health-related, who do you talk to?
 - d. Do you feel comfortable talking about health with your mother?
10. Do your mothers' health behaviours motivate you?
 - a. What types of behaviours motivate you? (i.e., eating healthy, drinking water, adequate sleep).

Closing Question

4. Is there anything else that you would like to talk about that we did not get a chance to cover today?

Thank you for your time today, it is greatly appreciated, and it was lovely to meet you. So, I would love it if you could provide me your email address. We are providing compensation to all participants for their time and interest in this project. And if you could select your choice of gift card. So, the options would be: Sportschek, Chapters, Amazon, Walmart Tim Horton's. And please feel free to share my research project with others you may know who may be interested in participating. I would be more than happy to meet with them. Thank you again and enjoy the rest of your day!

MOTHER INTERVIEW SCRIPT:

Hello [Participant Name], thank you so much for meeting with me today. So, before we begin, I always like to give a bit of background about myself, my research and where I come from. So, my name is Ashley, and I am a graduate student at Dalhousie University. I previously completed my undergraduate degree in psychology and neuroscience at Acadia University. I am currently working towards my master's in health promotion. I am a member of the African Nova Scotian community; my mom is from both Halifax and Beechville. I grew up in Halifax, moved outside of the city for four years to complete my undergraduate degree and have since returned for work and my masters. With that being said, this interview will help support my research project to fulfill the completion of my master's degree.

- The interview format for today is intended to be informal.
- I want to talk to you about your role as a mother in promoting physical activity and health behaviours for your adolescent daughter.
- I will be asking you a series of questions. The information that you share with me today will help with my research project.
- Participation in this interview is completely voluntary and you can skip questions, take breaks, stop or withdraw at any point in time.
- All information that you tell me today will not be shared with anyone outside of our research team and will be kept confidential.
- Your responses will not be connected to your name or identifying information when presented in reports or presentations.
- Although quotes may be used in reports or presentations, your name or identifying information will not be shared.
- Your interview is expected to last approximately one hour.
- And, to help with the research project, and with your permission, the interview today will be audio-recorded. The recordings will be transcribed word for word by either myself or a research assistant who will sign a confidentiality agreement. All identifying information will be removed.

Do you have any questions so far before we begin the interview?

Do you consent to participate in this interview? Yes No

Do I have permission to audio-record this interview? Yes No

(ONLY IF NO) Do I have permission to take notes during this interview? Yes No

Do I have permission to use anything you say as a quote in any of the research reports? And just as a reminder, you will not be personally identified in the quote. Yes No

Participant Information

I'm going to start off by asking a few demographic questions. These questions will help describe the group of individuals that participate in the study.

- 1) May I ask how old you are in years?
- 2) May I ask your gender?
- 3) May I ask if you grew up in an African Nova Scotian community?
- 4) May I ask if you currently reside in an African Nova Scotian community?
- 5) May I ask what is your current city of residence?
- 6) How many members are in your immediate family? (i.e., parents, siblings, spouse, children)
- 7) What is your relationship to your daughter? (in terms of biological/ non-biological)
 - a. Do you live together full-time?
 - b. How would you describe your relationship to your daughter?
 - c. How would you describe your parenting style on your daughter?
 - d. Do the two of you participate in any activities together? (i.e., chores, shopping, cooking, any extracurricular activities)
 - e. In what ways do you support her?

Section 1: Current Physical Activity and Other Health Behaviours

1. Can you tell me about your current physical activity and health behaviours?

Probes:

