PARENT AND EARLY CHILDHOOD EDUCATOR PERCEPTIONS OF PHYSICAL HEALTH AND WELL-BEING IN THE EARLY YEARS

By

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**Submitted in partial fulfillment of the requirements
for the degree of Master of Arts**

at

**Dalhousie University
Halifax, Nova Scotia**
June, 2019

DEDICATION

I wholeheartedly dedicate this thesis to my two beautiful daughters and my loving, ever so patient husband. I could not have undertaken this program and thesis project without all of their love, patience, and support.

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ABSTRACT

Early childhood development is a determinant of health. Parents and early childhood educators (ECEs) have an important role in influencing development during this timeframe. The Early Development Instrument (EDI) is widely used to measure development at school entry. In Nova Scotia, children are considered vulnerable in the Physical Health and Well-being (PHW) domain of the EDI. The study qualitatively explored parent and ECE perceptions of PHW and identified similarities and differences between parent and ECE perceptions, in the context of the EDI description of PHW. Through phone interviews with parents, and with ECEs working with four-year-olds in regulated child care across Halifax, three primary themes were identified, revealing some similarities and differences between perceptions of PHW, in the context of the EDI description of PHW it would be important to 1) use consistent terminology of developmental domains and 2) inform parents and ECEs of developmental expectations prior to school entry.

LIST OF ABBREVIATIONS USED

PHW: Physical Health and Well-being

EDI: Early Development Instrument

EST: Ecological Systems Theory

SEF: Socio-ecological Framework

ECE: Early Childhood Educator

DEECD: Department of Education and Early Childhood Development

SES: Socio-economic Status

GLOSSARY

Physical Health and Well-Being (PHW): "Includes gross and fine motor skills (e.g., holding a pencil, running on the playground, motor coordination), adequate energy levels for classroom activities, independence in looking after own needs, and daily living skills" (Offord Centre for Child Studies, 2016).

Early Development Instrument (EDI): "A 103-item questionnaire completed by kindergarten [primary] teachers in the second half of the school year that measures children's ability to meet age-appropriate expectations in five general domains" (Offord Centre for Child Studies, 2019d).

Ecological Systems Theory (EST): "Among the most widely adopted theoretical frameworks for studying individuals in ecological contexts" (Watling Neal & Neal, 2013).

Socio-ecological Framework (SEF): An extension of Bronfenbrenner's EST, the socio-ecological framework (SEF) indicates that there are five systems or levels of influence that shape human development (Moore, de Silva-Sanigorski, & Moore, 2013).

Early Childhood Educator (ECE): "An adult who has an early childhood education diploma or degree from a post-secondary institution" (Nova Scotia Department of Education and Early Childhood Development, 2018a).

Socio-economic Status (SES): "The social standing or class of an individual or group. It is often measured as a combination of education, income and occupation" (American Psychological Association, 2019).

ACKNOWLEDGEMENTS

A special thank you to my supervisor, Dr. Sara Kirk for her patience, support, and guidance. I am so grateful to have had the chance to work with you and for all of the opportunities you have provided me with during this program.

To my whole committee, I would not be where I am without all of your support. Your knowledge and expertise helped me to successfully complete this research project and made me a better writer and researcher. Thank you!

To all of the participating child care centres, directors, early childhood educators, and parents/guardians, I cannot express my gratitude enough for your time and contribution to this research study. Each and every one of you was a valuable member of my project and your participation in every capacity is what truly made its successful completion a possibility.

CHAPTER 1: INTRODUCTION

Overview

Early childhood development is a key social determinant of health (Moore, McDonald, Carlon, & O'Rourke, 2015). Early childhood development refers to the "expected milestones reached in normal development" (Janus et al. (2007), p. 1). The time frame commonly referred to as early childhood is 0 to 6 years of age (Janus et al., 2007). Research indicates that children develop rapidly during this time and that this development translates into learning habits and health outcomes in adulthood (Hesketh et al., 2015; Janus et al., 2007; Marmot, Friel, Bell, Houweling, & Taylor, 2008; Shonkoff, 2009). Literature suggests that the rapid rate of development during early childhood indicates the importance of considering the multi-level factors that influence early childhood development such as maternal health and well-being, safe physical and built environments, education, and relationships (Wiens, 2014). This research study explored parent and early childhood educator (ECE) perceptions of physical health and well-being (PHW).

Problem Statement

It is important to explore how parents and ECEs understand PHW from a health promotion perspective because children in Nova Scotia (NS) are considered vulnerable on the PHW domain of the Early Development Instrument (EDI) (Nova Scotia Department of Education and Early Childhood Development (NS DEECD[1]), 2012/2013; NS DEECD, 2014/2015, NS DEECD, 2017/2018). PHW is a domain within child development that, among other areas of development, can impact a child's achievement

[1] NS DEECD is an acronym used to represent the many cited documents that were obtained from the Nova Scotia Department of Education and Early Childhood Development

of optimal health. There are also factors beyond the individual that impact health and child development. These are evident through a health promotion lens and are considered in this research study.

Defining PHW is complex. The terms "physical health" and "well-being" are commonly used separately to describe different concepts. Physical health often refers to an individual's physical health status, whereas well-being is more commonly used to describe an individual's overall condition or status, which may incorporate aspects of physical, mental, or spiritual well-being. The World Health Organization's (2019) definition of health combines both terms and states that "health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Additionally, and most relevant for this study is the description of well-being noted in the Australian Early Learning Framework (Australian Government Department of Education, Employment and Workplace Relations, 2009). In fact, Australia appears to have a stronger focus on PHW in the early years more so than other countries or Canadian provinces. In the Australian Early Learning Framework, well-being encompasses both physical and psychological components and includes being in good physical health as well as having feelings of happiness, satisfaction, and success (Australian Government Department of Education, Employment and Workplace Relations, 2009). Similarly, the NS Early Learning Curriculum Framework (NS DEECD, 2018a) includes happiness and health in their description of well-being and elaborates by suggesting that a child's well-being includes being "loved, respected, protected, and supported by their families and communities" (p. 48). When children have good physical well-being they are able to "concentrate, cooperate and learn" (Australian Government Department of Education, Employment and Workplace Relations, 2009, p. 30). Part of

achieving physical well-being involves the development of gross motor skills (Cameron, Cottone, Murrah, & Grissmer, 2016). The importance of gross and fine motor skills is also identified on the EDI.

The EDI is a population tool completed by primary school teachers in NS public schools during the second half of the school year to allow time for the children to settle into their new environment and for teachers to have an opportunity to get to know the children (Janus et al., 2007). Its purpose is to measure children's readiness to learn at school during their primary year (Janus et al., 2007). Readiness to learn "refers to the state of a child's neurosystem being ready to develop various skills and neuropathways based on the stimuli it will receive" (Janus et al., 2007, p.1). Janus et al. (2007) elaborate by suggesting that children are born ready to learn and likely even before birth (p.1), indicating the importance of parental influence on a child's development. Results from the EDI can be used to help 1) "provide communities with information to support future planning and service development" 2) "support community initiatives for healthy child development" (NS DEECD, 2019).

On the EDI there are five domains that "measure children's ability to meet age-appropriate developmental expectations" (Offord Centre for Child Studies, 2019d), one of which is PHW domain. This domain is broken down into three subdomains, which include *gross and fine motor skills*, *physical independence*, and *physical readiness for the school day*. As a whole the domain is described as "gross and fine motor skills, such as holding a pencil, running on the playground, motor coordination, and adequate energy for classroom activities" (NS DEECD, 2012/2013, p. 2). Although similar, the description of PHW is slightly different from the provincial EDI Descriptive Report (2012/2013) on the EDI website. On the website there is an addition after "adequate

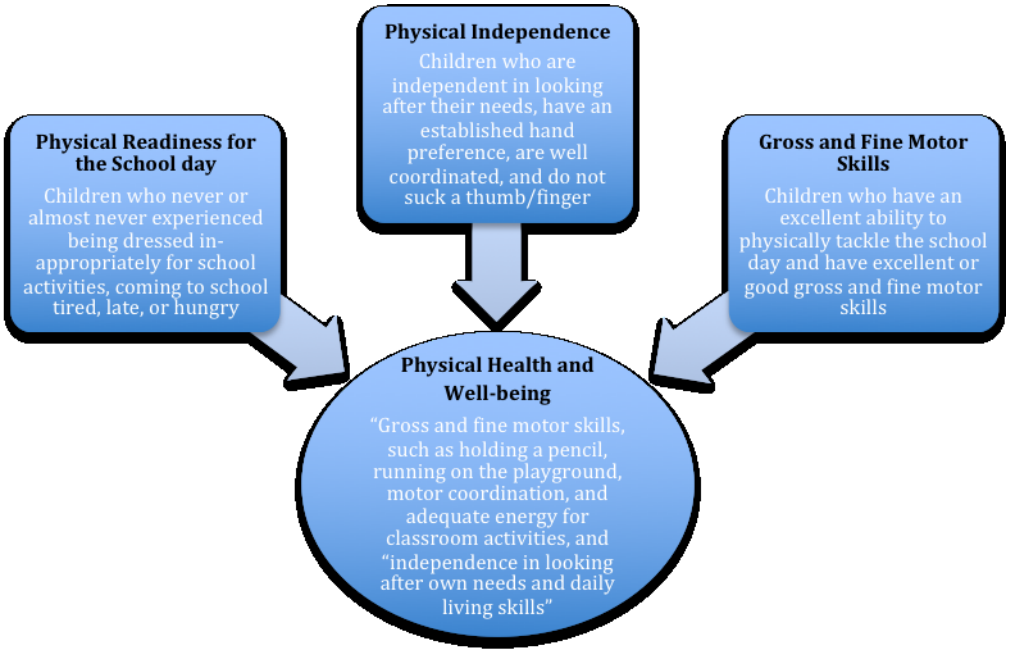
energy for classroom activities", which states "independence in looking after own needs and daily living skills" (Offord Centre for Child Studies, 2016). To complicate things further the actual EDI questionnaire does not use the term PHW, but instead the domain is written as Physical Well-being. Inconsistencies in terminology aside, the EDI is and has been successfully used nationwide; therefore, the full EDI description of PHW and the three subdomains was used to guide this study.

The Australian learning framework suggests that physical activities using fine and gross motor skills contribute to increased independence and a child's self-satisfaction (Australian Government Department of Education, Employment and Workplace Relations, 2009, p. 30). Bingham et al. (2016) and Hesketh et al. (2015) suggest the importance of physical activity during the early years for various health outcomes. Amongst others, improved motor skills and cognitive development are two of the known health benefits associated with physical activity during the early years' time frame (Colley et al., 2013). A finding that is consistent with what was indicated by Iivonen et al. (2013) who indicated that motor skill development is impacted by levels of physical activity in preschoolers. Research has indicated that parents, the home environment, and care providers such as ECEs are all significant factors influencing healthy behaviours like physical activity during the early years (Bellows et al., 2011; Early Childhood Australia, n.d.; Froehlich Chow & Humbert, 2014). This is consistent with the findings in the literature by Goldfeld et al. (2015), which indicated that socio-environmental factors such as families, communities, and institutions are determinants of a child's well-being. These findings illustrate the multi-level factors that influence a child's development and overall well-being. The influential role parents have on a child's development has been well established in research (Bellows et al., 2011; Early Childhood Australia, n.d.;

Froehlich Chow & Humbert, 2014; Goldfeld et al., 2015). According to a 2016 provincial report, approximately 16, 660 children in NS are in a regulated child care setting (NS DEECD, 2016). This number is increasing or is likely to increase as provincial initiatives such as the provincial pre-primary program continue to roll out.

It is already well known that parents and ECEs have an important role in influencing children during the early years time frame (Marmot, 2008, Shonkoff, 2009). Gaining a better understanding of their perceptions of PHW could provide additional valuable insight into how parents and ECE perceive PHW in NS.

Figure 1: Diagram of PHW Description: Adapted from EDI description (Offord Centre for Child Studies, 2016)



Research Gap

Prior to conducting this research study, research that qualitatively explored perceptions of PHW in parents and ECEs did not exist but is important to explore in order to understand these influences in the context of early childhood development. An

initial search of the literature was completed to determine if perceptions of PHW in the early years had been explored in other provinces or countries, but no results were found.

The results from this study, which explored parent and ECE perceptions of PHW in the early years provided an understanding of how parents and ECEs perceive PHW and also insight into how parent's and ECE's perceptions related to the EDI description of PHW. Findings could inform relevant stakeholders such as the provincial government and the DEECD on the perceptions of parents and ECEs, which may help to inform interventions (i.e., supports and services) that could enhance early childhood development and experiences related to PHW. In addition to the provincial pre-primary program, there are also approximately 180 regulated child care centres in the Halifax county all of which appear to offer care for preschool aged children (NS DEECD, 2011). These centres could provide an optimal opportunity for interventions, supports, and services related to PHW (NS DEECD, 2012).

Research Purpose

The purpose of this research study was to 1) qualitatively explore parents'[2] and ECEs' perceptions of PHW and 2) reflect on the similarities and differences between parent and ECE perceptions of PHW, in the context of the EDI description of this domain.

