

“Asthma is a part of you, it isn’t who you are”

A qualitative study of parental perceptions, beliefs, and experiences when making decision
regarding physical activity for children with asthma

By

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Abstract

This thesis presents the findings of a qualitative, phenomenological study of the lived experiences of parents of children with asthma when making decisions regarding physical activity. The perceptions and beliefs of parents in relation to physical activity and the physical environment were also explored. Eight parents of children with asthma between the ages of five to twelve years old participated in this study. Within the verbatim transcripts of the in-depth interviews four major themes emerged. Parents acknowledged the importance of physical activity and its role in promoting the health and well-being of their children with asthma.

Although parents experienced worry and fear in relation to their child's asthma, parents felt that through good asthma management and communication they are able to normalize living with asthma and support their children's participation in physical activity. Parents considered the physical environment when making decisions regarding physical activity; parents were aware of environmental factors which could trigger or exacerbate their child's asthma symptoms during physical activity. The knowledge constructed in this study suggests that for parents of children with asthma, having asthma did not influence parents to restrict their children's participation in physical activity. Instead, parents worked to minimize asthma symptoms which may arise during physical activity. These findings have implications for healthcare professionals to work with parents to further solidify their stance on the beneficial role of physical activity for children with asthma.

Key words: Physical activity, children with asthma, lived experience, phenomenology,
physical environment

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Chapter One: Introduction

Physical activity (PA) is important for children of all ages. Current Canadian guidelines for PA suggest that children should have at least 60 minutes of moderate to vigorous intensity PA per day (Tremblay et al., 2011). For the purpose of this research study, PA referred to both organized and non-organized sports and activities which occurred after school hours. More recently, the Canadian 24-Hour Movement Guidelines for Children and Youth, emphasized a more holistic approach to promoting physical activity in children, by placing value on all movement behaviours which occur over the span of an entire day. This includes: light, moderate, and vigorous physical activity, sedentary behaviour, as well as sleep (Latimer-Cheung et al., 2016). Depending on the type of activity or sport, PAs can occur in different physical environments. The physical environment encompasses the conditions in which we live and that surround us, including the natural and built environment (i.e. fields, bodies of water, the air around us – indoor and outdoor) and is an important determinant of health. As such, the health of children with chronic conditions such as asthma can be negatively influenced by the physical environment due to the presence of triggers, which may initiate signs and symptoms of asthma, making it hard for children to breathe. Similarly, while participating in PA, children may be surrounded by the presence of certain factors (triggers) in the physical environment, such as pollen, ragweed, and dust. For children with asthma these factors may increase the likelihood of initiating symptoms, making it difficult to breathe or to continue participating in PA.

1.1 What is Asthma?

Asthma is a chronic inflammatory disease of the airway (Global Initiative for Asthma, 2016), in which the lungs become sensitive to the presence of certain triggers making it difficult to breathe. In the presence of these triggers, airways constrict, making it hard for the air to pass

through. The flow of air becomes constricted as it passes in and out of the lungs. As a result, individuals with asthma may experience signs and symptoms such as, shortness of breath, tightness in the chest, coughing and wheezing (Global Initiative for Asthma, 2016). In addition, asthma symptoms can be exacerbated by triggers from the physical environment such as: diverse allergens (pollen and dust), irritant exposures, weather, changes in temperature, the presence of certain types of grass/vegetation, air quality (pollution and fumes), various forms of particulate matter, as well as exercise or viral respiratory infections (Fereday, MacDougall, Spizzo, Darbyshire & Schiller, 2009; Global Initiative for Asthma, 2016; Williams et al., 2010; Youssefagha, Jayawardene, Lohrmann & El Afandi, 2010). Parents of children with asthma may view these factors negatively, due to the ability of these factors to trigger symptoms in their children. This in turn may influence or shape parental decisions in regards to the type of PA that they deem acceptable or feel comfortable allowing their children to participate in due to the presence of these factors.

1.1.1 Asthma Management, Control and Severity

In terms of asthma management, the main goal tends to be to “achieve good control of symptoms, maintain normal activity levels, and to minimize the risk of asthma flare-ups, impaired lung development, and medication side-effects” (Global Initiative for Asthma, 2016, p.104). On the other hand, asthma control refers to the ability to maintain one’s asthma symptoms at reduced levels while also taking necessary precautions, and preparing in case of future adverse outcomes (Global Initiative for Asthma, 2016). Though both are quite similar and have been used interchangeably in the past, asthma control has two distinct domains; one being symptom control (previously called current clinical control) and the second being future risk of adverse outcomes. Lung function is also commonly assessed when determining asthma control

as well as the use of questionnaires and tests such as the Asthma Control Questionnaire (ACQ) and Asthma Control Test (ACT), which are validated tools to measure asthma control. Thus, when compared to asthma management, asthma control can be thought of in more clinically and numerical terms.

Similarly, it is important to recognize that asthma control differs from asthma severity. Asthma severity is intrinsic (Bousquet et al., 2010), and often refers to “the intensity of asthma symptoms, the magnitude of airflow limitation, or the nature of an exacerbation” (Global Initiative for Asthma, 2016, p. 33). For children, asthma control can play a key role in their capabilities to partake in PA and the extent to which participation in PA occurs. Similarly, parents of children with asthma may contribute certain signs and symptoms of asthma towards their child’s asthma severity, as opposed to integrating good asthma management practices. Asthma control is something that can be achieved for all severities. If parents are not aware of this, in turn this may influence decisions regarding PA, such as limitations and restrictions being placed on participation.