1. What does physical activity mean to you?
2. Were you physically active during your upbringing?
3. Do you engage in physical activity?
 - a. What types?
 - b. How often are you physically active?
4. Would you say that you enjoy physical activity?
 - a. What types do you enjoy?
5. What types of environments do you participate in physical activity?
 - a. Is your environment ever a barrier to physical activity?
 - b. Is your environment ever a facilitator to physical activity?
6. Do you participate in physical activity in your neighborhood or at home?
7. How important is physical activity for your health?
 - a. Spiritual
 - b. Physical
 - c. Emotional
 - d. Cognitive
 - e. Social
8. How important is physical activity on body image/appearance?
9. As an African Nova Scotian girl, would you ever consider hair to be a barrier to physical activity?
10. How does being an African Nova Scotian woman shape your physical activity participation?
 - a. Does being African Nova Scotian prevent your participation in physical activity in anyway?
 - b. Does being African Nova Scotian encourage your participation in physical activity in anyway?
 - c. Do you ever consider family history of health conditions?
 - d. Do you ever consider the health status of our African Nova Scotian community?
11. Do you often see other Black or African Nova Scotian women being physically active?
12. How did your mother influence your health behaviours?
13. What kinds of health behaviours do you prioritize for yourself?
 - a. Nutrition, drinking water, adequate sleep, limiting alcohol consumption, avoiding smoking

Section 2: Role as a Mother on Daughters' Physical Activity and Health Behaviours

2. Can you tell me about your role as a mother on your daughters' physical activity and health behaviours?

Probes:

1. What kinds of health behaviours do you prioritize for your daughter?
 - a. Ensuring she eats well, knows health consequences of smoking, drinking enough water, getting adequate sleep?
2. Do you prioritize physical activity participation for your daughter?
3. Does your daughter have any Black women role models who participate in physical activity/ model physical activity? (i.e., coaches, instructors, family members, friends)
4. How does Black motherhood shape your mother-daughter relationship?
5. Did your transition to motherhood change your physical activity? And in what ways did it change (i.e., participate less, less time, more family commitments)
 - a. Did it change any other health behaviours?
6. Do you and your daughter discuss the health benefits of physical activity?
7. In what ways do you encourage and support your daughters' participation in physical activity?
 - a. Do you co-participate in any physical activity? Did you when she was younger?
 - b. Do you model physical activity for your daughter? Did you when she was younger?
8. What barriers to physical activity does your daughter face in being an African Nova Scotian girl?
 - a. Does your daughter express body image or appearance concerns?
 - b. Any hair-related concerns that prevent her from being physically active?
9. What kind of things may motivate your daughter to be physically active?
10. Do you and your daughter communicate about health?
 - a. Nutrition, contraception/ reproductive, smoking, alcohol?
11. Do you model any health behaviours for your daughter?
 - a. What types?
12. Do you and your daughter discuss body image/ appearance as it relates to health?
13. How do you think being African Nova Scotian has shaped your experience in communicating health with your daughter?
14. Do you feel that your daughter would be comfortable asking you health-related questions?

Closing Question

1. Is there anything else that you would like to talk about that we did not get a chance to cover today?

Thank you for your time today, it is greatly appreciated, and it was lovely to meet you.

So, I would love it if you could provide me your email address. We are providing compensation to all participants for their time and interest in this project. And if you could select your choice of gift card. So, the options would be: Sportschek, Chapters, Amazon, Walmart Tim Horton's.

And please feel free to share my research project with others you may know who may be interested in participating. I would be more than happy to meet with them.

Thank you again and enjoy the rest of your day!

APPENDIX D: CONSENT FORM



CONSENT FORM

Project title: A Qualitative Approach to Understanding the Role of the Mother-Daughter Relationship in Physical Activity and Health Behaviours of African Nova Scotian Adolescent Girls

Lead researcher: Ashley Preston, MA Health Promotion Candidate; School of Health and Human Performance, Dalhousie University, as522590@dal.ca

We invite you to take part in a research study being conducted by, Ashley Preston, who is a student at Dalhousie University. Choosing to take part in this research is completely voluntary. The information below tells you about what is involved in the research, what you will be asked to do, potential risks, benefits, inconvenience or discomfort you may experience.

You should discuss any questions you may have about this study with the primary researcher, Ashley Preston. If you have any questions, please contact her at

Purpose and Outline of the Research Study

The intention of this study is to explore barriers and facilitators to physical activity and health-promoting behaviours of African Nova Scotian adolescent girls, and the role of their mother. This study will involve interviews with African Nova Scotian mother-daughter dyads.