[2] The term parents represents both parents and guardians

CHAPTER 2: LITERATURE REVIEW

Chapter Outline

The following literature review explores the most recent research and literature on early childhood development, as it relates to PHW, the varying factors that influence childhood development, background information on the EDI, and the rationale for completing this research project.

Development in the Early Years

Research indicates that how children develop during the early years (0-6 years) (NS DEECD, 2012) translates into their health outcomes and learning habits later in life (Marmot, Friel, Bell, Houweling, & Taylor, 2008; Shonkoff, 2009). Bakken, Brown, and Downing (2017) suggest that the early years are "a critical period for developing the foundations thinking, behaving, and emotional well-being"(p. 255). Children grow and develop at a rapid rate during the early years and the experiences that they have during this time significantly influence their development and long-term mental and physical health outcomes (Carson et al., 2015). Research looking at the quality of early childhood programming and environments for four-year-olds indicated that high quality programming can benefit a child academically, socially, and behaviourally (Bakken et al., 2017). Marmot et al. (2008) stress the importance of investing in the early years because development in early childhood impacts educational and occupational success as well as the likelihood of developing health-related issues. Similarly, Shonkoff (2009) indicated that "stable, responsive, nurturing relationships and rich learning experiences in the earliest years provide lifelong benefits for learning, behaviour, and both physical and mental health" (p. 1). This suggests that investing in the early years can result in 1) individuals who are better able to contribute to society as adults and 2) less money spent

on treating preventable or delayable diseases within the health care system (Adamo, et al., 2014).

Socio-ecological Framework (SEF)

Children are highly influenced by their surroundings including their physical and social environments (Adamo et al., 2014; NS DEECD, 2012). Janus et al. (2007) indicate that "the interaction between a child's genes and his or her early environment has a profound impact on later outcomes" (p. 1). By nature, children are born ready to learn yet the ability to learn can be positively or negatively influenced by physical, cognitive, and emotional-psychological factors (Janus et al., 2007). Willms (2010) further suggests that nurturing and stimulation during the early years has significant long-term impacts. He also discusses the important role that neighbourhoods and communities have in influencing childhood development and parental ability to provide a "positive family environment" (Willms, 2010, p.1). These findings illustrate the multi-level factors that influence child development and the need for intervention during the early years. The multi-level factors can be further explained by the SEF, which was derived from Bronfenbrenner's Ecological Systems Theory (EST) (Moore et al., 2013).

Bronfenbrenner's EST is a theoretical framework that was developed in 1979 by Urie Bronfenbrenner to understand how ecological systems impact or influence child development (Bronfenbrenner, 1979). In the original 1979 article by Bronfenbrenner he suggested that ecological systems are comprised of four separate but interrelating systems, which include 1) micro, 2) meso, 3) exo, and 4) macro levels. In a separate article by Watling Neal and Neal (2013) it was noted that there was a fifth system known as chrono. Previous research studies have used Bronfenbrenner's EST to investigate "predictors or points of intervention that lie beyond the individual" (Boonpleng et al.,

2013; Watling Neal & Neal, 2013, p. 723). Among others, these predictors include an individual's friends, family, school, and community (Boonpleng et al., 2013; Watling Neal & Neal, 2013). An extension of Bronfenbrenner's EST is the SEF, which indicates that there are five systems or levels of influence that shape human development. These levels of influence include 1) individual/ intrapersonal influences such as physical abilities and socio-economic status (SES), 2) interpersonal influences such as family and peers, 3) organizational influences such as child care settings/centres, schools, and workplaces, 4) community influences such as access to services and supports and safe places to play, and 5) environment/policy influences such as child tax benefits and funding for early childhood programming (Moore et al., 2013). Goldfeld et al. (2015) elaborate on the role that socio-environmental factors (i.e. families, communities, and institutions) have on influencing a child's well-being by discussing the five ecological systems outlined in Bronfenbrenner's EST. See Appendix A for an example of the SEF.

Intrapersonal.

A child's age, gender, and SES are a few of the intrapersonal level factors that influence the likelihood of them being physically active (Wilk et al., 2018). Literature from Wilk et al. (2018) titled "Examining Individual, Interpersonal, and Environmental Influences on Children's Physical Activity Levels" indicated that the older a child gets the less likely they are to participate in physical activity. Additionally, it appears as though a child's gender also impacts physical activity habits and behaviours, with boys being more active than girls (Wilk et al., 2018). The SES of the child's family is also a factor that influences their opportunities to participate in programs or activities related to PHW.

Interpersonal.

Children learn and develop physical activity related habits and behaviours by observing their parents' behaviours (Bellows et al., 2011; Loprinzi & Trost, 2010). When parents are active and model physical activity behaviours, children's activity levels increase (Bellows et al., 2011; Loprinzi & Trost, 2010; Thompson, Rehman & Humbert, 2005). In a study referenced by Thompson et al. (2005), children who had active parents were 5.8 times more likely to be active than their counterparts (Bouchard, 1996). Parent enjoyment of physical activity and a child's time spent in front of a television were also found to be factors influencing physical activity in children in the study by Zecevic, Tremblay, Lovsin, and Michel (2010). Children were more active on a daily basis if they watched less television and if their parents enjoyed being physical active (Zecevic et al., 2010). In a review of studies exploring parent perceptions of health behaviours it was noted that most parents are aware that modelling physical activity behaviours is beneficial, but among others, identified time and neighbourhood safety as barriers to promoting activity in their children (Pocock, Trivedi, Wills, Bunn, & Magnusson, 2010). An additional barrier is that there seems to be a preconceived idea that children are already active enough (Hesketh, Hinkley, & Campbell, 2012; Zecevic et al., 2010), which could be a result of the lack of policies in place regarding physical activity in the early years, a topic that is further discussed in the environment/policy level influences section. In addition to parents, a child's siblings and peers also have an influential role in either inhibiting or facilitating physical activity behaviours (Hesketh, Lakshman, & van Sluijs, 2017).

Organizational.

Care providers[3] (such as ECEs) also play a critical role in influencing the physical activity habits and behaviours of young children (Hesketh et al., 2015). Hesketh et al. (2015) suggests that physical activity perceptions and beliefs of care providers can either encourage or discourage physical activity. They found that most care providers 1) knew the importance of physical activity, but felt they didn't have the energy to be active, 2) were unaware of physical activity recommendations for infants and toddlers, and 3) felt they had a limited responsibility to encourage physical activity (Hesketh et al., 2015). Similar to the last point, another study also revealed that ECEs felt they had limited responsibility to promote activity and suggested that it was the parents' role (Lu & Montague, 2016). In a study by Froehlich Chow and Humbert (2014), ECE's perceptions of the barriers and facilitators related to physical activity were explored using an ecological framework. One-on-one interviews with ECEs revealed personal physical activity patterns, the physical activity patterns of others, parental knowledge and involvement, space for play, geographic locale, and lack of policies related to physical activity as barriers and facilitators related to the promotion of physical activity opportunities (Froehlich Chow & Humbert, 2014).

Community.

A 2018 Canadian report examining the "Foundational Community Factors (FCF) for Early Childhood Development" indicated that the availability of family-friendly resources on promoting child development are important community level factors that can impact child development (Goldfeld et al., 2017). This same report elaborated by

[3] It is important to note that the terms care provider and ECE were sometimes used interchangeably in the studies used for this paper.

stating that “in disadvantaged communities, lack of resources and opportunities can result in worse child development outcomes that can persist from one generation to the next” (p. 2). Literature exploring neighbourhood effects and early childhood development indicated that the neighbourhoods where children reside, play, and attend school can impact a child’s overall health and well-being (Minh, Muhajarine, Janus, Brownell, and Guhn, 2017, p. 155). The neighbourhood or community that a family lives in can impact a child’s developmental health depending on “parents’ access to resources to support children’s developmental, parental well-being, and parenting behaviours” (Minh et al., p. 166).

The Human Early Learning Partnership (2012) also indicated that the community a child lives in can impact their development as it pertains to physical health. Neighbourhood safety, accessibility, transportation, program availability, and program affordability are a few of the common barriers a child and his/her family can experience, particularly if the family lives in a low-income or rural community (Human Early Learning Partnership, 2012).

Environment/Policy.

A child’s opportunity to learn physical activity habits and behaviours is also determined by their physical environment (Bellows et al., 2011; Pocock et al., 2010). Research looking at the impact of environment on physical activity in young children suggests that children are less active when they do not have opportunities to play outside (Bellows et al., 2011). Some of the environmental barriers include safe places to play, weather, and accessibility of electronics such as televisions and video games (Bellows et al., 2011). Stone et al. (2019) also note the impact of weather and seasonality by referencing findings from the study by Harrison et al. (2017) which suggested that wind,

rain, and hours of daylight all influence physical activity.

According to the Human Early Learning Partnership (HELP) (2012), there needs to be an "integrated approach to supporting families with policies that promote adequate parental time and resources to care personally for their young children (e.g., appropriate taxation, benefits, housing, and working hours)". Although this may start at the policy level, all levels of the SEF would ideally be involved in providing a "fully accessible service system" (HELP, 2012, p. 2). Organizations, communities, and parents all have a role to play in advocating and supporting child development and helping to provide opportunities for children to be active.

Policy level influences such as family income, funding for early childhood programming including child care, and policies and guidelines for regulated child care centres around physical activity all impact a child's ability and likelihood of participating in physical activity opportunities. Amongst other initiatives in NS, the provincial Day Care Act and Early Learning Curriculum Framework provide some guidance around physical activity in the early years. The Day Care Act specifies that there needs to be opportunities for children to be physically active and also mentions outdoor time and space requirements (Province of NS, 2016). The NS Early Learning Curriculum Framework discusses strategies for educators to use to promote children to take responsibility for their health and physical well-being such as including physical activities in play (NS DEECD, 2018a). Although there are national and provincial guidelines and initiatives pertaining to movement or physical activity in the early years, "Let's Get Moving Canada!" was the first national policy targeting physical activity exclusively. The vision for this policy, which came into effect in 2018, is around "increasing physical activity and decreasing sedentary living in Canada" (Government of

Canada, 2018). Subsequently, Nova Scotia developed an action plan for increasing physical activity titled "Let's Get Moving Nova Scotia" (Province of Nova Scotia, 2018). Within the provincial action plan is an action specific to early childhood. This action references the provincial universal Pre-primary Program and states "help early childhood educators enhance their skills and knowledge about physical activity, outdoor play, and physical literacy" (p.3). These policies and initiatives are steps forward in terms of improving physical activity habits and behaviours nationally and provincially; however, it is important to note that they were both released in 2018 and will take time to implement. Policies and education for ECEs on physical activity could be one factor that might be influencing parents and ECEs perceptions of the importance of physical activity.

Research exploring ecological influences in early childhood further suggests that a child's ecological environment consists primarily of their family and school with community and society more broadly surrounding them (Boonpleng et al., 2013). These findings highlight the influence that parents, organizations (such as child care settings or early learning programs with ECEs), communities, and environments/policies have on a child development during the early years.

Understanding the different levels of influence on a child's development is significant for Nova Scotians. Results from the 2012/2013, 2014/2015, 2017/2018 EDI descriptive reports indicated that children in NS could benefit from additional support, specifically in the area of PHW (NS DEECD, 2012/2013; NS DEECD, 2014/2015, NS DEECD, 2017/2018). Investing more into the early years through early learning programs, supports and services, and early interventions may be beneficial for enhancing early childhood development (Marmot et al., 2008; Willms, 2010). In a NS context, this

would involve more supports and services related to PHW that could enhance parent and ECE perceptions of PHW to be congruent with the EDI description of PHW, which may improve PHW during the early years and possibly enhance scores on the PHW domain of the EDI in the future.

The Early Years

In 2011, the Early Years Study 3 report was released. This national report indicated that "one in four Canadian children arrive at school with vulnerabilities that make them more likely to fail in school" (McCain, Mustard, & McCuaig, 2011). A provincial report elaborated on these findings from the Early Years 3 Study and suggested that NS is doing more poorly than other provinces in "providing a coordinated approach to deliver such programs" in reference to services and programs for children and families (NS DEECD, 2012, p. 2).

The transition to school can be challenging for young children (NS DEECD, 2012). Literature that explored young children's transitions to school noted that amongst other things, a child may experience a "loss of attachment to familiar people, friends, environment, and objects within an environment" (Harper, 2016, p. 2). Research suggests that children who are in good health and meet age appropriate developmental milestones transition easier into the school setting (NS DEECD, 2012) and children who make a successful transition to school have an increased chance of "academic success throughout their primary school years" (Harper, 2016, p.2). Children in poor-quality environments are more likely to be less prepared for school (Donoghue, 2017), whereas children who take part in quality early childhood programs are more likely to succeed in school, which is likely a result of the early experiences these programs provide (McCain, Mustard, & McCuaig, 2011; NS DEECD, 2012).