In addition, asthma medication plays an important role in children’s asthma management, as well as the ability to control asthma symptoms. Common asthma medication can fall under three categories: controllers, relievers, and add-on therapies for patients with severe asthma. Controllers are usually taken daily and help prevent asthma symptoms and attacks, while relievers are taken when in need, usually for a fast relief (i.e. during an asthma attack) (Global Initiative for Asthma, 2016). Through the use of asthma medication, children with asthma may participate in various forms of PA due to the medication’s ability to prevent exercise-induced asthma (EIA). Consequently, this may impact parental decisions to support the use of asthma medication due to its ability to prevent EIA, and enable parents to feel more at ease in regards to

their children's participation in PA. For instance, children with asthma may avoid PA due to its ability to act as a trigger. The Global Initiative for Asthma (GINA report), states that "many children with poorly controlled asthma avoid strenuous exercise, so their asthma may appear to be well controlled" (p.28). By doing so, this can be hazardous to a child's health, as decreasing levels of PA may lead to increased health problems, such as obesity, in the child's life.

1.1.2 Prevalence of Asthma in Canada

Prevalence is the number of individuals who have a disease (cases) divided by the number of persons in the population that are at risk for the disease at that specified time (Gordis, 2014). In other words, prevalence tells us the number of individuals who have a particular condition in a given population. Gershon, Guan, Wang, and To (2010) conducted a population based study and found that the prevalence of asthma increased 55.1% between 1996 and 2005 in Ontario. Similarly, between 1996 and 2005, an increase was seen in the prevalence of asthma in children ages 5-9 years old and 10-14 years old (Gershon et al., 2010). In fact, in Canada, 2,448,817 people were reported to have asthma in 2014, with the prevalence generally being higher in younger age groups (Statistics Canada, 2016).

1.2 Literacy Surrounding Physical Activity

Parents' abilities to understand key concepts pertaining to the physical environment and grasp basic information regarding the health of their child with asthma, can be positively correlated with parental health literacy. Health literacy (HL) is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Shone, Conn, Sanders, & Halterman, 2009, p. 369). For children with asthma, parents with lower levels of health literacy may not possess the

required knowledge to control their child's asthma symptoms and provide their child with the proper care and management needed. Parental knowledge and HL consequently affect beliefs and perceptions when making decisions involving PA for children with asthma. Therefore, literacy specifically surrounding the area of PA can influence parental decisions regarding PA for children with asthma.

It is also worth noting that parental HL levels can influence physical literacy in children. Physical literacy is the “motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life” (Whitehead, 2013, p.29). Children of parents with higher levels of HL may support and encourage their children's participation in PA. This in turn may contribute to higher levels of physical literacy in children. Given that physical environments play a role in asthma exacerbations, parental perceptions regarding the presence of certain triggers in the physical environment during participation in PA, may affect the decision-making in regards to participation in PA (Williams et al., 2010). Therefore, it is important for researchers to address health and physical literacy in relation with the physical environment when discussing asthma management for children. By doing so, parents may better understand, and thus encourage their children with asthma to participate in PA.

1.3 Benefits of Physical Activity for Children with Asthma

Participation of children with asthma in PA has been associated with numerous health-related benefits. Welsh, Kemp, and Roberts (2005) conducted a review of the effects of PA conditioning on children and adolescents with asthma. They state that improvements in aerobic and cardiorespiratory fitness, and reduction in EIA symptoms were found among some of the studies reviewed (Welsh et al., 2005). Regular PA by children with asthma has also been

associated with lower asthma exacerbations, reduced wheezing, decreased hospital visits, as well as a decrease in school days missed and medication usage (Fanelli, Cabral, Neder, Martins, & Carvalho, 2007; Huang, Veiga, Sila, Reed, & Hines, 1989). Furthermore, the quality of life of children with asthma is said to improve when children with asthma engage in regular PA (Welsh et al., 2005) and is recommended as part of their treatment (Global Initiative for Asthma, 2016).

In regards to PA for children with asthma, swimming is often suggested as the ideal form of PA. In a meta-analysis of eight studies regarding the effects of swimming training on individuals with asthma, it was found by the combination of five of these studies, that there was a higher improvement in regards to asthma severity among the swimming group in comparison to the no swimming or control group (Goodman & Hays, 2008). Additionally, Huang et al. (1989) found that swimming decreased emergency room visits, hospitalization, and school absenteeism in children with asthma. Parents of children with asthma may view swimming as an ideal form of PA due to the humid air environment, and its ability to reduce EIA. Moreover, a study by Latorre-Román, Navarro-Martínez, and García-Pinillos (2014) found that the ability of children with asthma to partake in aerobic and anaerobic exercises such as walking, running at different paces, and team sports was not reduced by having asthma. These children were also capable of improving their fitness through supervised training.

There are in fact a substantial portion of children with asthma who are active and participate in PA. Ownby et al. (2007) conducted a study on the relationship of PA and percentage of body fat to the risk of asthma in 8 to 10 year old children. They found children with asthma to be more active than children without asthma, contradicting their initial hypothesis that children with higher levels of PA would be less likely to have asthma. Additionally, a considerable percentage of athletes competing at competitive international levels are diagnosed

with having asthma or experience exercise-induced asthma (EIA) (Sheth, 2003). For example, among 548 Olympics German athletes 15% reported physician-diagnosed asthma and 8% reported the use of asthma medication (Selge, Thomas, Nowak, Radon, & Wolfarth, 2016). Thus, through the use of proper asthma management, many athletes with asthma competing at elite, international levels are able to partake in the same capacity and compete on an equal level with their fellow athletes (Del Giacco, Firinu, Bjermen, & Carlsen, 2015).