Who Can Take Part in the Research Study

- **Mother Criteria**

You may participate in this study if you are an African Nova Scotian mother who has an eligible daughter to whom you have been considered a primary caregiver for at least the previous year.

- **Daughter Criteria**

You may participate in this study if you are an African Nova Scotian daughter who has an eligible African Nova Scotia mother. You must be between 12-18 years old and identify as a girl.

What you Will be Asked to Do

If you decide to participate in this research, you will be asked to attend one interview session either at Dalhousie University or online via video/teleconference platform. The visit will take approximately 1 hour for each interview. During the visit the mother and daughter will be asked to each participate in an interview.

Possible Benefits, Risks and Discomforts

Benefits: The anticipated benefit of your participation in this study is the opportunity to discuss feelings, perceptions, barriers and facilitators as it relates to physical activity and other health-promoting behaviours of African Nova Scotian adolescent girls, and the role of their mother. Participation may contribute to the development and implementation of culturally sensitive physical activity and health-promoting behaviour interventions that promote health in African Nova Scotian adolescent girls.

Risks: There are minimal risks or discomforts that are anticipated from your participation in this study. Potential risks or discomforts may include possible psychological distress, emotional

feelings or sadness when asked questions during the interview. You will be offered breaks to minimize the risk of fatigue.

How your information will be protected

Privacy: Your participation in this research will be known only to the primary researcher and research team at Dalhousie University.

Confidentiality: The information that you provide will be kept confidential. Only the research team at Dalhousie University will have access to this information. The people who work with us have an obligation to keep all research information confidential. All your identifying information (such as name and contact information) will be kept by the researcher and securely stored separately from your research information. We will use a participate number (not your name) in the written and computer records so that the research information we have about you contains no names. During the study, all electronic records will be kept secure in an encrypted file on the researcher's password-protected computer. All paper records will be kept secure in a locked filing cabinet located in the researcher's office.

We will be sharing the findings of this study in a thesis, presentations, and journal articles. We will only report group results, meaning that you will not be identified in any way in our reports.

Legal Obligations: We will not disclose any information about your child's participation in this research unless compelled to do so by law. That is, in the unlikely event that we witness child abuse, or suspect it, we are required to contact authorities.

Data Retention: All data will be destroyed 1 year following the completion of this study, and the students' submission of the final report.

Additional Information: Please note that the researcher will use their Dalhousie credentials for the interview meetings on Microsoft Teams. This will ensure that the meeting recordings are securely stored in Canada. During the live Teams meeting, audio and video content will be routed through the United States, and therefore may be subject to monitoring without notice, under the provision of the US Patriot Act while the meeting is in progress. Once the meeting has completed, meetings recordings made by Dalhousie will be stored in Canada and are inaccessible to US authorities.

If you Decide to Stop Participating

You are free to leave the study at any time, without penalty. If you decide to stop participating during the study, you can decide whether you want any of the information that you have provided up to that point to be removed or if you will allow us to use that information. After participating in the study, you can decide for up to 2 weeks if you want us to remove your data. After that time, it will become impossible for us to remove it because it will already be analyzed/ anonymized.

How to Obtain Results

We will provide you with a short description of group results when the study is finished. No individual results will be provided. You can obtain these results by including your contact information at the end of the signature page.

Questions

We are happy to talk with you about any questions or concerns you may have about your participation in this

research study. Please contact the primary researcher, Ashley Preston at as522590@dal.ca

or the faculty supervisor, Dr. Sarah A. Moore at sarah.moore@dal.ca at any time with questions, comments or concerns about the research study.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-3423, or email: ethics@dal.ca

APPENDIX E: CONSENT FORM



Project Title: A Qualitative Approach to Understanding the Role of the Mother-Daughter Relationship in Physical Activity and Health Behaviours of African Nova Scotian Adolescent Girls

Lead Researcher: Ashley Preston, MA Health Promotion Candidate; School of Health and Human Performance, Dalhousie University, as522590@dal.ca

Who are we?

My name is Ashley Preston, and I am a student at Dalhousie University. I work in the School of Health and Human Performance.