As described by the NS DEECD (2016), quality early childhood programming is important for "successful lifelong learning, development, health, and wellbeing" (p. 5). Part of having quality programming involves consistent or commonality in programs. Until 2018, there was no standardized curriculum for the early years in NS. Not having a standardized curriculum leads to inconsistent programming and lack of ability to evaluate early childhood programming (NS DEECD, 2016). Currently, there is an implementation draft of an Early Learning Curriculum Framework available on the DEECD's website (NS DEECD, 2018a). To the researcher's knowledge, this document is still in a pilot phase; however, it will be used provincially to guide ECEs in their practice and program planning (NS DEECD, 2018a). It is worth noting that the early childhood education field in NS has evolved significantly since the beginning of the research study, which first began in 2015. Some examples of changes that have occurred include the development and expansion of the provincial pre-primary programs, the creation of the provincial Early Learning curriculum Framework (NS DEECD, 2018a), and a new provincial quality improvement program titled Quality Matters.

There is no simple definition for quality early childhood programming. The Early Learning Curriculum Framework Implementation Draft 2018-2019 (NS DEECD, 2018a) states that "high-quality early childhood education programs facilitate children's learning and development, and excellent educators' practices are essential to quality outcomes for children" (p. 3). A study by the National Institute of Child Health and Human Development (2002) exploring Early Child Care and Children's Development Prior to School Entry suggested that "higher quality child care, improvements in the quality of child care, and experience in centre-type arrangements predicted better pre-academic skills" (p. 133). From the perspective of children, quality programming involves feeling

accepted, having friends, having adults that are responsive to their needs, feeling comfortable in their environment, engaging in age appropriate interesting activities, and having fun (Childcare Resource and Research Unit & Canadian Union of Postal Workers, n.d.). In their research exploring the education of staff in preschool aged classrooms in child care centres and child outcomes, Falenchuck, Perlman ,McMullen, Fletcher, and Shah (2017) suggest that there are both structural (e.g., staff/child ratios, group size, and staff education) and process (e.g., interactions that children experience with other staff and children) quality characteristics (p. 2). A report completed at Harvard University noted that although there is variance in what is considered quality early childhood programming, there are six primary factors that commonly produce positive impacts. These six factors include, 1) small class sizes and appropriate adult to child ratios, 2) a language rich environment, 3) responsive relationships between staff and children, 4) high levels of child participation, 5) age appropriate learning environment and materials, and 6) highly qualified and skilled teachers (Centre on the Developing Child at Harvard University, 2007). Highly qualified staff includes ECEs who have the knowledge of "designing, implementing and evaluating developmentally appropriate curriculum ideas in an effort to support the growth and development of children from infancy to age 12" (Nova Scotia College of Early Childhood Education, 2016a). Quality programming provides an opportunity for improving PHW during the early years, which could lead to improved scores on the PHW domain of the EDI.

The Early Development Instrument

The EDI was developed in response to a community need for an informative, inexpensive, and standardized tool to measure readiness to learn at school (Janus et al., 2007). Its purpose is to measure developmental health at school entry (approximately 5

years) and predict success in elementary school (Janus et al., 2007; Janus & Offord, 2007). Although each child is assessed individually, the results from the EDI are combined to provide a reflection of communities rather than individual children (Offord Centre for Child Studies, 2019a). Literature on the Development and Psychometric Properties of the EDI (Janus & Offord, 2007) indicate that the EDI is "designed to provide communities with an informative, inexpensive and psychometrically sound tool to assess outcomes of early development as reflected in children's school readiness" (p. 1). Communities represent one of the five levels of influence identified in the SEF suggesting the importance of creating communities that are supportive of early childhood development.

Questions on the tool fall under five domains, which include: 1) Physical Health & Well-being, 2) Social Competence, 3) Emotional Maturity, 4) Language and Cognitive Development, and 5) Communication Skills and General Knowledge (Janus et al., 2007). Data from the EDI are collected every two years. In NS, children are considered vulnerable on the PHW domain. The term "Vulnerable describes the children who score below the 10^{th} percentile cut-off of the comparison population on any of the five domains" (NS DEECD, 2012/2013, p. 7). The 2017/2018 provincial descriptive summary report indicated that 11.3% of children were considered vulnerable on the PHW domain and 28.8% of children were vulnerable on at least one of the EDI domains (NS DEECD, 2017/2018), which is very comparable to the national results, which state that 27% of Canadian children are vulnerable on at least one EDI domain (Offord Centre for Child Studies 2019b). For background context, the 2014/2015 results indicated that 9.8% of children were vulnerable on the PHW domain and the 2012/2013 results, which are also the NS baseline for comparison, indicated that 10.3% of children were

vulnerable on this domain (NS DEECD, 2012/2013; NS DEECD, 2014/2015). Of the 11.3% of children who were vulnerable on the PHW domain in NS on the 2017/2018 results, 27.3% were considered to have few to none in the *gross and fine motor skills* subdomain. It is worth noting that the percentage of children vulnerable by domain does not differ by much on any of the other subdomains in NS. The lowest percent vulnerability is 10.5% (Emotional Maturity domain) and the highest percent vulnerability is 11.8% (Cognitive Development).

Physical Health and Well-being

Physical health and well-being is one of five domains that measure developmental health at school entry. Early Childhood Australia (n. d.) suggests that the three subdomains of PHW as described by the EDI support learning, development, and engagement in early childhood and help to prepare children for school. The development of fine and gross motor skills provides children with more opportunities to be independent (Early Childhood Australia, n.d.; Australian Government Department of Education, Employment and Workplace Relations, 2009). Having well developed motor skills promotes the development of coordination and balance as well as having the ability to handle and manipulate objects (Province of Quebec, n.d.). Being well coordinated is part of the *physical independence* subdomain. Practicing movement related skills in early childhood "creates a foundation for more complex movement activities of daily living, recreation, and sports in later childhood" (Hestbaek et al., 2017, p.2). Daily living skills are part of the PHW description and related to all three subdomains. As such, the researcher expected that it was possible that the subdomain related to *gross and fine motor skills* informed the development of the remaining two subdomains, *physical independence*, and *physical readiness for the school day*. In an attempt to better

understand the link, if any, between the subdomains the researcher contacted Dr. Magdalena Janus, one of the developers of the EDI who stated that all subdomains of PHW were equal and one did not inform another. For purposes of this research study, the researcher was interested in the *gross and fine motor skills* subdomain because of the vulnerability identified through recent EDI results noted above (NS DEECD, 2017/2018). Additionally, peer-reviewed research has indicated that there is a connection between gross and fine motor skill development and coordination, which is a component of the physical independence subdomain (Hestbaek et al., 2017, p.2; Province of Quebec, n.d.). Two of the EDI questions for the subdomain titled *physical independence* were around hand preference and coordination, both of which are related to a child's motor skill development. The similarities between the descriptions of the subdomain related to *gross and fine motor skills* and the EDI's description of PHW is another reason why the researcher chose to focus on this subdomain when exploring the PHW domain. For these reasons, gross and fine motor skill development was the primary focus when exploring the PHW domain. It is important to note that the EDI is a quantitative tool that is used to explore developmental health at school entry and predict success in elementary school. The EDI uses all five domains to assess developmental health at a population level. This research study only explored one domain from a qualitative perspective. As such, the researcher used the EDI tool in a different way than intended by developers.

Gross motor skills such as running and jumping and fine motor skills such as writing and painting are movements that result from being physically active (Reunamo et al., 2014). Physical activity is typically described as any body movement using skeletal muscles that uses energy (Reunamo et al., 2014). To have well-developed motor skills, a child must have opportunities to be physically active (Reunamo et al., 2014).

Physical activity, balanced nutrition, and rest all contribute to a child's health and physical well-being (Early Childhood Australia, n.d.; Javanainen-Levonen, Poskiparta, Rintala, & Satomaa, 2009). Both parents and ECEs play a critical role in the development of age appropriate fine and gross motor skills and a providing a balanced healthy lifestyle for children (Early Childhood Australia, n.d.). ECEs have a unique opportunity to help educate parents and families about PHW and the importance of supporting PHW (Early Childhood Australia, n.d.). They can also provide helpful resources and suggestions for supporting PHW at home (Early Childhood Australia, n.d.).

Research Rationale

Based on NS children's vulnerability in the PHW domain and what is known about early childhood development it was important to investigate the factors that influence PHW during early childhood. As children within the early years age range likely spend the majority of their time with either their parents or other care providers, it was important to explore these individual's perceptions of PHW (knowledge of, attitudes towards, and personal experiences with). For the purposes of this research study, parents as well as ECEs perceptions of PHW were explored in order to gain insight into their perceptions about PHW. Also of interest was to reflect on the similarities and differences between parents and ECEs perceptions of PHW, in the context of the EDI description. It was important to understand perceptions because doing so could provide a point of intervention to better support the promotion of PHW of NS children.

ECEs are located in a variety of child care settings including provincially regulated child care centres. In Canada, regulated child care centres are provincially licensed and monitored to ensure certain standards are met. Amongst others, these

standards include proper child-adult ratios, having trained and educated staff, and providing indoor and outdoor spaces and equipment that meet provincial requirements (Doherty, Friendly, & Beach, 2003). The NS DEECD website elaborates by stating that "the primary objective of licensing services is to protect the health, safety and well-being of Nova Scotians receiving away-from-home care" (n.d.). Regulated child care centres provide an optimal opportunity to make changes on an organizational and community level to help enhance early childhood experiences related to PHW.

Summary of the Literature

Previous to the research study, qualitative research examining parent and ECE perceptions of PHW as a construct did not exist in NS. An initial search of perceptions of PHW indicated that this research had not been conducted in any other Canadian province or country. A review of the literature concludes that development during early childhood is influenced by many different factors including their parents and ECEs. The purpose of this research study was to explore parent and ECE perceptions of PHW and explore the similarities and difference between perceptions of PHW in the context of the EDI description of PHW. Gaining some understanding of parent and ECE perceptions of PHW was also important for learning about the barriers that these individuals experience in relation to PHW. The literature consistently indicates that development in the early years of a child's life is an important predictor of health outcomes and behaviours later in life. By having more insight into parent and ECE perceptions of PHW and the barriers they experience, recommendations can be made to stakeholders who can encourage the development and implementation of supports and services, resources, and programs related to PHW for children and their families, which could enhance early childhood experiences and help improve knowledge and awareness of PHW.

CHAPTER 3: METHODOLOGY

Chapter Outline

The purpose of this research study was to gain an understanding of parent and ECE perceptions of PHW and to explore the similarities and differences between their perceptions of PHW and the EDI description of PHW. In order to do so, there were a variety of factors considered such as the paradigmatic worldview, participant sample, planned procedures, analytical approach, and ethical considerations. Together these items made up the study methodology.

Approach

Guba and Lincoln (1994) describe a paradigm as beliefs or worldviews that the researcher has, which explain his/her place in the world and the relationships that exist (p. 107). The paradigm or worldview that a researcher has often determines what research approach they will use (Creswell, 2014). Having a social constructivist worldview means the researcher believes that "individuals seek understanding of the world in which they live and work" (Creswell, 2014, p. 8). Social constructivists seek to explore participants' subjective meanings and understandings of the problem or research topic of interest and believe that these meanings and understandings are constructed as a result of the interaction that participants have with others, along with historical and cultural norms (Creswell, 2014). The researcher was interested in understanding how participants perceive PHW and expected that their perceptions would be formed from their own experiences and their environments (home, community, workplace, etc.), This worldview fits well with the research questions and approach.

According to Creswell (2014), a qualitative research approach is used for "exploring and understanding the meaning individuals or groups ascribe to a social or

human problem" (p. 4). This type of approach was chosen as the researcher was looking for an in-depth understanding of participant meanings of the topic of interest. Qualitative description as described by Sandelowski (2010) was the method used to explore 1) parent and ECE perceptions of PHW and 2) the similarities and differences between their perceptions and the EDI description of PHW. Qualitative description provides a "rich, straight description of an experience or event" (Neergaard, Olesen, Anderson, & Sondergaard, 2009, p. 2). Researchers using a qualitative description research approach stay close to the data and report findings as they are (Neergaard et al., 2009). This does not imply that there is no interpretation in qualitative description studies rather it means that the goal is not to develop new concepts or link data to existing theories (Neergaard et al., 2009). Qualitative description is a good fit for this particular research study because the researcher is looking to gain an understanding of how participants perceive PHW from their own personal experiences (Neergaard et al., 2009). Also, it is common for a qualitative description approach to be used when a researcher is doing purposeful sampling, conducting open-ended semi-structured interviews, and using thematic analysis (Neergaard et al., 2009). Qualitative description was the primary method used to guide this study, which also fits well with the analytical approach of thematic analysis. The SEF was then considered to better understand the various levels of influence that impacted early childhood development in relation to PHW.

For the purposes of this research project, the EDI's description of PHW was used to guide the study and form interview questions. Exploring perceptions of PHW is important because the items this domain measures/scores are directly related to early childhood development (Early Childhood Australia, n. d.) and NS children have consistently been vulnerable on the PHW domain. Questions asked to parents and ECEs

were seeking an understanding of their a) knowledge of current recommendations related to PHW, b) attitudes towards achieving or maintaining PHW, and c) personal experiences related to PHW. Exploring participant perceptions through this multi-level approach provided some understanding of the barriers and facilitators to PHW.