Children can be frequently affected by EIA and children with asthma who are experiencing EIA may participate in lower levels of PA. With almost 90% of individuals experiencing exercise induced bronchospasm (Philpott, Houghton, & Luke, 2010), the differences in PA levels tends to be due to differences in asthma control. For example, children with lower levels of asthma control may be more prone to triggers or elicit a more severe response to exercise. Through optimal asthma management, such as, maintaining control of asthma symptoms and preventing further exacerbations, children with asthma who are experiencing EIA have the potential to partake in PA to the same extend as children who do not experience EIA

Despite the beneficial recommendations of PA for children with asthma (Global Initiative for Asthma, 2016), some research still documents that a considerable portion of children with asthma continue to have reduced levels of PA, and in some cases are found to be less active in comparison to children without asthma (Glazebrook et al., 2006; Williams et al., 2010). For example, Williams et al. (2010) mention that parental and family beliefs are one of the three main factors that affect the participation of children with asthma in PA, with the other two being the illness belief of the individuals themselves and knowledge of teachers at school. As such, parents/guardians play an important role when it comes to final decision-making and allowing

their children to participate in PA, since parental beliefs play an important role in either supporting or not supporting participation in PA. Furthermore, parents also play a vital role in teaching their children to deal and cope with their symptoms. As such, the decisions taken by parents in relation to PA or asthma management can be influenced and shaped by their beliefs regarding the matter.

1.4 Parental Role

Decisions for participating in PA for children with asthma are mostly influenced by the parents. A parent would be classified as, someone who is the primary caregiver and legal guardian of the child with asthma. Factors related to the physical environment and PA that can influence parental decisions include; 1) perceptions about PA doing more harm than good and causing hypervigilance (Meng & McConnell, 2002); 2) beliefs that children with asthma cannot participate in PA to the same extent as children without asthma (Williams, Powell, Hoskins & Neville, 2008); 3) belief that numerous triggers present in the physical environment cannot be controlled and result in asthma attacks (Wildhaber, Carroll, & Brand, 2012); and 4) perception that symptoms will be exacerbated while partaking in certain PA because of the physical environment in which the PA takes place. That is, parents may be more cautious of their children's participation in certain PAs due to the physical environment in which the activities occur. As a result, parents may feel less comfortable allowing their children to participate in said PAs. Furthermore, depending on the composition of the physical environment, parents may feel that due to their child having asthma, this may act as a limitation to being able to partake in PA, especially in certain physical environments which display an increased presence of triggers.

In addition, parents should be primarily involved in conversations surrounding asthma management as they are said to have a "longer recall period" in comparison to children (Global

Initiative for Asthma, 2016, p.28). As such, parents should be called upon when discussing information pertaining to their child's asthma symptoms and exacerbations. By speaking to parents and including them in conversations related to research, education, and practice, the information regarding children with asthma can result in increased accuracy. This information is vital in order for proper assessment of health to take place.

Parental decisions are instrumental in that they have the potential to affect the long-term health of children with asthma. As previously mentioned, parents can make these decisions based on diverse factors such as their, perceptions, beliefs, and experiences. These factors are important not only because parental perceptions, beliefs, and experiences about the physical environment can have an immediate influence on the short-term decisions being made regarding PA for children with asthma, but also because these factors shape parents' thoughts, feelings and actions in regards to participation in PA of the child over the long-term. Thus, in this thesis I ask, *what are the perceptions, beliefs and experiences of parents when making decisions regarding physical activity for children with asthma?* By exploring the decision-making process of parents of children with asthma, I will be able to better understand parental experiences (including perceptions and beliefs) in relation to their children's participation in PA, and to determine the health literacy needs regarding PA for children with asthma. By doing so, the overall health of the child may be improved over the long-term. It is imperative to recognize the need for accommodations to be made in order to maximize PA opportunities for children with asthma.

1.5 Research Objectives

The objectives of this research study are as follows:

1. To explore the perceptions, beliefs and experiences of parents' (of children with asthma), shaping and/or influencing the decision-making in regards to PA for their child.
2. To understand specific factors, in particular the role of the physical environment in shaping and/or influencing the decision-making process of parents as it relates to PA and asthma management of their children.

1.6 Significance of Study

The proposed research was undertaken with the primary goal of providing insight and a deeper understanding of parental perceptions, beliefs and experiences in regards to the physical environment and how it impacts the PA of their children with asthma. Given the gap in the existing literature regarding the role that the physical environment plays in influencing and/or shaping parents' decision-making processes, the knowledge created from this study can be used to inform policy makers and health researchers of these decisions being made by parents. In doing so, children with asthma can be better accommodated when it comes to PA. By providing parents, coaches, teachers, and healthcare professionals with a deeper understanding of decision-making, they may become better equipped to deal with children with asthma when it comes to their participation in PA as well as to address any special accommodations that might need to be made for children with asthma in any particular sport and activity. By shedding light on decision-making and *how* and *why* they are being made, health researchers and educational institutions may provide parents with better suited advice and recommendations. Learning about the

perceptions and beliefs that parents have is a driving factor in developing programs, in order to promote PA in children with asthma thus, improving their overall quality of life.

1.7 Researcher's Perspective

Throughout this thesis I will be writing in the first person. My reasoning for this is that by doing so, I will be accounting for the decisions that I have taken throughout my entire research process. By writing in the first person, I am not deceiving my readers as Webb (1992) describes “writing in the third person is therefore a form of deception in which the thinking of scientists does not appear, and they are obliterated as active agents in the construction of knowledge” (p. 749). I will be situating myself into my study, since as a researcher it is important for me to realize that I cannot be removed, thus I am a part of the phenomenon.

In addition to asthma continuing to be a prevalent chronic condition in children, my motivation for choosing to study children with asthma comes from my own experiences of being a tennis instructor. Throughout the years, I started to notice parents of children with asthma in particular. Instead of these parents dropping their children off and leaving, many of these parents would introduce themselves to me and bring their child's asthma to my attention. Parents communicated to me that though their child was well aware of how to manage any signs and symptoms should they arise, it seemed as though parents felt more comfortable leaving their child in my care for those few hours knowing that I was aware of their child's condition. In turn, this also had me thinking about certain questions such as, how parents decided what sports were okay for their children to participate in? Did the environment play a role at all? All of this initiated my initial curiosity about physical activity and factors such as the physical environment for children with asthma, and contributed to my wanting to learn more about parents of children with asthma and their lived experiences.