Why are we meeting with you?

We want to tell you about a study that involves African Nova Scotian adolescent girls and their physical activity and health-promoting behaviours. We want to see if you would like to participate in this study.

Why are we doing this study?

We want to find out about barriers and facilitators to physical activity engagement among African Nova Scotian adolescent girls, and the role of their mother on their physical activity and health-promoting behaviours.

What will happen to you if you are in the study?

If you decide to take part in this study, you will be asked to participate in an interview with the researcher that will either be at Dalhousie University or via online video/teleconference platform (i.e., Microsoft Teams). The interview will involve the researcher asking you various questions about physical activity and health behaviours and how your relationship to your mother impacts your physical activity and other health behaviours. It will take about 1 hour to complete the interview.

Are there good things and bad things about this study?

What we find from this study will be used to help the development of programs to increase physical activity and health of African Nova Scotian adolescent girls. As far as we know, being in this study will not hurt you and it will not make you feel bad.

Will you have to answer all questions and do everything you are asked to do?

If you are asked a question and you do not want to answer, then you are allowed to tell us that you do not want to answer those questions. There will be no penalty for not answering questions.

Who will know that you are in the study?

The things that you say, and any information provided during the study will be kept confidential. Any information about you will not have your name attached, so no one will know if they are your answers.

The researcher and research team will not let anyone other than themselves see your answers or any other information about you. Your parents, family or friends will never see the answers you gave for the information we wrote about you.

Do you have to be in the study?

You do not have to be in the study. No one will get angry, and you will not be punished for not participating. Just tell us that you do not want to be in the study. And, if you decide to be in the

study and change your mind at any time, then you can tell us that you do not want to be in the study, and we can stop.

Do you have any questions?

You can ask questions at any time. You can ask now, during the interview or after the interview is done. You can talk to me during the study. My contact information is below.

Additional Information: Please note that the researcher will use their Dalhousie credentials for the interview meetings on Microsoft Teams. This will ensure that the meeting recordings are securely stored in Canada. During the live Teams meeting, audio and video content will be routed through the United States, and therefore may be subject to monitoring without notice, under the provision of the US Patriot Act while the meeting is in progress. Once the meeting has completed, meetings recordings made by Dalhousie will be stored in Canada and are inaccessible to US authorities

Ashley Preston, School of Health and Human Performance, as522590@dal.ca

IF YOU WANT TO BE IN THE STUDY, PLEASE SIGN YOUR NAME ON THE LINE BELOW:

Adolescents' name printed:

Date: _____

Signature of the Student:

Date: _____

Signature Page (Consent of Mother)

Project Title: A Qualitative Approach to Understanding the Role of the Mother-Daughter Relationship in Physical Activity and Movement Behaviours of African Nova Scotian Adolescent Girls

Lead Researcher: Ashley Preston, School of Health and Human Performance, Dalhousie University

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I understand that I have been asked to take part in an interview that will occur at either Dalhousie University, or via online platform a location acceptable to me, and that those interviews will be recorded. I understand direct quotes of things I say may be used without identifying me. I agree to take part in this study. My participation is voluntary, and I understand that I am free to withdraw from the study at any time, until 2 weeks after my interview is complete.

Please select all that apply to you (you can still participate in the research if you select no):

I agree that my interview may be audio-recorded Yes No

I agree that direct quotes from my interview may be used without identifying me Yes No

I agree to participate in this study, and that my participation is completely voluntary, and that I am free to withdraw at any time. I understand that all of my information will be kept

confidential, unless otherwise compelled to do so by law.

Yes No

Signing below will consent for me to participate in this study:

Name: _____

Signature: _____

Date: _____

Please provide an email address below if you would like to be sent a summary of the study results.

Email address: _____

Signature Page (Consent of Daughter)

Project Title: A Qualitative Approach to Understanding the Role of the Mother-Daughter Relationship in Physical Activity and Movement Behaviours of African Nova Scotian Adolescent Girls

Lead Researcher: Ashley Preston, School of Health and Human Performance, Dalhousie University

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I understand that my daughter has been asked to take part in one interview that will occur at a location acceptable to me, and that those interviews will be recorded. I understand direct quotes of things my daughter will say may be used without identifying me. I agree to allow my daughter to take part in this study. Her participation is voluntary, and I understand that she is free to withdraw from the study at any time, until 2 weeks after her interview is complete.