Participants

Parents who had a four-year-old child that attended a regulated child care centre in the HRM and ECEs working with four-year-old children in a regulated child care centre in HRM were invited to participate. It was required that all participants were above the age of 18. Interviewing parents of four-year-olds and ECEs who work with four-year-olds provided insights on their perceptions of PHW the year prior to primary school when the EDI is completed.

Sampling Procedure

The researcher chose to use regulated child care centres in HRM as places of recruitment because of their convenience and ease of accessibility for both parent and ECE participants. Regulated child care centres were also practical locations as the population of interest was children in the early years age range. This type of sampling is referred to as purposeful sampling as the centres were selected in order to obtain participants that met the inclusion criteria of the study (Cohen & Crabtree, 2006a).

Recruitment

The researcher intended on recruiting 12-20 participants (i.e. 6-10 parents and 6-10 ECEs). This estimation was based on literature from Guest, Bunce & Johnson (2006) & Marshall, Pardon, Poddar & Fontenot (2013). In the study by Guest et al. (2006), the authors suggest that up to 12 interviews per group of participants would likely be sufficient (p. 76). In total there were 11 participants recruited for this research study. Of

the 11, seven were parents and four were ECEs. Although the researcher made multiple attempts to recruit more ECEs, she was unsuccessful in recruiting the proposed number. It is possible that the timing of recruitment (October to January) may have prevented some people from participating if they celebrate and take vacations over the holidays; however, the reason for this challenge in recruitment is not known. Upon completion of the fourth interview, the researcher began data analysis to confirm thematic code prevalence. Based on the consistency of themes and the lack of new data emerging from interviews the researcher felt confident that thematic code prevalence had been obtained in these samples of participants.

In an attempt to have a diverse sample of participants included in this research study, the researcher used the Maritime Health Atlas website to explore communities of varying SES across the HRM (Maritime SPOR SUPPORT Unit, n.d.). Child care centres were selected from communities that ranged from having a low-income percentage of 19.62% (Bedford/Hammonds Plains) to a low-income percentage of 30.74% (Dartmouth North). There were multiple methods used to help increase the likelihood of obtaining the purposed number of participants which included 1) recruitment letters to regulated child care centres, parents, and ECEs, 2) a poster, and 3) a social media call out for parents and ECEs. See Appendix B to F for the previously mentioned recruitment materials.

Recruitment letters and poster.

Once child care centres had been selected the researcher called each centre to inform them of her research and ask for permission to recruit parents and ECEs. Once permission was granted, the researcher mailed out a recruitment package, which included a Regulated Child Care Centre Recruitment Letter, a Participant Recruitment Letter, and

two copies of the recruitment poster. Approximately one week later the researcher followed up to confirm the centres received their packages and requested permission to electronically send participant recruitment letters for the child care centres to disperse in whichever way was easiest for them. A variety of recruitment methods were applied based on the preference of centres (e.g., printed and emailed materials). There were six parent participants and one ECE participant recruited from regulated child care centres through use of the letters and poster.

Recruitment call out methods.

The researcher also used a call out method to recruit parent and ECE participants. A call out was done using the researcher's social media accounts. The call out included information about the study such as the title of the research study, detailed information about requirements for participation, and the researcher and her supervisor's contact information. The original call out was only for parent participants. Prior to posting on the ECE community page, the researcher personally messaged one of the administrators to seek permission to recruit from the page. Initially there was a great deal of interest from ECEs; however, most did not respond when the researcher reached out to them to confirm interest and eligibility. Three ECE participants were recruited from Facebook using the social media call out.

Recruitment Summary.

Providing paper copies to parent participants through the regulated child care centres proved to be the most effective method of recruitment for parent participants whereas a social media call out on a designated community Facebook page for ECEs proved to be the most effective method for ECE recruitment.

During the thematic analysis, there were consistent common themes that were identified by both groups of participants. As interviews continued with both groups of participants, there were no new themes identified. As such, the researcher feels that she was successful in recruiting enough parent and ECE participants to reach thematic code prevalence.

Procedures

Due to the regulated child care centres being dispersed across HRM and to accommodate busy parent and ECE schedules, semi-structured interviews were conducted with participants over the phone with the interviewer/researcher in a private locked room at the Applied Research Collaborations for Health (ARCH) building on Dalhousie University's campus. Participant interviews are a common form of data collection in qualitative description studies. A semi-structured interview guide provides an opportunity for the researcher to addresses specific questions or priority areas (Cohen & Crabtree, 2006b). A semi-structured interview guide does not restrict the researcher or participants from elaborating or bringing up new points rather it allows for and encourages further elaboration and explanation (Cohen & Crabtree, 2006b). Prior to initiating interviews, the researcher reminded participants that the interview would be audio recorded and that they did not have to answer any questions that they did not want to or questions could be revisited if they needed more time to think about their responses. Participants were asked about their perceptions of PHW through exploring their knowledge of, attitudes towards, and personal experiences with PHW. The researcher did not provide a description of the PHW domain and to her knowledge none of the participants had previously seen the EDI description of PHW. Participants were also asked to identify any barriers to having good PHW. Probing questions were formed using

the SEF ahead of time and used as needed to ensure that the researcher obtained information from participants relating to the various levels of influences. See Appendix G & H for Parent and ECE Interview Guides.

In addition to interviews being audio recorded and transcribed, notes were taken during the interview by the researcher in case of any technical issues with audio recording and also to record any of the researcher's thoughts during and after the interview process. A journal was also created by the researcher prior to the interviews as a way of recording the researcher's thoughts and ideas during and after interviews. During analysis, the researcher continued using the journal to reflect back on her thoughts during interviews and also to keep track of possible themes the researcher was noticing.

Analytical Approach

Data analysis begun as interviews were completed and transcribed verbatim. NVIVO version 10 software was used during analysis to organize the data so that common themes could be identified once the interviews had been transcribed. This is known as thematic analysis and is a common form of analysis in qualitative description (Sullivan-Bolyai, Bova, & Harper, 2005). Braun and Clarke (2006) define thematic analysis as "a method for identifying, analyzing, and reporting patterns (themes) within data" (p. 79). Using thematic analysis 1) allows for flexibility and 2) provides information rich data. The objective of thematic analysis is to develop codes based on data collected (i.e. through participant interviews) and identify themes by thoroughly analyzing data. The development of themes is based on common patterns within the data and is not dependent on the number of participant interviews. Themes in the study were obtained through inductive thematic analysis. This form of analysis typically results in

themes that are reflective and strongly linked to the data and are not a result of the researcher's personal theoretical interests (Braun & Clarke, 2006).

Analysis included six phases 1) becoming familiar with the data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing the report (Braun & Clarke, 2006). The researcher familiarized herself with the data by reading over interview transcripts and possible coding themes and journaling thoughts and ideas about the interviews and themes. The process of reviewing data and journaling thoughts and possible themes is common during thematic analysis (Braun & Clarke, 2006). The researcher used a journal to keep track of her thoughts during and after interviews. She would add notes and possible coding themes to the journal as they came to mind. Initial codes were developed in NVivo and gradually built upon during the analysis process. In order to keep track of codes and their descriptions the researcher provided detailed descriptions of the codes in NVivo and inserted memos and annotations. Once all interviews had been coded the researcher went through each interview and code multiple times to begin searching for common themes. When common themes became evident, the researcher began searching for opportunities to combine similar themes. Following the identification of themes began the report writing process. During report writing the researcher would revisit memos and journal notes to assist her in the report writing process.

Building Rapport

Rapport is described as "a feeling of connection, mutual comfort, and conventional ease" (Cappella, 1990). Building rapport with participants is important in research for building trust and open communication. In order to accommodate parents and ECEs' busy schedules and long shifts, the researcher decided to conduct the

interviews over the phone. Considering that telephone interviews are more challenging for building rapport with participants, the researcher made it a priority to have email communication with participants leading up to the interview. When participants emailed to express interest in participation the researcher scheduled a time to have a brief phone conversation with them to provide an overview of the study and answer any questions that they may have about the study. The researcher used this opportunity to build rapport with participants by asking them 1) about their day and which child care centre their child attended, 2) confirming their eligibility for the study, and 3) answering any questions that they had about the study while also having friendly relevant conversation. Approximately one week after consent forms had been mailed to participants the researcher emailed participants to confirm receipt of the forms. One day prior to interviews, the researcher sent emails to participants to confirm the interview time for the following day. During participant interviews, the researcher began by having friendly conversation, providing a quick introduction/ overview of what to expect during the interview and asking participants if they had any questions before beginning.

Role of the Researcher

It was important for the researcher to acknowledge how her role as the researcher in the study could impact study findings. This is commonly referred to as reflexivity. Being a mother of two young children is a factor that surely influenced how the researcher interpreted participant understandings. This factor was beneficial in that the researcher was able to relate in some ways to parent participants and their experiences, however it was important for the researcher to keep in mind the constructivist paradigm that guided the study and suggests that meanings and understandings are constructed through interactions and experiences.

As a Registered Dietitian, health promotion graduate student, and someone who is passionate about health, the researcher needed to be cognizant of her knowledge and experiences in the areas of human health and nutrition and be cautious about any biases related to food and physical and activity. Knowing the importance of fine and gross motor skill development through physical activities has had a significant influence on the amount of time her children spend doing activities that encourage fine and gross motor skill development. Throughout their early years the researcher's children have participated in organized activities such as swimming, dancing, gymnastics, Sportball, and soccer. Having these activities offered in the researcher's community makes accessing them more realistic and attainable. Outside of organized sport, the researcher encourages development of fine and gross motor skills through colouring, painting, throwing and kicking balls, dancing, yoga, walking, biking, and running.

Since guiding questions for interviews included questions related to the development of fine and gross motor skills, it was important for the researcher to keep in mind that participants may not share the same knowledge and experiences or have the same accessibility opportunities. Recognizing this helped prevent the researcher from making assumptions about what participants knew about fine and gross motor skills and physical activity. Practicing reflexivity and acknowledging biases provide some confirmability and trustworthiness to the study.

Trustworthiness

Unlike quantitative research, which takes a more deductive approach, qualitative research takes an inductive approach in order "to understand social phenomena in their natural settings to produce 'thick description'" (Draper, 2004). Cohen and Crabtree (2006c) suggest that thick description is useful for obtaining external validity.

Member checking is a validity strategy that is used to confirm the accuracy of the qualitative research findings (Creswell, 2014). Although member checking was not completed in this study, it is important to note that the researcher did take notes during the interviews and also used a journal to write her thoughts during and after interviews in attempts to best analyze participant responses as they were reported during interviews. It is also worth noting that the audio recordings were clear and easy to transcribe, therefore the researcher felt confident that she was able to accurately document participants' responses to interview questions.

A rich description of the research findings was completed through 1) thoroughly describing the themes that were found, 2) comparing themes between the two groups of participants, and 3) exploring the impact that the levels of influence in the SEF have on child development related to PHW. Rich and in-depth detail about findings adds more trustworthiness and dependability to the study findings (Creswell, 2014).

Study reliability and dependability was ensured through journaling throughout the research process (i.e. procedures). This was especially important during code and theme development as codes needed to have specific definitions to prevent code drifting (Creswell, 2014). The researcher journaled her thoughts and feelings after interviews and during the analysis to remind herself of why she chose to code things the way she did and how she felt during and after interviews. Once all interviews were transcribed, anonymized, and analysis had begun, a meeting was scheduled with the researcher's supervisor. At that time, the researcher and her supervisor went through some of the nodes/themes and discussed where they thought some of the interview findings could be coded. Discussing the interview findings and common themes provided some reliability

and dependability in coding. Following the meeting with her supervisor, the researcher independently completed the coding process.

Ethical Considerations

Prior to beginning participant recruitment the researcher received research ethics approval from Dalhousie University's Social Sciences and Humanities board. This was the only ethics board approval required for this study.

Informed consent.

Once potential participants contacted the researcher, a time was arranged to provide a verbal review of the research study via phone. Alongside providing a verbal review of the study, this call also provided an opportunity for potential participants to ask questions or express concerns. At the end of the call, the researcher confirmed eligibility to participate and obtained participant addresses so that she could mail their informed consent forms, which also included return postage.

Confidentiality & Privacy.

To ensure participant privacy and confidentiality were protected the researcher took the required steps as outlined by Dalhousie University's Research Ethics Board to keep participants anonymous throughout the research process. Amongst others, these steps included 1) keeping all of the signed consent forms in a locked cabinet separate from collected data and findings, 2) only using participant codes, not names, after consent was obtained (i.e. during data collection and analysis), and 3) having all study information relevant to participants in password protected documents encrypted with VeraCrypt on a password protected computer. Privacy and confidentiality were respected and protected during all aspects of the research process including the dissemination of results. See Appendix I and Appendix J for Parent and ECE Consent Forms.

Autonomy.

Upon completion of participant interviews, the researcher mailed each participant a $20 gift card to thank them for their time and participation in the project. This gift card and amount was indicated to participants in the Participant Recruitment Poster and Participant Recruitment Letter. It was important that the participants did not feel coerced into participating, which is why this modest amount was chosen.