1.8 Overview of Thesis

The following chapters cover various aspects of this thesis:

In Chapter Two, I examine literature related to parental perceptions, beliefs, and experiences in relation to PA for children with asthma. I also discuss the role of the physical environment in the decision-making process of parents. I conclude the Chapter by highlighting the gaps in literature. In Chapter Three, I present an overview of the methodological approach I have taken, including sample selection, recruitment strategies, methods of data collection, as well as data analysis. In Chapter Four, I present the knowledge constructed through the interviews with my participants. In Chapter Five, I summarize the implication of my findings in relation to previous studies, and conclude by acknowledging the strengths and limitations of this study. Finally, in Chapter Six, I discuss current approaches taken to incorporate PA into the lives of children with asthma, consideration of the physical environment, and future recommendations.

Chapter Two: Review of the Literature

In this chapter I examine what is known regarding parental perceptions, beliefs, and experiences in relation to PA for children with asthma. In particular, how these may shape and/or influence the decision-making process of parents. I also discuss the role of the physical environment, and the incorporation of the physical environment into asthma management. Finally, I conclude the chapter by highlighting gaps in the literature.

A review of the literature was conducted through search engines such as PubMed – NCBI and CINAHL. The rationale for using these search engines were that they contained a vast amount of research studies related to science/health science, which were relevant to my field of inquiry. Key terms used for searches included: asthma, parents, children, physical activity, experience, perceptions, and beliefs. These key terms were mixed and matched in the advanced section of PubMed and CINAHL to see what would turn up and whether changing combinations would yield different results. These terms were primarily chosen because of their relevance to the research question. A second set of key terms, including: parents, children, asthma, triggers, environment, and physical activity, were used to search for articles related to factors such as the physical environment. Furthermore, the inclusion criteria required that articles be in English and that all studies were performed on humans.

2.1 Parental Perceptions in Relation to Physical Activity for Children with Asthma

Parental perceptions, beliefs and experiences may influence parental decisions regarding their child's participation in particular sports or activities. Meng and McConnell (2002), conducted a study which focused on the decision-making process of parents for children with asthma. They found that parental concerns were exaggerated when it came to the participation of their children in sports. As such, some parents had the misperception that something such as,

getting hit in the chest, would result in triggering an asthma attack. Parental perceptions such as these led to decisions ultimately limiting the participation of children with asthma in sports or causing hypervigilance (Meng & McConnell, 2002). Similarly, when it came to this decision-making process, parents were found to restrict or often create barriers towards the participation of their children in PA in the hopes of keeping them safe. Mansour, Lanphear and DeWitt (2000) explored barriers that urban, minority parents perceived when it came to controlling or preventing their child's asthma symptoms. They found that misinterpretation of doctors' advice or lack of knowledge, played a role in parents unnecessarily restricting their child's PA. Another study, found that other parents did however express that their doctors had indeed encouraged their children to exercise and that having asthma should not prevent children from participating in PA (Williams et al., 2010). In keeping with the research mentioned above, Dantas et al. (2014) noted that parental perceptions not only affected whether or not their children with asthma were allowed to partake in PA, but also influence children's own perception regarding their ability to partake in PA, which can potentially increase the risk of issues around self-esteem and self-worth for the child later on in life.

2.2 Parental Beliefs Surrounding Physical Activity for Children with Asthma

Williams et al. (2008) conducted a review which consisted of sixty-one articles, and state that factors such as, parental and family beliefs affected the participation of children with asthma in PA. The review describes that parental beliefs play an equal role in both enabling children with asthma to effectively manage their asthma, but at the same time could also hinder effective asthma management. In addition, when compared to parents of children who did not have asthma, more parents of children with asthma identified that their child's health acted as a barrier to exercise (Glazebrook et al., 2006). Parental beliefs surrounding asthma and asthma-related

treatments, led many parents to modify their child's asthma treatment plan as mapped out by a health care professional. Much like parental perceptions, parental beliefs led to the unnecessary restriction of PA by parents due to misinterpretation of advice or lack of information received (Williams et al., 2008). Misinterpretation and misattribution of signs (e.g., breathlessness) by parents led to inappropriate coping strategies, (such as restricting their child from participating in PA) due to interpretation of such symptoms being non-straightforward. Thus, parents may restrain children with asthma from physical exertion due to fear of their child experiencing breathlessness. Parental fears may come from previously observing shortness of breath in children with asthma (Westergren et al., 2015).

In children with asthma, a decrease in cardiorespiratory fitness levels could lead to an increase in frequency and intensity of acute bronchoconstriction (constriction of the airways in the lungs). This can lead to symptoms such as shortness of breath, coughing and wheezing. These symptoms in turn may increase parental fears of breathlessness, leading to restrictions being placed on children's PA, and therefore, spending more time partaking in vigorous PA can prevent a decrease in cardiorespiratory fitness levels (Westergren et al., 2015 as cited in Williams et al., 2010 and Mancusco et al., 2006). As a result, parents may attribute certain symptoms towards exercise-induced asthma, ultimately resulting in parents being cautious and restrictive, affecting the PA levels of children with asthma. A qualitative study conducted by Williams et al. (2010) that examined the experiences and beliefs surrounding asthma and PA, found that parental beliefs were a contributing factor when it came to the willingness of children with asthma to participate in PA. Similarly, Fereday et al. (2009) found that children and parents strongly believe that having a chronic disease, such as asthma, should not necessarily hinder a child's ability to partake in PA. As such, parents in this study had strong positive beliefs in

association with PA for children with chronic illnesses. An emerging theme was that parents believe that they would do anything to help their children when it came to their child's desire to partake in the same activities that their peers did (Fereday et al., 2009). Thus, parents in this study rarely cited any barriers in regards to their child participating in PA.