Please select all that apply to you (you can still participate in the research if you select no):

I agree that my interview may be audio-recorded Yes No

I agree that direct quotes from my interview may be used without identifying me Yes No

I agree to participate in this study, and that my participation is completely voluntary, and that I am free to withdraw at any time. I understand that all of my information will be kept confidential, unless otherwise compelled to do so by law.

Yes No

Signing below will consent for me to participate in this study:

Name: _____

Signature: _____

Date: _____

Please provide an email address below if you would like to be sent a summary of the study results.

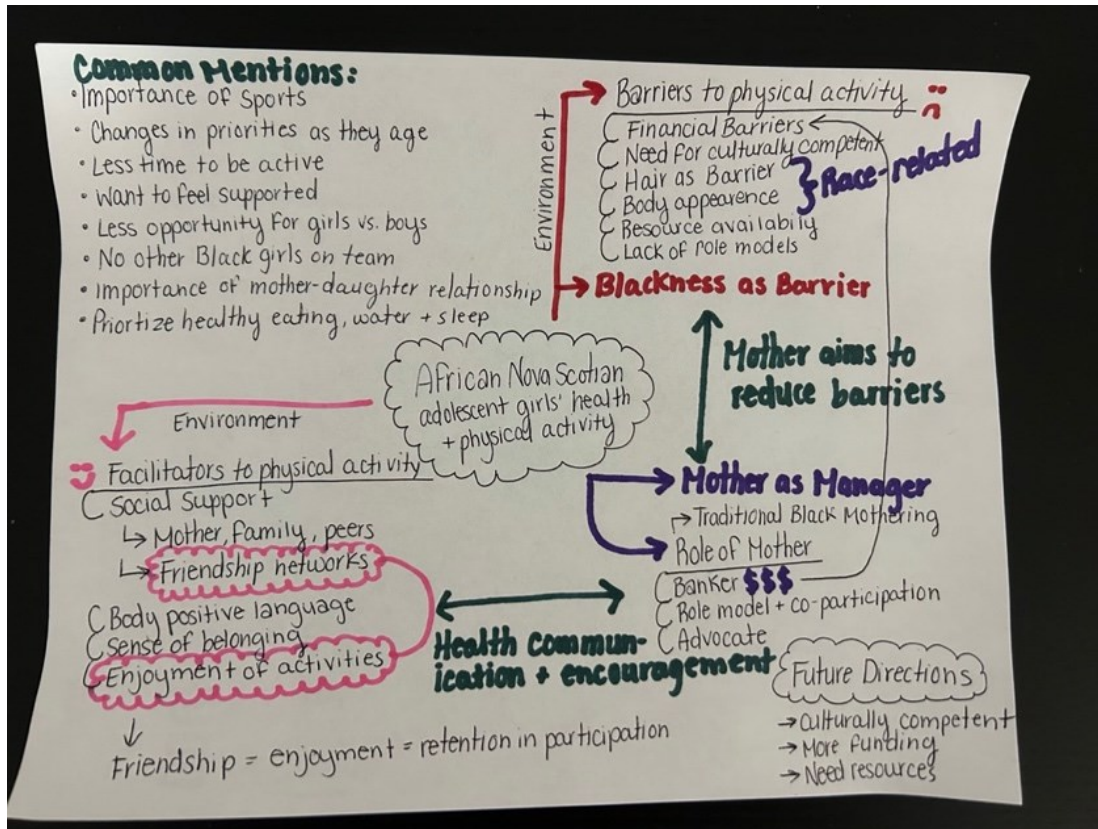
Email address: _____

APPENDIX F: CODE BOOK

Name	Description	Files	References
Black Role Models	Any mention of Black role models in physical activity that African Nova Scotian adolescent girls may encounter. The role model is someone that they look up to for inspiration. Examples include mother, sister, teacher, coach, trainer, instructor.	2	3
Body Image & Appearance	Any mention of body image or appearance as it relates to engagement in physical activity and/or participation in health behaviours.	3	6
Co-participation in Activities (Mother Support)	Any mention of mother and daughter co-participation in activities. This is health-related and un-health related activities.	3	6
Communication in Physical Activity and Health (Mother Support)	Any mention of mother-daughter communication as it relates to physical activity or health, which may include advice from the mother, descriptions of values around health and body related terminology, daughter asking health or physical activity-related questions of the mother.	3	8
Definitions of Physical Activities and Types	Any mention of what physical activity means to the participant. Or any definition of physical activity. Or any mention of what types of physical activity they participate in.	3	9
Discrepancies in Mother Daughter Activity (Mother Support)	Any mention of mother and daughter noting different levels or types of engagement in physical activity.	1	1
Emotional Health Benefits	Any mention of how physical activity influences emotional well-being. May include mentions of feeling better, relaxation, happiness, relief	2	3
Enjoyment of Activities	Any mention of activity being fun or enjoyable or what activities participants enjoy.	2	5
Advocacy in Physical Activity (Mother Support)	Any mention about how the mother advocates for the physical activity engagement and/or health behaviours of their daughters. Mentions can be from both the mother and daughter.	3	6
Financial Barrier	Any mention of finances being a barrier to physical activity.	1	2
Financial Support (Mother Support)	Any mention of mother providing financial support for daughters' participation in physical activity.	2	2