CHAPTER 4: RESULTS

Chapter Outline

As noted in the methodology chapter, the purpose of this study was to gain an understanding of parent and ECE perceptions of PHW and to reflect on the similarities and differences between participant perceptions of PHW, in the context of the EDI description of the PHW domain. Participants were not provided with a description of PHW prior to their interviews. In this chapter, participant perceptions of PHW are described. Along with a description of the study participants and their perceptions of PHW, common themes that were identified from participant interviews, and the levels of influence that were identified by participants are also described. In total, there were 11 parents and ECEs for this study all of whom participated in a one-on-one over the phone interview.

Parents

Of the 11 participants, seven were parents. Most of the parents who participated indicated that they had a health-related professional background. All parents had their children in a regulated child care centre most, if not all weekdays. Of the seven parents interviewed one participant identified themselves as a guardian. Although it was not part of the interview questions, some parent participants did mention that they had more than one child. One participant indicated that their four-year-old was their only child. All parents interviewed seemed open to talk about their four-year-old and often brought up how physically active their child was. None of the parents interviewed indicated whether or not they had any previous awareness of the term PHW.

ECEs

Of the 11 participants interviewed, four were ECEs. Of these four, three ECEs currently worked in regulated child care settings that were in communities with a low-income percentage between 19.36% and 28.2%. One ECE participant was in a community with a low-income percentage between 28.2% and 34.06%. Another ECE participant no longer worked in regulated child care, but had up until recently before the interviews took place and still worked with four-year-old children. ECEs generally talked about their daily schedules and routines with the four-year-old children at their centres. Half of the ECEs interviewed indicated that they had a child or children themselves despite this not being an interview question.

Table 1 presents the ways in which parents and ECEs described physical health and well-being, with the EDI description provided for reference.

Table 1: Parent and ECE descriptions of PHW

EDI description	Parent description	ECE description
"Gross and fine motor skills, such as holding a pencil, running on the playground, motor coordination, and adequate energy for classroom activities, and independence in looking after own needs and daily living skills" (Offord Centre for Child Studies, 2016)	• PHW includes physical activity, food and nutrition, and absence of illnesses • Well-being includes an individual's mental or emotional health	• PHW includes physical activity and food and nutrition • Well-being includes an individual's mental or emotional health • Did not specify independence when discussing PHW, however did identify independence as an important skill for four-year-olds to have

From these descriptions, it can be seen that both parents and ECEs placed a strong focus on physical activity, food and nutrition, and mental and emotional health. Reflecting on the EDI description of PHW, food and nutrition and mental and emotional health appeared to be concepts that were different from the EDI description of PHW, whereas physical activity through the use of gross motor skills appeared to be a similarity when looking at the EDI description of PHW. In relation to PHW, thematic analysis of participant interviews revealed three themes, which are outlined below.

Theme 1: The Meaning of PHW to Parents and ECEs

As identified in Table 1, parents and ECEs provided similar descriptions of PHW, which focused on two core components of PHW: 1) reference to mental and emotional health and 2) how physical health means physical activity, nutrition, and absence of illnesses.

Reference to mental and emotional health

Parents and ECEs shared a similar understanding of PHW as a means to incorporate mental and emotional health. Participants discussed things like sleep, happiness, and feeling relaxed/not stressed as components of well-being, and almost all participants that were interviewed included something about mental and emotional health in their descriptions. Most of the parents also included emotional or mental health in their overall descriptions of PHW or well-being. One parent stated "well-being I would say is more the emotional side of things. So um making sure you have enough energy, um being happy with how your day is going, making sure you have enough sleep so you do have energy." Another parent said "I think well-being, I would refer more to mental health." Overall, it appeared that mental and emotional health were part of parental perceptions of PHW or well-being.

Similar to parents, ECEs mostly included something about mental or emotional health in their descriptions of well-being. When describing well-being, one ECE stated that well-being "would be more a whole body versus just a physical aspect." They elaborated by saying "I guess more falls into um like your mental wellness as well." Another ECE stated "in order to have good physical health, you need to have good mental health" and also noted that well-being included "personal happiness." The perception that mental and emotional health is part of the description of PHW or well-being appeared to be consistent with parents and ECEs.

Physical health means physical activity, nutrition, and absence of illnesses.

Being physically active was brought up on multiple occasions by parents. When asked to describe their child, parent participants consistently mentioned something about their child being active. Some parents discussed the various activities that their child participated in. For example, one parent stated that "she [the child] started swimming lessons and she's been doing skating for a bit." Another parent stated that their child was very active. One parent noted "she [the child] is very active even since the moment of birth." It appeared consistent that all parents in this study perceived their children as being physically active.

When asked to describe their perceptions of PHW, all parents mentioned something about being physically active. For example, one parent stated "so I think physical health, whatever you said, is um definitely when they're young is trying to just like keep them active." Another noted that "when I think of PHW, I think more about literally how often do you get outside, what do you do, and what could you do more of." This parent further elaborated by saying that "physical health [is] what you do to make

your body happy" and also stating that well-being is "what you do to make your brain happy." A third parent described PHW as:

> Well um physical health would be not just the absence of disease, but you know strength and maybe like physical literacy knowing how to do things- running and jumping and you know and being able and willing to move your body and ah making good use of your body cause your body was designed to move and not be sedentary.

For ECEs, almost all mentioned something about physical activity, body movement, or gross motor skills in reference to PHW, for example, "physical activity I know for kids is how they learn - through the physical movement of their bodies." Another ECE described PHW by stating "um I guess in my mind it would be kind of a balance of actual physical play and well physical activity for that matter as well as you know healthy choices." In their descriptions of PHW, ECEs also discussed the importance of outdoor fresh air, healthy relationships, and eating healthy foods; however, reference to physical activity was fairly consistent amongst their descriptions.

Nutrition and the absence of illnesses were also discussed as contributing to PHW by around half of the parents in this study. While discussing their thoughts about their personal PHW, one parent made reference to their own food choices and suggested that they could be better. When asked to describe their four-year-old child at the beginning of an interview, one parent began by discussing the child's eating habits and behaviours and then continued "I'm sure we are going to get into her eating habits and things like that."

Nutrition was also commonly discussed amongst ECE participants when describing PHW. When they spoke about nutrition, they typically referenced the importance of modelling healthy choices and behaviours in the classroom. Most ECEs

mentioned family style eating in their classrooms and spoke about how it provided an opportunity to model healthy eating in general (e.g., eating with peers and trying new healthy foods). When describing PHW, one ECE stated that it was "a balance of actual physical play and, well, physical activity for that matter, as well as you know healthy choices." This ECE elaborated on healthy choices by discussing the importance of modelling healthy eating in the classroom.

Specific to parents was the absence of illnesses with one parent suggesting that physical health meant "having no ailments. So no cough, no sickness, no runny noses." Another parent noted that PHW "would be not just the absence of disease, but you know strength and maybe like physical literacy."

Theme 2: Modelling Behaviours

Modelling behaviours was a common theme amongst parent and ECE participants. Parents primarily discussed the importance of modelling physical activity behaviours by mentioning the activities that they personally do or have done in the past. ECEs discussed modelling more in reference to healthy eating, communication and language. Modelling was brought up by almost all of the parents interviewed, primarily in reference to activity, but also in relation to modelling other behaviours as well. For example, one parent said "I think it's important that he sees myself and my husband being active as well." In relation to their own and their child's PHW, another parent stated "if I had more time I wish I could do more, but I'm definitely intentional about trying to build that into our routines even if they see us as just like doing it by example." Parents seemed to recognize the benefits of modelling physical activity behaviours although some did acknowledge that they could improve on their physical activity habits and behaviours.

Similar to the parent participants in this study, all ECEs discussed the importance of modelling; however, unlike parents they typically discussed modelling in reference to food choices, behaviours, and communication and language. When discussing the importance of modelling in reference to making healthy food choices one ECE said "we always model healthy eating first with trying you know the food that we're serving at the daycare." When asked about their own PHW and discussing what they could improve, one ECE discussed the importance of eating healthy for having energy in order to do the daily tasks associated with her job and noted that "when we sit down with the children we eat the same food as they do, um which is also healthy stuff." Another ECE discussed modelling in reference to communication stating the following:

> Um modelling, being interactive in the classroom and if there's something that we want them to um let's say how to speak to each other I guess you could say, um we would use the same type of wording so that they could also pick up on that wording and use the same type of language as us.

Only one ECE mentioned role modelling physical activity behaviours and this participant was referencing the parents' role in modelling these behaviours.

Theme 3: Importance of Self-help/Independence Skills

This theme was identified through ECE participant interviews only. When asked what skills would be the most valuable or important for a four-year-old to have, almost all ECEs suggested self-help/independence skills. When discussing important skills for a four-year-old, one ECE suggested the following:

> One of the biggest things that we work on in our classroom is problem solving and trying to figure out how to solve that because a lot of them are

> going to school in the next year that's kind of our biggest focus is self-help skills.

Another ECE also discussed the importance of independence and problem-solving skills by stating the following:

> They're just starting to learn how to do stuff independently um they definitely need like basic core gross motor skills in order to develop their fine motor skills. So I feel like they need skills like kind of like open mindedness be willing to try new things, challenge themselves, um opportunities like to have independence and to try things and to fail at it and try again, problem-solving skills.

Throughout the ECE interviews, it appeared consistent that ECEs felt having independence skills in early childhood was important, specifically for helping to support child development as it relates to problem solving and independence skills come time for grade primary.

Summary

In summary, there were three primary themes that were identified through parent and ECE interviews one of which included two subthemes. Parents' and ECEs' perceptions of PHW included concepts such as physical activity, food and nutrition, and mental and emotional health, which together formed a theme related to the meaning of PHW. Both groups of participants also discussed the importance of modelling behaviours; however, interestingly, in different contexts. Independent to parents was the addition of absence of illness when describing PHW. Exclusive to ECEs was the importance of self-help/independence skills. Each of these themes are further explored with supporting literature in the following discussion chapter of this document.

CHAPTER 5: DISCUSSION AND CONCLUSION

Chapter Outline

This study sought to gain a better understanding of parent and ECE perceptions of PHW and to reflect on the similarities and differences between parent and ECE perceptions of PHW in the context of the EDI description of PHW. This is important because NS children have been consistently vulnerable on the PHW domain of the EDI and the literature indicates that parents' and ECEs' knowledge of and experiences with physical activity influences a child's physical activity habits and behaviours. This chapter provides an in-depth look at the three themes that were identified from both parent and ECE interviews: 1) The meaning of PHW to parents and ECEs, 2) Modelling Behaviours, and 3) Importance of Self-help/Independence Skills. The SEF was also considered during analysis in order to understand how the levels of influence impact child development, specifically, PHW. As previously described in the literature review, children are highly influenced by their surroundings including their physical and social environments (Adamo et al., 2014; NS DEECD, 2012). There were multiple levels of influence that were identified through participant interviews.

Theme 1: The Meaning of PHW to Parents and ECEs

From the perceptions of PHW described by both parent and ECE participants, there appeared to be a focus on physical activity, food and nutrition, and mental and emotional health. There was also a focus on the importance of modelling behaviours; however, not in relation to their perceptions of PHW, rather parents typically discussed modelling when they were talking about their own and their child's PHW or the barriers that affect their or their child's ability to have good PHW. ECEs were more likely to bring up modelling behaviours when discussing what skills they thought were most

important for four-year-olds to have and what they do to help build these skills. Reflecting on the EDI description of PHW, there were some similarities in terms of participants mentioning something about physical body movement, activity, and gross motor skill development, which form part of the subdomain *gross and fine motor skills* of the EDI. Parents and ECEs mentioned fine motor skills or independence only briefly as it pertains to the description of the *physical independence* subdomain on the EDI. Besides absence of illnesses and the importance of sleep being mentioned on occasion, there was very little mention of anything related to the *physical readiness for the school day* subdomain. The subdomain, *physical readiness for the school day* is complex. From the beginning of this research study, the researcher struggled to see how this subdomain fit into the PHW domain as it appears that it does not measure a developmental skill or ability. Uncertainty about its relevance to the PHW domain led the researcher to connect with one of the developers of the EDI, Dr. Magdalena Janus. During the discussion, Dr. Janus suggested that the domain itself was "heterogeneous" and that the *physical readiness for the school day* subdomain was not so much a measure of development at the time of being measured, but rather a predictor of future development (November 28, 2018). Although participants rarely mentioned anything related to the physical readiness for the school day subdomain, there was a strong reference towards mental and emotional health among almost every parent and ECE interviewed.

Reference to mental and emotional health.

The specific articulation of mental and emotional health among participants in this study is an interesting finding, particularly as psychological health is not specifically mentioned in the EDI description of PHW. Well-being is a broad term that is a focus of current discourse within both health and education. Defining the term well-being has

been of interest in research for some time now (Dodge, Daly, Huyton, & Sanders, 2012). Literature on the challenge of defining well-being supports the complexity of the term in reference to how it is spelt, described, defined, and measured (Dodge et al., 2012). As noted in the literature review, broader conceptualizations of well-being include many components such as physical, psychological, and social constructs. Psychological health, which is related to mental health, is included as a component within the description of well-being in the Australian Early Learning Framework (Australian Government Department of Education, Employment and Workplace Relations, 2009). Similarly, the World Health Organization (2014) describes mental health as a "state of well-being."