2.3 Parental Experiences – Fear of Asthma Symptoms and Attacks among Parents

Parents may experience fear in relation to their child's asthma exacerbations based on their perceptions, beliefs and experiences. Parental concerns about the PA risk for their children with asthma can discourage children from some forms of PA (Williams et al., 2008). Contrary to these findings, other parents, who still harbored this fear, may not restrict PA largely due to concerns about psychological consequences arising because of such restrictions being placed (Mansour et al., 2000; Williams et al., 2008). Parental concerns included fear of increase of asthma symptoms. Interestingly, Williams et al. (2008) found that parental knowledge and beliefs were largely founded on misconceptions, which included, parents thinking that asthma might be infectious, concern that certain forms of exercise and swimming would worsen asthma symptoms, and belief that inhaling steroids should be avoided.

Mothers in particular felt that participating in PA may trigger symptoms in children with asthma (Dantas et al., 2014). In order to prevent symptoms from occurring, mothers did not encourage and even restricted their children with asthma from participating in PA. Dantas et al. (2014) found that more than one third of mothers of children with asthma admitted to imposing restrictions on their children's PAs. Mothers' perceptions included that their children with asthma would fall ill by partaking in exercise, and therefore imposed the restrictions (Dantas et al., 2014). Similarly, Correia et al. (2012) found that even though almost all mothers recognized that exercise was important for children, half of the mothers admitted to fearing that their

children would fall ill if they exercised and that exercise was dangerous for children with asthma. Furthermore, Spurrier et al. (2000) found that parents who perceived greater vulnerability to illness for their children with asthma tend to use regular preventer medication, visit general practitioners with asthma symptoms and kept children at home from school.

2.4 Fear of Stigmatization among Children

Children with asthma seek to be “normal” among their fellow peers (Westergren et al., 2015) and can often be hesitant to participate in PA due to fear of being stigmatized. Hayes, Huang, Evans, and Bruzzese (2013), found that the attitudes that fellow peers have towards asthma may hinder or facilitate asthma self-management in children (i.e., whether or not children felt comfortable using their inhalers/medication in the presence of their peers). This in turn, may affect participation in PA for children with asthma. Those with higher levels of PA may perceive peer support as a contributing factor to their increased PA levels (Westergren et al., 2015).

2.5 The Role of the Physical Environment

External environmental factors that are perceived by parents as triggers of asthma can be generally classified in relation to, air quality (pollution and fumes) allergens (pollen), and weather (hot or cold, dry or damp) (Williams et al., 2010).

Parental perceptions and beliefs surrounding the safety of children with asthma while in the presence of triggers in the physical environment, can cause parents to limit children’s PAs (Williams et al., 2010). In relation to air quality, triggers can include exposures to particulate matter through exhaust from school buses and other vehicles (YoussefAgha et al., 2012) as well as exposure to nitrogen oxides, sulfur dioxide, nitrogen dioxide, carbon monoxide, particulate matter and ozone levels. These can have a considerable effect on the occurrence of asthma exacerbations in elementary school children (YoussefAgha et al., 2012) and as a result can

initiate fear in parents due to the possibility of asthma exacerbations. Seguinot-Medina and Rivera-Rentas (2006) conducted a study in Puerto Rico and found that the main causes of asthma attacks in children, as perceived by parents was identified as air quality, weather, and dust. Parental perceptions were that, students were most likely exposed to biological and anthropogenic sources while at school, which triggered asthma symptoms in children. Pollutants such as carbon monoxide, sulfur dioxide and nitrogen dioxide from the school buses and cars during morning drop offs and afternoon pick up at the public elementary school, may have contributed to the anthropogenic sources of trigger in addition to the several industrial activities near the school (Seguinot-Medina & Rivera-Rentas, 2006).

2.5.1 Allergens

Other environmental factors such as pollen, can play a role in triggering asthma attacks and worsening asthma symptoms. Seguinot-Medina and Rivera-Rentas (2006) found that when a school was within close proximity to forests with very hot temperatures and precipitation, triggers such as pollen, and grass may play a role in triggering asthma exacerbations while a humid atmosphere creates ideal conditions for the growth of mold and fungi. Generally, the level of HL of parents of children with asthma could potentially influence how aware these parents are about their children's surroundings and factors such as those mentioned above, which may trigger asthma symptoms for their children.

2.5.2 Seasonal Changes

Depending on the season, different types of pollen play a role in triggering asthma symptoms. Seasonal changes bring about changes in weather, which can attribute to the presence of pollen. The greatest number of symptoms and exacerbations were found to occur during the fall and summer seasons, while cold and dry air during the winter and hot and dry air during the

summer were associated with an increase in upper airway inflammation incidences (YoussefAgha et al., 2012). For individuals with exercise induced asthma (EIA), the cold and dry air during the winter months can act as a trigger of EIA. In these individuals, the membranes lining the lung airway passages are very sensitive. In turn, the cold and dry air can heighten swelling of the membranes, making it difficult to breathe. Marefati, Vizvari, Esmailizadeh, and Boskabady (2016) conducted a study which examined the influence of climatic conditions on children with asthma ages 10-12 years old from two different cities in Iran. One city (Kerman) had a dry climate while the other (Gorgan) had a humid climate. These researchers found that the prevalence of asthma was higher in Kerman (dry city) in comparison to Gorgan (humid city). Similarly, the incidence of EIA was higher in Kerman as well. Hence, while cold and dry air may increase the intensity of EIA, warm and humid air may reduce the risk of EIA (Barnes, Drazen, Rennard, & Thomson, 2009). As such, exercising in humid conditions may to a certain degree act as a protective role for children with asthma (Bar-Or, Neuman, & Dotan, 1977). In that, these humid conditions may be beneficial in reducing signs and symptoms of asthma in children with EIA.