Gender Barriers	Any mentions of how being a girl may prevent or create barriers to physical activity.	3	3
Hair	Any mention of how hair may influence physical activity participation.	3	6
Lack of Energy	Any mention of how a lack of energy may prevent or influence physical activity. May include fatigue, exhaustion or lack of sleep/ sleep changes during puberty.	2	2
Modelling Physical Activity & Health (Mother Support)	Any mention of mother modelling physical activities or other health behaviours. This included co-participation in physical activity and other health behaviours with daughter.	2	3
Mother Physical Activity	Any mention of what physical activity the mother does, what physical activity means to the mother and how the daughter views their mothers' physical activity.	4	9
Neighborhood Environment	Any mention of how the environment is supported or has been a barrier to movement.	4	12

Name	Description	Files	References
Race Barriers	Any mention of how being ANS/ Black may influence physical activity.	2	6
Resource Availability	Any mention of resources in the home or community environment that may influence physical activity.	4	9
Safety	Any mention of feeling safe or unsafe to participate in physical activity in neighborhood environment, which may include rec centers, playground or parks.	2	3
Social Health Benefits	Any mention of the social health benefits in participating in physical activity.	2	2
Social Support	Any mention of how social support may influence participation in physical activity.	4	16
Time Constraints	Any mention of obstacles they may encounter that takes time away from being physically active or being able to be physically active.	2	8
Transportation	Any mention of forms of transportation to and from physical activity programs, activities or sports.	2	3

APPENDIX G: VISUAL MAPPING



APPENDIX H: DALHOUSIE RESEARCH ETHICS APPROVAL LETTER



**Health Sciences Research Ethics Board
Letter of Approval**

January 16, 2023

Ashley Preston
Health\School of Health and Human Performance

Dear Ashley,

REB #: 2022-6398
Project Title: Understanding the Role of the Mother-Daughter Relationship in the Physical Activity and Health Behaviours of African Nova Scotian Adolescent Girls: A Qualitative Study

Effective Date: January 16, 2023
Expiry Date: January 16, 2024

The Health Sciences Research Ethics Board has reviewed your application for research involving humans and found the proposed research to be in accordance with the Tri-Council Policy Statement on *Ethical Conduct for Research Involving Humans*. This approval will be in effect for 12 months as indicated above. This approval is subject to the conditions listed below which constitute your on-going responsibilities with respect to the ethical conduct of this research.

Sincerely,

A black rectangular redaction box covering the signature of the Health Sciences Research Ethics Board member.