As mentioned in the literature review section about the EDI, there are four other developmental domains that comprise the EDI questionnaire. Although it is not clearly indicated, three of the five domains appear to be related to components of well-being (i.e., Physical Health and Well-being is related to the physical component, Social Competence is related to the social component, and Emotional Maturity is related to the psychological component). The EDI description of PHW appears to primarily focus on physical movement and the literature around the relationship between gross and fine motor skills and independence (Province of Quebec, n.d.). Interestingly, the newly released NS Early Learning Curriculum Framework (NS DEECD, 2018a) uses the terminology "Physical Well-being", which suggests a certain component of well-being (e.g., physical) rather than all components of well-being (social and psychological). This framework does not reference the EDI when discussing Physical Well-being; however, the description of Physical Well-being in this framework includes components from all three subdomains of PHW (i.e., *gross and fine motor skills, physical independence, readiness for the school day*). It could be possible that Health and Physical Well-being or

Physical Well-being may be more representative of what the domain is really measuring (e.g., physical body movement and physical independence). Improving perceptions of PHW could positively impact early childhood experiences related to PHW. On a national and provincial level, it would be worth considering the use of consistent terminology when describing the developmental domains in early childhood. The importance of consistent terminology is further supported in the study by Hill, Kern & White (2012) who noted that using different terminology prevents the "accumulation of knowledge and understanding regarding a phenomenon" (p. 187).

Physical health means physical activity, nutrition and absence of illnesses.

At the beginning of the interviews, parents were asked to describe their four-year-old child, their personalities, and interests and all described their child as being physically active. It could be that the nature of this study, with a focus on PHW, acted as a prompt for parents to participate in the interview, or primed them to begin the interview with this context. In either case, previous research by Hesketh et al. (2012) and Zecevic et al. (2010) has noted that parents typically believe that their children are already active enough. Zecevic et al (2010) suggest that the Canadian policies/guidelines for licensed child care centres regarding minimum amounts of outdoor time may influence parents' perceptions about how active their child really is. The authors suggest that although parents may feel as though their child is being active during these outdoor times, it is likely that the majority of outdoor time is spent doing "sedentary to light activities"(p. 6). From a social constructivist standpoint, it is possible that participant perceptions of PHW have evolved from their interactions with others as well as historical and cultural norms (Creswell, 2014). In other words, it is possible that their perceptions of PHW were influenced by their professional backgrounds and the people they surround themselves

with given that at least three of the parent participants were health professionals. Social influences reflect elements of the SEF and can impact how individuals think and talk about health. This is also interesting, because the PHW domain was constructed from a child development perspective, rather than from a health perspective, both of which would be important to consider when evaluating the developmental health of children. Health is a complex term that can be perceived differently by different individuals. The World Health Organization (2019) definition of health includes physical, mental, and social well-being as well as the absence of disease or infirmity.

Improving the PHW of children would likely require the participation from many, if not all levels of the SEF. As indicated in the literature review, parents play a major role in influencing their children's behaviours and represent the interpersonal level of the SEF. Informing parents on this developmental domain prior to school entry could help to improve their understanding of this domain and its description. Having this awareness could encourage some parents to be more cognizant of the developmental expectations for their child. Increasing parents' awareness and understanding of the PHW domain could be one step forward in terms of helping to improve early childhood experiences related to PHW. As noted in the literature review, neighbourhoods and communities can impact a child's developmental health depending on the accessibility services and supports for families on child development (Minh et al., p. 166). EDI results can be used on a community level to help 1) "provide communities with information to support future planning and service development" and 2) "support community initiatives for healthy child development" (NS DEECD, 2019) pointing to the importance of community involvement in providing opportunities to improve early childhood experiences related to

PHW. As such, communities provide a point of intervention for helping to improve early childhood experiences related to PHW.

When asked about their perceptions of PHW, all parents in this study mentioned something about physical activity or physical movement, which is closely in alignment with the *gross and fine motor skills* subdomain of PHW; however, there was no mention of fine motor skills when parents described PHW. Physical activity was prominently discussed in this study. Whether parents were speaking about their children in general or discussing their perceptions of PHW, they almost always brought up physical activity suggesting that physical activity was a major part of their perception of PHW.

The identification of physical activity, nutrition, and the absence of disease or illnesses was a common theme amongst parent participants. Again, this could have been prompted through the focus of the study, or it could be related to their personal experiences/biases. Illness is also part of the *physical readiness for the school day* subdomain of PHW. Parents in this study appeared to perceive healthy eating, nutrition and absence of disease or illnesses as being part of physical health. This is worth noting because healthy eating or nutrition is not a clearly articulated component within the PHW description or its subdomains. It is also interesting to note that ECEs discussed nutrition when considering PHW, although the reason why they did is not clear.

For ECEs, perceptions of PHW appeared to be more firmly aligned with a "textbook" description, such as the importance of forming gross motor skills, being physically active, and having regular body movement. Some elaborated by discussing the opportunities that the children in their care had to be active. These opportunities included structured and unstructured outdoor play as well as indoor activities that required the use of gross motor skills. ECEs have specialized education on early childhood development

and developmental expectations during the early years. Despite having a more fine-tuned understanding of PHW than was derived from parent interviews, their understandings of PHW were different than the EDI description of this domain. The differences in perceptions of PHW in the context of the EDI description of PHW is worth noting as both parents and ECEs represent interpersonal and organizational levels of influence in the SEF. Both parents and ECEs play important roles in influencing a child's development, habits, and behaviours, specifically related to physical activity. Scores on the EDI indicate that children from NS have consistently been vulnerable on the PHW domain, thus exploring parent and ECE perceptions of PHW helped to provide some understanding of their perceptions of PHW and how their perceptions related to the EDI description of this domain.

Similar to parents, informing ECEs of this developmental domain and its description prior to school entry could help to change their understanding of PHW to be more reflective of the EDI description of PHW. ECEs in regulated child care represent the organizational level of the SEF. They have unique opportunities to influence the habits and behaviours of children in their care. Informing them of the domain and its description is another step forward in terms of increasing awareness of PHW and possibly improving early childhood experiences related to PHW in NS

Theme 2: Modelling Behaviours

Parents in this study acknowledged the importance of modelling behaviours, specifically physical activity related behaviours. This is consistent with the literature by Pocock et al. (2010) who looked at a review of studies that suggested parents are aware of the importance of modelling physical activity behaviours. In another study by Hesketh et al. (2012) parent participants acknowledged modelling physical activity as a strategy

to promote physical activity behaviours in their preschool aged children. Parental modelling represents the interpersonal level of influence in the SEF.

For ECEs, the importance of modelling was also noted, but in a different context than parents. Participating ECEs discussed modelling in reference to food choices, behaviours, communication and language, with one specifically highlighting the role of parents in modelling physical activity behaviours. It is possible that ECEs may have felt that parents have the primary role in promoting or modelling physical activity behaviours. These findings are consistent with those from Lu and Montague (2016) who studied physical activity in early childhood education programming and found that ECEs believed it was the parents' role to promote activity. In this study, the authors indicated that ECEs have an important role to play in promoting physical activity habits and behaviours in early childhood, but oftentimes this role is under-acknowledged. They also suggested the implementation of a *Learn to Move, Move to Learn* approach in child care centres, which could help ECEs to incorporate appropriate activities into their day-to-day programming that would encourage learning through body movement. This same study also acknowledged that ECEs did not participate in physical activity themselves or model physical activity behaviours in the classroom (Lu and Montague, 2016). Findings from Connelly, Champagne and Mannigham (2018) were similar in the sense that they found some ECEs felt it was more the families'/parents' responsibility to promote activity; however, other ECEs indicated that it was important for them to take part in physical activity with the children to encourage them to participate. ECEs in this study who did not model physical activity suggested that they encourage physical activity, but do not participate because physical activity was not important to them. ECEs in this study who thought it was important to participate in physical activities with the children did so

because they wanted “to show how pleasurable physical activity is for adults too” (Connelly, Champagne, & Mannigham, 2018, p. 287).

Findings from the study by Hemmeter, Ostrosky and Fox (2006) highlight the importance of modelling as a strategy for “teaching social skills and supporting social emotional development” (p. 592) in an early childhood education setting. The Nova Scotia Early Learning Curriculum Framework (2018a) also mentions an ECE’s responsibility to “promote and model positive ways to relate to each other” (p. 26) and further elaborated by discussing the importance of “inclusive learning communities” (p. 26). There are multiple courses offered through the NS College for ECEs that focus on theories related to early childhood development and education (Nova Scotia College of Early Childhood Education, 2016b). It is possible that these theories could include behaviour change theories and strategies such as modelling (Peacock-Chambers, Ivy, & Bair-Merritt, 2017). In their article exploring the “Effectiveness of Teacher Modelling to Encourage Food Acceptance in Preschool Children”, Hendy and Raudenbush (2000), indicate that Social Cognitive Theory would indicate that teacher modelling would be extremely effective for encouraging food acceptance in preschool aged children. A position paper by the American Dietetic Association on benchmarks for nutrition programs in child care settings (2005), discussed the benefits of family-style dining and how it provides an opportunity for the child care provider to sit with the children and model healthy eating habits and behaviours. The NS DEECD (2018B) suggested that role modelling is among other techniques used by ECEs to support development in early childhood. Knowledge gained around the importance of modelling during post-secondary courses could have possibly influenced ECEs perceptions of the importance of modelling. Despite the fact that ECEs in this research study did not mention their role in

modelling physical activity behaviours, they did indicate the importance of modelling food choices, behaviours, and communication and language.

Theme 3: Importance of Self-help/Independence Skills

The identification of self-help/independence skills as a theme among ECE participants only was interesting, and possibly is related to their training in early childhood education. ECEs in this study discussed the importance of children having independence skills prior to going to primary school. They acknowledged that the four-year-olds in their centres would be attending school the following year where there would be a higher teacher-child ratio and the children would be expected to do things more independently. Other topics such as emotional regulation, social or communication skills, or gross and fine motor skill development were also discussed by ECE participants, along with the importance of self-help or independence skills when they were discussing important skills for four-year-olds to have. Although ECEs did not mention anything about the importance of independence when asked about their perceptions of PHW, they did discuss it when asked about what skills they thought were most valuable or important for a four-year-old to have. They discussed things like the importance of having gross motor skills in order to develop fine motor skills and having opportunities for children to challenge themselves and build independence skills. Independence is also part of the PHW description under the *physical independence* subdomain. ECEs have specialized education on the developmental expectations of children in the early years and providing quality early childhood programming. As suggested in the provincial Early Learning Curriculum Framework (NS DEECD, 2018a) "high-quality early childhood education programs facilitate children's learning and development, and excellent educators' practices are essential to quality outcomes for

children" (p. 3). These programs and activities could include self-help/independence skills. Having this specialized education likely contributed to this theme emerging for ECE participants exclusively.

Although parents did not identify anything about independence as it related to the *physical independence* subdomain when describing PHW, they were able to provide specific examples of this subdomain when asked about what their child could do independently (e.g., get dressed and use the bathroom). The fact that parents in this study did not identify anything related to the *physical independence* subdomain when describing PHW is interesting and suggests that parents' perceptions of PHW may not include physical independence or any of the components of the *physical independence* subdomain (i.e., has independent washroom habits, established hand preference, well-coordinated, sucks finger or thumb).

From these interviews, it seems that there are some similarities and differences that exists between parents' and ECEs' perceptions of PHW, in the context of the EDI description of PHW. Parent and ECE participants in this study did recognize the importance of physical activity and or gross motor skills through physical activity, which was evident through the theme titled *physical health means physical activity, nutrition and absence of illnesses.* As noted in the literature review, physical activity during the early years encourages the development of motor skills (Bingham et al., 2016; Hesketh et al., 2015; Iivonen et al., 2013). Motor skills, both gross and fine, are a subdomain of PHW. Although neither group of participants identified this when discussing PHW, over half of ECEs interviewed for this study also acknowledged the importance of self-help/independence skills, which is part of the *physical independence* subdomain.

These findings suggest 1) participants recognize the importance of physical activity and or gross motor skills through physical activity and 2) ECEs understand the importance of independence. Moving forward, it would be important to explore other reasons why children in NS are continuing to be vulnerable on the PHW domain of the EDI.

Summary

This purpose of this research study was to: 1) qualitatively explore parent and ECE perceptions of PHW and 2) reflect on the similarities and differences between parent and ECE perceptions of PHW, in the context of the EDI description of PHW. Through analysis of participant interviews, it seems that parents' perceived PHW as being related to physical activity, nutrition, the absence of diseases/illness and mental or emotional health- a description that closely resembles the World Health Organization's (2019) definition of health. ECEs perceptions were quite similar with the exception of absence of illness, which was not identified by ECEs and importance of self-help and independence skills, which was a theme exclusive to ECEs. The themes that were identified from participant interviews suggest that parents' and ECEs' perceptions of PHW did have some similarities and differences, with the differences being primarily related to the PHW subdomains, *physical readiness for the school day* and *physical independence*.

Research Considerations

A strength of this research study is that it contributes to a better understanding of how parents and ECEs in NS might perceive PHW. Parent and ECE perceptions of PHW have not previously been explored in NS or any other Canadian province and a better and understanding of these perceptions could help inform the development of resources and

supports to improve the PHW of NS children, who have historically been vulnerable on this domain.