During the summer to early fall, the occurrence of respiratory diseases can increase proportionally with temperature (YoussefAgha, Jayawardene, Lohrmann, & El Afandi, 2012). As such, the fear that parents experience when it comes to asthma symptoms being exacerbated can be associated with certain seasons and temperatures. Likewise, Rundle et al. (2009) discovered that seasons, particularly seasonal weather conditions, was a strong predictor of PA in children with asthma. In places where temperatures differed greatly from season to season, children with asthma were found to be considerably more active during the months of May-September however, when temperatures got much colder during the months of October-April,

more children spent their time indoors (Rundle et al., 2009). Though these studies touch on external environmental triggers, they do not explore the possibility of parents allowing their children with asthma to participate in outdoor PA if certain accommodations were to be made, nor do they explore the indoor environment, such as indoor tennis courts, soccer turfs, swimming pools, ice rinks, and gymnasiums.

Another interesting discovery was that the number of rooms in a child's home and whether or not their mothers worked, were other predictors of higher PA levels in children with asthma (Rundle et al., 2009). This may be due to the fact that having a more spacious home with more rooms created more available space for children to engage in activities. Additionally, the ratio of individuals per room may contribute to this as well. For example, if a home is too crowded and the number of individuals exceeds the acceptable ratio of individuals per room, the risk of infectious disease and illness increases, as there is a greater chance that someone who is ill can easily pass it on to the next person and the next, thus a continuous cycle. In regards to mothers specifically, those who were employed or attended school did not have as much time to engage with their children with asthma in regular PA. As a result, it was discovered that activity levels were considerably lower in children of mothers who were employed or attended school in comparison to mothers who were not employed or attending school (Rundle et al., 2009).

2.6 Incorporating the Physical Environment into Asthma Management

The physical environment can affect how parents care for children with asthma and often may present barriers to their child's optimal care and participation in PA (Mansour et al., 2000). In one study, children stated that they were aware of their condition and that they had to take preventive measures when it came to participating in PA (Fereday et al., 2009). These children with asthma indicated that cold weather could potentially trigger their asthma and as a result,

participated in more indoor sports during the winter season. However, for some children the summer season meant allergy season and allergy-induced asthma. As a result, children and parents would often be aware and careful of triggers. By incorporating the physical environment into their asthma management, children found a way to participate in many sports and PAs, and did not let triggers stop their participation. The parents in this study actively encouraged their children to partake in PA not only for health reasons but mainly because parents believed in the importance of creating a normal environment for their children, one in which their disease did not hinder their ability to participate in PA with other children. This study shows that parental attitudes have the ability to impact a child's belief in themselves and their own capabilities to participate in PA (Fereday et al., 2009).

2.7 Parental Challenges in Making Decisions

Children with asthma may at times exhibit behaviours (e.g., refusal to take medication, refusal to participate in PA, yelling, complaining), which cause difficulties for parents when making decisions regarding PA. Morawska, Stelzer and Burgess (2008) explored the challenges that parents experience when it comes to asthma management for their children and the type of behaviour that their children with asthma exhibit. The main focus of their study was to identify these parental challenges in order to implement appropriate intervention programs. Their findings suggest that parents who had more difficulties with the behaviour of their children with asthma reported more problems, as well as, lower levels of confidence when it came to managing their children's asthma (Morawska et al., 2008).

Parents also reported having to deal with behaviours such as anxiety and hyperactivity, which has been previously illustrated in children with asthma due to these children internalizing and externalizing their difficulties with asthma (Morawska et al., 2008). Though this study did

not touch on parental decision-making when it comes to PA or environmental factors perceived by parents as asthma triggers, it provides background information that can be applied to better understand parental decision-making. Additionally, this study provides insight as to the behaviours that may arise from children due to decisions that their parents make. As a result, parents themselves may exhibit anxiety while being forced to take their own child's anxiety and hyperactivity into account while making tough decisions. Similarly, Dantas et al. (2014) also found that parental anxiety levels affected their children with asthma, and that mother's anxiety levels played a role in contributing to restrictions being imposed on PA.

2.8 Health Literacy

Parents' abilities to understand key concepts and grasp basic information pertaining to asthma management, can affect health related decision-making. In exploring the relationship between parental HL and asthma management/care for children, Shone et al., (2009) found that parents who had limited HL perceived their children with asthma as having a greater asthma burden. When compared with parents of children with asthma who had adequate HL, parents with limited HL worried more when it came to the health of their child with asthma and reported lower quality of life. Parents with limited HL had less knowledge, lower expectations about treatments, problems with basic medical paperwork, yet still perceived that their children with asthma were sicker. Levels of HL may also contribute to how parents feel about PA for their children with asthma. The amount of knowledge that parents possess about PA and the benefits of partaking in regular PA may be directly correlated to levels of HL.