The application of the SEF to this work is another strength as there are other broader factors that influence early childhood development beyond individual parents and ECEs who work with them. Participants in this research study provided some insight into the barriers and facilitators to having good PHW and the SEF was considered during analysis and incorporated into the discussion when applicable.

A key limitation to this study is the small sample of participants. The researcher intended on recruiting 6-10 parents and 6-10 ECEs; however, there were only 11 participants in total who were interviewed for this study, seven of which were parents and four who were ECEs. Another limitation to this study is that only ECEs and parents of children from regulated child care centres in HRM were interviewed. This is important to note because not all children who attend grade primary in NS have previously been in a child care setting let alone a child care setting with one or more ECEs. Although NS requires 2/3 of the staff that work with children to have the minimum of level one ECE training, not all children attend regulated child care settings (Province of Nova Scotia, 2016). Some may stay with family members or friends or attend an unregulated child care setting. Among other things, parent perceptions of PHW could be influenced by the setting that their child is in. Therefore, findings did not necessarily provide a diverse representation of the entire population of NS parents of four-year-old children.

While measures were taken to recruit from communities that might include a diverse population of participants through use of the Maritime Health Atlas website, results from this study do not reflect parents or ECEs from low socio-economic communities in the HRM or NS. Lack of input from parents and ECEs in low SES

(34.06%+ low income) communities is therefore a limitation of this study. It is possible that there may have been more influential factors effecting PHW identified in communities with a lower-income population.

Another important consideration would be the sampling method used for this study. Purposeful sampling can provide views of a specific group of participants, but may not be generalizable. Generalizability within qualitative studies is less of a concern and is not the purpose of qualitative research; however, a larger sample of participants would allow a greater degree of confidence and trustworthiness in the themes identified and an increased likelihood of obtaining data saturation.

PHW as a component of the EDI, is a puzzle piece in terms of looking at the overall developmental health of children. This research study explored PHW independent of the remaining four domains. The EDI looks at developmental health with consideration of all five subdomains; therefore, this research study used and referenced the EDI in a different way then it was intended.

Finally, all ECEs in NS are entitled to participate in the learning opportunities that they find most interesting or relevant to them. Not all ECEs participate in the same professional development opportunities, which could impact how ECEs perceived PHW. The degree of training of ECEs was not ascertained in this study. Future studies could include the level of training and continuing education opportunities that ECEs have acquired.

Conclusion and Implications for Health Promotion

The early years are a critical time for interventions and initiatives that focus on improving the health and well-being of children. Growth and development are occurring at a rapid rate. The habits and behaviours formed during these years are often predictors

of future habits and behaviours (Hesketh et al., 2015; Janus et al., 2007; Marmot, Friel, Bell, Houweling, & Taylor, 2008; Shonkoff, 2009), which is of relevance for the health promotion and other professions. A reflection of the similarities and differences between participants' perceptions of PHW, in the context of the EDI description of PHW, revealed that some similarities and differences do exist. The findings from this study, while preliminary given the small sample size, suggest that parents in this study believe that their children are physically active and PHW includes, among other things, being physically active. ECEs involved with this study were somewhat knowledgeable on the importance of physical development and physical independence. The reasons for the similarities and difference are unclear, but may point to differences in how PHW is conceptualized among the two groups of participants. The implications of this are worthy of further exploration in a larger sample.

The EDI is widely used across Canada and other parts of the world as a means of assessing the developmental health of children between the ages of four and seven (Janus et al., 2007). Results from previous EDI assessments in NS are used as a means of comparison for future assessments. Consideration of the PHW domain in isolation of the other domains of the EDI may not be appropriate as this is not the way that the EDI is intended to be used. In reflecting on the differences in participant perceptions of PHW in the context of the EDI description of this domain, it may be worth consideration to modify the domain title to better reflect the current description of PHW in the EDI. For example, this domain could be modified to Health and Physical Well-being or Physical Well-being. This small change may take some emphasis off of mental and emotional health as it would imply a certain component of well-being (i.e., physical well-being).

There are many stakeholders from all levels of the SEF who might need to be involved in order to help improve early childhood experiences related to PHW and subsequently positively influence the provincial scores on the PHW domain of the EDI. Starting from the top, national and provincial governments could have a role in promoting the PHW of children. It is unclear to the researcher if EDI results are routinely shared with communities and child care settings; however, doing so could provide multiple points of intervention as communities serve children and their families through programs, services, and supports and represent the community level of the SEF. Child care settings also have an opportunity to improve early childhood experiences related to PHW as they interact with children and families on a daily basis and represent the organizational level of the SEF.

Although the reasons for vulnerability in PHW among NS children remain unclear, there is sufficient evidence in the literature to improve the early environment for young children to support PHW and improve this domain of the EDI. For example, it might be valuable to have in-person or online training or continuing education for ECEs at the NS College for ECEs once each semester or year to discuss the EDI and its domains so that ECEs are aware of the terms being used and what is being evaluated. Organizations such as regulated child care centres where ECEs work have a unique role in helping to improve PHW scores as they follow regulations, policies and procedures and see parents on a daily basis.

The *Teacher Training Presentation* for primary school teachers is located on the EDI website and suggests that the EDI has multiple purposes, two of which include 1) "providing a picture of what early learning looks like at the community levels" and 2) "helping to identify gaps in early learning programs and services" (Offord Centre for

Child Studies, 2019c). This information could also be shared with ECEs and parents so that they have a better understanding of how the EDI is used and what it is measuring, as well as what each domain is looking at. It is worth noting that information on early childhood development, including developmental expectations, is widely available to parents in NS in the form of a free four book series for children 0-3 years. These books are offered by the NS Department of Health and Wellness and are typically available through prenatal education and/or at the IWK Health Centre at the time of birth. This lack of information for parents about development during the preschool years is concerning and is certainly worth consideration.

If children in NS continue to be vulnerable on the PHW domain of the EDI, it may be useful for future studies to explore perceptions of PHW in NS rather than just HRM. As evidenced on the Maritime Health Atlas Map (Maritime SPOR SUPPORT Unit, n.d.), much of the low-income population is outside of HRM. It would be interesting to explore perceptions of PHW in a larger, more diverse sample comprising primary school teachers, parents in low-income communities, and care takers of four-year-olds who are not ECEs.

Finally, it may be worth considering the implementation of more health promoting initiatives that focus on creating equitable opportunities for quality child care during the early years or for physical activities aimed at pre-school children, as a means to support a child's physical development and independence. This, in turn, might help to improve early childhood experiences related to PHW and eventually influence PHW scores on the EDI. As recent provincial initiatives, such as the play-based Early Learning Curriculum (NS DEECD, 2018a) and the provincial pre-primary program are scaled up, there is an opportunity to ensure equitable access to information regarding preschool-

aged developmental expectations and the use of consistent terminology when discussing developmental domains and expectations.

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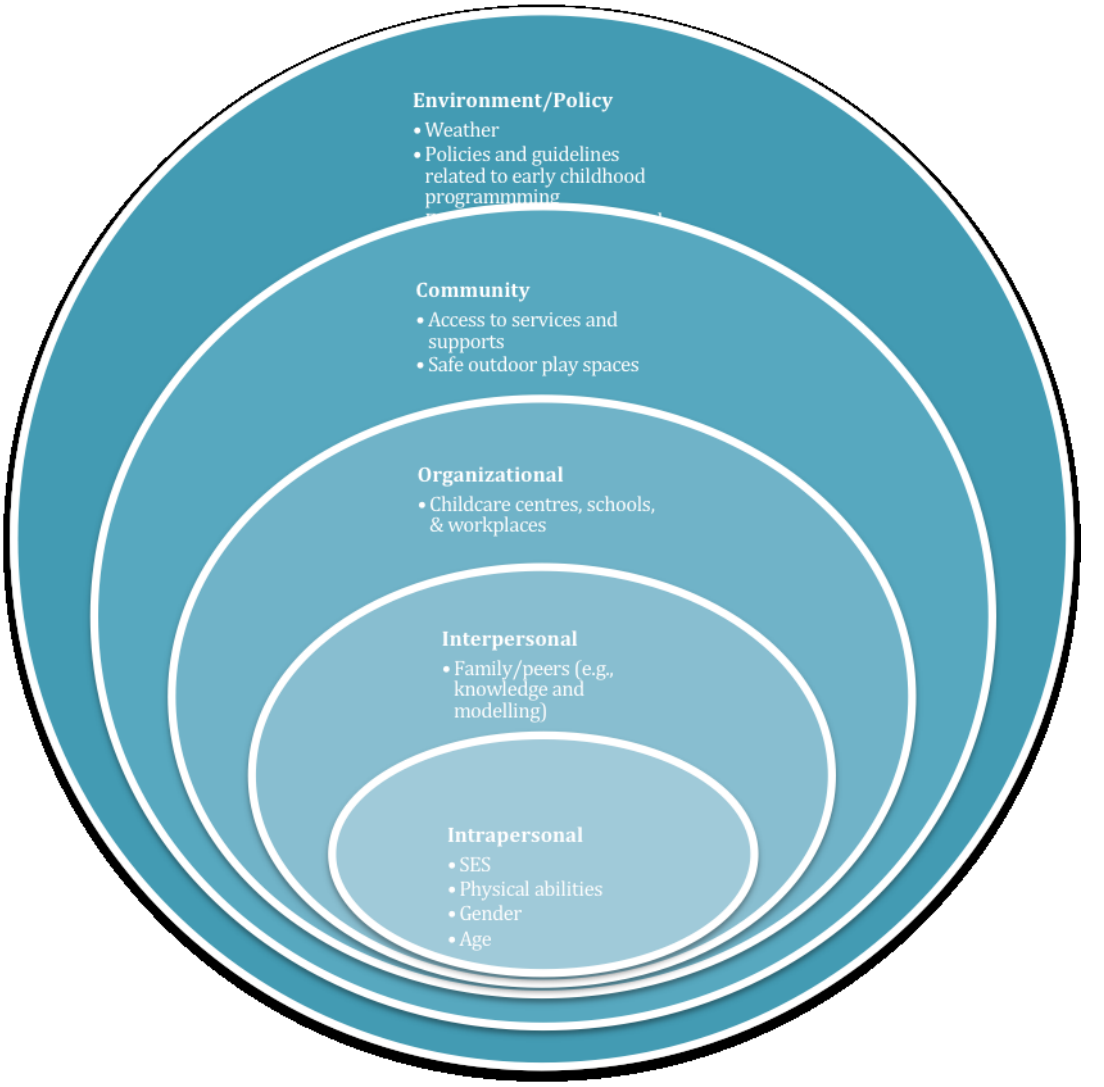
Appendix A: Example Diagram of Socio-ecological Framework



Appendix B: Regulated Child Care Centre Recruitment Letter

DALHOUSIE UNIVERSITY

Dear Regulated Child Care Centre,

My name is Sarah Morris and I am a Masters student at Dalhousie University. I recently received ethics approval from Dalhousie University's Research Ethics Board to invite select regulated child care centres in the Halifax Regional Municipality (HRM) to participate in my research study named ***Parent and Early Childhood Educator Perceptions of Physical Health and Well-being in the Early Years***. As part of this research study I would appreciate your support in the recruitment of both early childhood educators in your centre and parents/guardians of children in the centre.

Purpose of the study

The purpose of this research study is to learn about what parents and early childhood educators understand about the terms Physical Health and Well-being. Findings from this study could help to inform the development of resources, supports and services that may improve early childhood experiences related to Physical Health and Well-being.

What participants can expect

After consent forms have been completed, phone interviews will be scheduled with the consenting participants. Interviews will last approximately 30 minutes to one hour. Questions will seek an understanding of how both parents and early childhood educators understand Physical Health and Well-being. Following the successful completion of this research study there will be an executive summary about the findings, which all participants will be informed of.

Who can participate?

Parents of four-year-old children in HRM and early childhood educators working with four-year-old children in a regulated child care centres in HRM. All participants must be above 18 years of age.

Compensation for participation

To thank all participants for their time and participation, they will receive a pre-paid credit card for $20.

Contact information

Parents or early childhood educators who are interested in participating in this research study or have questions about this study can reach me, Sarah Morris, or my supervisor, Dr. Sara Kirk via email or phone.

Researcher: Sarah Morris, SarahMorris@dal.ca, 902-494-8809
Supervisor: Dr. Sara Kirk, sara.kirk@dal.ca, 902-494-8440

Sincerely,
Sarah Morris

Appendix C: Participant Recruitment Letter

DALHOUSIE UNIVERSITY

Dear Parent/Guardian/Early Childhood Educator,

My name is Sarah Morris and I am a Master of Arts in Health Promotion student at Dalhousie University. As part of my masters' research I am conducting a research study that I would like to invite you to participate in named ***Parent and Early Childhood Educator Perceptions of Physical Health and Well-being in the Early Years***.

Purpose of the study

The purpose of this research study is to learn about your understanding of the terms Physical Health and Well-being. Findings from this study could help to inform the development of resources, supports and services that may improve early childhood experiences related to Physical Health and Well-being.

What you can expect

Once you have signed an informed consent form I will contact you directly to schedule a phone interview. The interview will last approximately 30 minutes to one hour and will be audio recorded. The questions that I will ask will seek an understanding of how you understand Physical Health and Well-being. There are no right or wrong answers. Once the research study is completed, you will receive an executive summary about the findings.

Who can participate?

You can participate in this research study if you are a parent/guardian of a four-year-old child who attends a regulated child care centre in the Halifax Regional Municipality (HRM) or if you are an Early childhood educator working with four-year-old children in a regulated child care centre in HRM. You must be above 18 years of age to participate.

Compensation for your participation

To thank you for your time and participation in the interview, you will receive a pre-paid credit card for $20.

Contact information

If you are interested in participating in this research study or have questions about the study I would be happy to speak with you. You can reach me, Sarah Morris, or my supervisor, Dr. Sara Kirk via email or phone.

Researcher: Sarah Morris, SarahMorris@dal.ca, 902-494-8809
Supervisor: Dr. Sara Kirk, sara.kirk@dal.ca, 902-494-8440

Sincerely,
Sarah Morris

Appendix D:
Participant Recruitment Poster

DALHOUSIE UNIVERSITY

DALHOUSIE UNIVERSITY

Title: Parent and Early Childhood Educator Perceptions of Physical Health and Well-being in the Early Years

Who Can Participate:

1. Parents/guardians of four-year-old children in a regulated child care centre in HRM

2. Early Childhood Educators who work with four-year-old children in a regulated child care centre in HRM

What to Expect:

1. One over the phone interview with the researcher lasting 30-60 minutes

2. A $20 gift card to thank you for your time and participation

Interested or have questions? Contact Sarah Morris

Researcher: Sarah Morris, 902-494-8809, SarahMorris@dal.ca
Supervisor: Dr. Sara Kirk, 902-494-8440, sara.kirk@dal.ca

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Appendix E: Parent Participant Social Media Call Out Posting

Are you a parent of a four-year-old child in a regulated child care centre in the Halifax Regional Municipality?

If so, and you are above the age of 18, you may be eligible to participate in my research study titled *Parent and Early Childhood Educator Perceptions of Physical Health and Well-being in the Early Years.*

Interested or looking for more details? Contact me, Sarah Morris at SarahMorris@dal.ca, or 902-494-8809

Appendix F:

Early Childhood Educator Participant Social Media Call Out Posting

Are you an Early Childhood Educator with experience working with four-year-old children in a regulated child care centre in the Halifax Regional Municipality?

If so, and you are above the age of 18, you may be eligible to participate in my research study titled *Parent and Early Childhood Educator Perceptions of Physical Health and Well-being in the Early Years.*

Interested or looking for more details? Contact me, Sarah Morris at SarahMorris@dal.ca, or 902-494-8809

Appendix G: Parent Interview Guide

Good morning/afternoon (insert name of parent),

As you know my name is Sarah Morris and I am Master of Arts in Health Promotion Student at Dalhousie University. For my thesis research project I am interested in learning about what you think physical health and well-being means. I will ask you questions that have no right or wrong answers. Also keep in mind that you can choose not to answer questions or we can come back to them at a later point in the interview. As mentioned in the consent form, I will be using an audio recorder during our interview to help me during the analysis of my research findings. During analysis, I will be grouping together the responses you provide during this interview with the responses from other participants. It is my responsibility to not identify you or any other participant at any point during analysis/report writing. Do you have any questions before we begin?

1. To begin, can you tell me a bit about your four-year-old child?
    a. What does your four-year-old child enjoy doing?
    b. How would you describe their personality?
    c. How does your child seek comfort/support?
    d. What sort of things does your four-year-old child do or try to do independently?
2. Can you walk me through a typical day with your four-year-old child?
    a. How often is a day considered typical?
    b. Are there certain things that you and your four-year-old child do often or enjoy doing?
    c. Are there any barriers that prevent you and your four-year-old from doing what you both enjoy doing?

3. Can you describe what you think physical health and well-being means?
    a. How would you describe physical health?
    b. How would you describe well-being?
    c. What would you say about your, and your child's physical health and well-being?
    d. What might you say are some of the barriers in your home or community that affect you/your child's ability to have good physical health and well-being?
4. What skills do you think are the most valuable or important for your four-year-old to be the best four-year-old her/she can be?
    a. Why these skills?
    b. What do you or others do to help build these skills?
    c. What things prevent you or others from building these skills?
5. What experiences do you think your child has or want them to have in a regulated child care centre?
6. Is there anything else that I should know to better understand your four-year-olds experiences related to PHW?

Appendix H: Early Childhood Educator Interview Guide

Good morning/afternoon (insert name of ECE),

As you know my name is Sarah Morris and I am Master of Arts in Health Promotion Student at Dalhousie University. For my thesis research project I am interested in learning about what you think physical health and well-being means. I will ask you questions that have no right or wrong answers. Also keep in mind that you can choose not to answer questions or we can come back to them at a later point in the interview. As mentioned in the consent form, I will be using an audio recorder during our interview to help me during the analysis of my research findings. During analysis, I will be grouping together the responses you provide during this interview with the responses from other participants. It is my ethical obligation to not identify you or any other participant at any point during analysis/report writing. Do you have any questions before we begin?

1. Can you walk me through a typical day in your centre?
    a. How often is a day considered typical?
    b. Are there certain things that you and the children do often or enjoy doing?
    c. Are there any barriers that prevent you and the children in the centre from doing what you plan on doing or would like to do?
2. To begin, what can you tell me about the four-year-old children in this centre?
    a. What do they enjoy doing?
    b. What are they ways in which they commonly seek comfort/support?
    c. What sort of things do they try to do or try to do independently?
3. Can you describe what you think physical health and well-being means?
    a. How would you describe physical health?

b. How would you describe wellbeing?

c. What would you say about your personal physical health and well-being?

d. What would you say about the physical health and well-being of children in this centre?

e. What might you say are some of the barriers in your home or community that affect your own, and the children's ability to have good physical health and well-being?

4. What skills do you think are the most valuable or important for a four-year-old to be the best four-year-old her/she can be?

   a. Why these skills?

   b. What do you or others do to help build these skills?

   c. What things prevent you or others from building these skills?

5. What experiences do you think the children have or want them to have in a regulated child care centre?

6. Is there anything else that I should know to better understand your and the children's experiences related to PHW?

Appendix I: Parent Consent Form

DALHOUSIE UNIVERSITY

CONSENT FORM

Project title: Parent and Early Childhood Educator Perceptions of the Physical Health and Well-being in the Early Years

Lead researcher: Sarah Morris, Dalhousie University, 902-494-8809

Other researchers (Supervisor)
Dr. Sara Kirk, Dalhousie University, 902-494-8440

Introduction

We invite you to take part in a research study being conducted by me, Sarah Morris (Dunphy), a Masters student at Dalhousie University as part of my Master of Arts in Health Promotion degree program. Choosing whether or not to take part in this research is entirely your choice. There will be no impact on the services you receive if you decide not to participate in the research. The information below tells you about what is involved in the research, what you will be asked to do and about any benefit, risk, inconvenience or discomfort that you might experience.

You should discuss any questions you have about this study with myself, or my supervisor Dr. Sara Kirk. Please ask as many questions as you like.

Purpose and Outline of the Research Study

Between the ages of 0-6 years (early years) children grow and develop rapidly. Research has shown that young children are highly influenced by those closest to them such as parents and early childhood educators. The purpose of this research study is to learn about what parents and early childhood educators understand about the terms Physical Health and Well-being as it relates to their child or children in their care. This will be done through an interview conducted via phone.

Who Can Take Part in the Research Study

You may participate in this study if you are a parent of a four-year-old in a regulated child care centre in HRM. You must be above the age of 18 to participate.

What You Will Be Asked to Do

Once consent forms have been signed the researcher will be in touch with you to schedule an over the phone interview. The interview is estimated to last approximately one hour and will be audio recorded.

Possible Benefits, Risks and Discomforts

Participating in the study might not benefit you, but we might learn things that will benefit others who are involved with this program in the future.

The risks associated with this study are minimal, and there are no known risks for participating in this research.

Compensation / Reimbursement

To thank you for your time and participation, we will give you a gift card for $20.

How your information will be protected:

Information that you provide to us will be kept private. Only the research team at Dalhousie University will have access to this information. We will describe and share our findings in the researchers thesis defense and in presentations to stakeholders. We will be very careful to only talk about group results so that no one will be identified. This means that ***you will not be identified in any way in our reports***. Individual quotes may be used, but at no point will you be identified. The people who work with us have an obligation to keep all research information private. Also, we will use a participant number (not your name) in our written and computer records so that the information we have about you contains no names. All your identifying information will be securely stored in Dr. Sara Kirk's office (1318 Robie Street, Halifax, NS). All audio recording files will be deleted once transcription is completed. All electronic records will be kept secure in an encrypted file on the researcher's password-protected computer. In the case that 1) abuse or neglect of a child or 2) an adult in need of protection comes up in my interviews I will report this immediately to my supervisor. In this situation, confidentiality will be breached.

If You Decide to Stop Participating

During the interview you can choose not to answer and question(s) or ask to skip questions and return to them later on. If you choose to stop participating you are free to leave the study up until two weeks following your interview without any penalty. If you decide to stop participating before, during or after your interview, you can also decide whether you want any of the information that you have contributed up to that point to be removed or if you will allow us to use that information. After the two weeks following your interview, it will become impossible for us to remove it because it will already be analyzed.

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.

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 Sarah Morris at (902) 902-494-8809, SarahMorris@dal.ca, or Dr. Sara Kirk (902) 494-8440, sara.kirk@dal.ca at any time with questions, comments, or concerns about the research study (if you are calling long distance, please call collect). We will also tell you if any new information comes up that could affect your decision to participate.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-1462, or email:

ethics@dal.ca (and reference REB file # 2018-4583).

Signature Page

Project Title: Parent and Early Childhood Educators Perceptions of the Physical Health and Well-being in the Early Years

Lead Researcher: Sarah Morris, Dalhousie University, 902-494-8809

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 over the phone. I agree to take part in this study. I realize that my participation is voluntary and that I am free to withdraw from the study until two weeks after my interview is completed.

I agree that my interview may be audio-recorded ☐Yes ☐No (Mandatory for participation)

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

I would like to receive a summary of the study [Yes or No]. If you circled yes, please provide your email address below.

_____

Email address

_____	_____	_____
Name	Signature	Date

Appendix J: Early Childhood Educator Consent Form

DALHOUSIE UNIVERSITY

CONSENT FORM

Project title: Parent and Early Childhood Educator Perceptions of the Physical Health and Well-being in the Early Years

Lead researcher: Sarah Morris, Dalhousie University, 902-494-8809

Other researchers (Supervisor)
Dr. Sara Kirk, Dalhousie University, 902-494-8440

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Who Can Take Part in the Research Study

You may participate in this study if you are an early childhood educator working with four-year-old children at a regulated child care centre in HRM. You must be above the age of 18 to participate.

What You Will Be Asked to Do

Once consent forms have been signed the researcher will be in touch with you to schedule an over the phone interview. The interview is estimated to last approximately one hour and will be audio recorded.

Possible Benefits, Risks and Discomforts

Participating in the study might not benefit you, but we might learn things that

will benefit others who are involved with this program in the future.

The risks associated with this study are minimal, and there are no known risks for participating in this research.

Compensation / Reimbursement

To thank you for your time and participation in the interview, we will give you a gift card for $20.

How your information will be protected:

Information that you provide to us will be kept private. Only the research team at Dalhousie University will have access to this information. We will describe and share our findings in the researchers thesis defense and in presentations to stakeholders. We will be very careful to only talk about group results so that no one will be identified. This means that ***you will not be identified in any way in our reports***. Individual quotes may be used, but at no point will you be identified. The people who work with us have an obligation to keep all research information private. Also, we will use a participant number (not your name) in our written and computer records so that the information we have about you contains no names. All your identifying information will be securely stored in Dr. Sara Kirk's office (1318 Robie Street, Halifax, NS). All audio recording files will be deleted once transcription is completed. All electronic records will be kept secure in an encrypted file on the researcher's password-protected computer. In the case that 1) abuse or neglect of a child or 2) an adult in need of protection comes up in my interviews I will report this immediately to my supervisor. In this situation, confidentiality will be breached.

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We are happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Sarah Morris at (902) 902-494-8809, SarahMorris@dal.ca, or Dr. Sara Kirk (902) 494-8440, sara.kirk@dal.ca at any time with questions, comments, or concerns about the research study (if you are calling long distance, please call collect). We will also tell you if any new information comes up that could affect your decision to participate.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-1462, or email: ethics@dal.ca (and reference REB file # 2018-4583).

Signature Page

Project Title: Parent and Early Childhood Educators Perceptions of the Physical Health and Well-being in the Early Years

Lead Researcher: Sarah Morris, Dalhousie University, 902-494-8809

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I agree that my interview may be audio-recorded ☐Yes ☐No (Mandatory for participation)

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

I would like to receive a summary of the study [Yes or No]. If you circled yes, please provide your email address below.

_____

Email address

_____ _____ _____

Name Signature Date