2.9 Durham Region

Located in the “highly developed and populated center of Ontario, known as the Golden Horseshoe”, Durham Region lies immediately east of the City of Toronto and encompasses an area of approximately 2,590 square kilometers (“Overview of Durham Region,” n.d.). Durham Region can be characterized by a variety of landscapes and communities; including major lakeshore urban communities as well as farms which lie immediately inland. With the manufacturing sector continually undergoing rapid diversification and with Durham Region possessing all the “utilities, transportation and social infrastructure associated with modern metropolitan communities”, the Region continues to grow strong in residential development (“Overview of Durham Region,” n.d.). But with this development comes changes to the physical environment. It is estimated that by the year 2021, 810,000 people will be living in Durham Region compared to 660,760 residing in the region as of the end of December 2015 (“Overview of Durham Region,” n.d.). An increase in population equates to an increase in homes, vehicles, and buildings, which will lead to an increase in fumes and pollutants being released and entering our air. With the intensification of fumes and pollutants, the presence of triggers found within the physical environment where children participate in PA will increase, leading to exacerbations for those with respiratory conditions, such as asthma. From 2010-2012, in Durham Region the asthma emergency department visit rate in children ages 0-14 years was 10.3 per 1000 people – with 3,497 emergency department visits related to asthma in that particular time period. The asthma prevalence rate of children ages 0-14 years in 2013 was 19.2 per 100 people (“Health Neighbourhoods – Indicator Summaries for Durham Region,” n.d.). This was higher than the provincial rate of 15.5 per 100 people.

2.10 Gaps in Literature

With the changes to the physical environment, it is important to realize that, in conjunction with it, parental perceptions and beliefs are likely to change as well. Parents of children with asthma are constantly adapting and accommodating to the shifts that occur in their lives and the lives of their children. Although few studies briefly touch on certain aspects of the physical environment, such as environmental triggers, not enough emphasis has been placed on the role that the physical environment plays in the decision-making process of parents regarding PA.

Certain research has been conducted on the overall perceptions and beliefs of parents with children with asthma, and what it might be like to take care of these children (Meng & McConnell, 2008; Williams et al., 2008). A few number of studies have incorporated how parents feel about PA for their child with asthma (Dantas et al., 2014; Fereday et al., 2009; Mansour et al., 2000; Williams et al., 2010). However, these studies lack focus surrounding the role of the physical environment and how parental perceptions, beliefs and experiences about the physical environment can influence the decisions being made in regards to PA, particularly in Durham Region. Additionally, many of these studies lacked an interpretivist phenomenological approach, which allows for the exploration and understanding of why people might do what they do.

It is important to study this particular area of research since PA is essential for all children of all ages so that they may live healthy lives. Additionally, the physical environment is an important determinant of health. Therefore, it is important to look at these two factors together. Focus will be placed on Durham Region – a region which, to my knowledge does not

have much research on this particular area of study. These gaps in knowledge are guiding this proposed research.

Chapter Three: Methodology and Methods

In this chapter I describe the methodological approach and the framework that guides my research. In doing so, I outline the sample selection, recruitment strategies, methods of data collection, and data analysis.

3.1 Methodology

Phenomenology is a qualitative methodology which when used means taking into consideration an individual's experience as well as their whole being (Reiners, 2012). Martin Heidegger diverged from Edmund Husserl and developed a separate strand of phenomenology – hermeneutic or interpretative phenomenology (McIntosh-Scott, Mason, Mason-Whitehead, & Coyle, 2013), in which the researcher would focus on interpreting and describing human experience (Reiners, 2012).

3.1.1 Application of Interpretative Phenomenology to Research Question

In applying this methodology to my question, I interpreted and described the perceptions and beliefs of parents who have children living with asthma. I learned about the experiences of being a parent and making decisions regarding PA for their child, and how these experiences shape and/or influence their decisions surrounding PA. Interpreting the experiences, perceptions, and beliefs of parents was at the center of my data analysis. In terms of my research question, “What are the perceptions, beliefs, and experiences of parents when making decisions regarding physical activity for children with asthma?”, I asked about the meaning of this particular phenomenon and in doing so, did not bracket my biases and prior engagement with the question. As part of the ‘phenomenon’ (Reiners, 2012), as the researcher, I am a part of the meanings extracted from the text. By using this approach, I gained a deeper understanding as to the unique experience of being a parent to a child with asthma. I also explored how particular factors, such

as the physical environment, shaped and/or influenced the decision-making process regarding PA through the interview process.

3.1.2 Criteria for Judging the Quality of Interpretative Phenomenological Research

De Witt and Ploeg (2006) propose a framework for interpretative phenomenology referred to as expressions of rigour. These expressions much like evaluative criteria, help guide qualitative research, providing guidelines and a set of principles which act as a framework of criteria (De Witt & Ploeg, 2006). Having these expressions of rigour help legitimize interpretative phenomenological research being conducted, so that there is consistency and integrity among research findings. According to De Witt and Ploeg (2006), there are five expressions of rigour for interpretative phenomenology: balanced integration, openness, concreteness, resonance and actualization.

Balanced integration refers to the acknowledgment and coming together of interpretative phenomenology with the researcher and research topic. This means articulating the place interpretative phenomenology has within the research topic and the researcher's life (researcher's assumptions, beliefs, and thoughts). Balanced integration also refers to the integration of interpretative phenomenology and associated concepts, within the methods and findings of the research study, as well as creating a balance between the participants voices and the "philosophical explanations" (De Witt & Ploeg, 2006, p. 224). Openness refers to accounting for, and describing the decisions being taken throughout the research study. Concreteness refers to the manner in which research findings are written and expressed. Examples are described and help the reader situate themselves within the phenomenon (De Witt & Ploeg, 2006). Resonance would be achieved through the effect of the research findings and their ability to stay with the

reader. Finally, actualization refers to the reader's realization as to just how much the research findings have impacted them.

Applying these five expressions to my phenomenon, first and foremost meant ensuring that I created a balance between the voices of my participants and the philosophical tenets of interpretative phenomenology. I was able to create this integration by following up with my participants and unveiling to them my interpretations and what I had uncovered from our interview. In addition, it was also important for me to be open throughout my entire study process and avoid withholding information. By reflectively writing in the first person and "accounting for the decisions being made throughout the entire interpretative phenomenological study" (De Witt & Ploeg, 2006, p. 225), I was able to display a level of openness with my readers and avoid deception (Webb, 1992). Furthermore, I hoped to achieve concreteness through providing detailed, rich accounts and quotes of my participants' experiences so that readers would be able to situate themselves in the context of my phenomenon and also "link with experiences in their lifeworld" (De Witt & Ploeg, 2006, p. 225). Much like myself, I would like readers to situate themselves into the decision-making process and be able to identify with what it might be like to be a parent for a child with asthma, and to make decisions that can have lifelong impacts. Additionally, by providing detailed descriptions, I hope my research findings will resonate with my readers, impacting and remaining with them over time. In terms of actualization, it is also important for me to realize that once my study is completed, this does not mean that with it the phenomenological interpretation has ended. My hope is that future readers will continue to interpret the phenomenological interpretation (De Witt & Ploeg, 2006), and further build upon and understand the findings uncovered.

3.2 Theoretical Framework

In terms of paradigms, my inquiry falls under the interpretivist paradigm. A paradigm is a belief system which guides us, in how we do things and establishes a set of practices (Guba & Lincoln, 1994). For the interpretivist paradigm, these practices include seeking to explore the interpretations surrounding their inquiry of choice. This is done through understanding the meanings and intentions people give to their own actions as well as their interaction with other people (Given, 2008).

Following an interpretivist paradigm allowed me to recognize that realities were multiple, fluid and co-constructed, and that knowledge was negotiated between myself and my participants (Cohen & Crabtree, 2008). In the case of my research, I understood each parent to have their own reality however, the knowledge constructed by my inquiry involved knowledge being constructed and revealed through dialogue: conflicting interpretations were negotiated. In keeping with the perspectives of Cohen and Crabtree (2008) my primary goal as the researcher was to understand as well as provide a meaningful account of the perspectives and realities studied. This paradigm also values researcher subjectivity as it is “something used actively and creatively through the research process rather than a problem of bias” (Cohen & Crabtree, 2008, p. 333). As such, I tried to understand and report any preconceptions that I had through reflective journals and notes. Interpretivism acknowledges that our training shapes our beliefs, and as such is an important part of qualitative research – for us to recognize these beliefs. For me, growing up being physically active and participating in sports, I have been trained to believe that PA plays a big role for the health of children even later on in life, thus my training has shaped my beliefs.

3.2.1 Evaluative Criteria for an Interpretivist Paradigm

In terms of evaluative criteria, Angen (2000) offers some insight. Angen mentions the importance of ethical validity and substantive validity. Ethical validity means recognizing that the choices I made throughout my research process have both political and ethical consideration (Angen, 2000). This means asking myself if my research was truly helping the intended target population (i.e. parents, teachers, and health promoters) and if I have really learned something from my research. Similarly, substantive validity means evaluating the content of the interpretative work (Angen, 2000). This means providing evidence of the interpretative choices that I made. In the case of my research, this evidence was provided through the use of participants' direct quotes. Indeed, I often found myself reflecting on my thoughts and participant transcripts to understand my transformation throughout the process of my research study. By ensuring that both ethical and substantive validity was achieved, I felt that this would strengthen the quality of my study, as well as my own knowledge and understanding of my inquiry. Additionally, in qualitative research trustworthiness is important and can be determined through the credibility, dependability, confirmability, and transferability of my research findings (Guba & Lincoln, 1994). Credibility was achieved through writing in the first person, not being deceptive towards my readers and accounting for the decisions that I have taken, as well as following-up with my participants. Dependability and confirmability were achieved through the reflexive writing that I practiced (please see section 3.3 below). Finally, transferability was achieved through providing detailed-rich descriptions of my participants accounts and quotes.

3.3 Self-Reflective Practices

Reflexive journaling is crucial for becoming self-aware of one's thoughts, feelings, assumptions, and helps bring to light any influences that could affect data collection and analysis (Clancy, 2013). Reflexivity is the proactive process of explicitly evaluating one's self and becoming aware, thus increasing the quality and credibility of the research (Clancy, 2013). Through this process, I questioned my attitudes, thoughts, reactions, and actions. I did this to "identify and interpret participant's accounts correctly and separate them from my experiences" (Clancy, 2013, p. 14).

Since applying interpretative phenomenology, I referred to my participants as my co-participants. This was because we jointly create findings through our interactive dialogue and interpretation (Ponterotto, 2005) thus, co-constructing research findings. The type of relationship that was emphasized with my co-participants was one in which they were free to share whatever they would like should they choose to participate. Elmesky (2005), states that it is important to obtain free and informed consent during the entire duration of the research process. With this said, I felt that my relationships with co-participants should be respectful and caring so that they felt at ease and safe, ultimately increasing the chances of them becoming forthcoming. Using interpretative phenomenology, I felt that that relationship with my co-participants would be enhanced by appreciating how humans live in the world (Chan, Brykczynski, Malone, & Benner, 2010). Moreover, using this approach, I took into account my own attitudes about everyday occurrences, to ensure that my co-participants were comfortable when asked about people and events of significance. As a researcher, I hoped to create a safe space for my co-participants and responded to everything with the utmost respect (Chan et al., 2010).

3.4 Methods

3.4.1 Ethical Considerations

For this research study, ethical considerations were in accordance with the University of Ontario Institute of Technology Research Ethics Board (REB), file # (/14095).

3.4.2 Participants – Inclusion/Exclusion Criteria

Co-participants were parents of children with asthma, between the ages of 5-12 years old. The reason this specific age range was chosen is because I felt as though these years were of key importance in the development of children. Factors that affect children with asthma when they are at this age can shape who they are as adults and can have an impact on their health. Also, in keeping with my own personal experience, I found that parents generally make the final decision for children at this age. Children at this age are also depend on their parents for support (e.g., financial, time, transportation) and parents generally have the final say on decisions that are being made. Furthermore, by cutting off the age range at 12 years old, this is just before children enter their teenage years during which children generally start to exert more independence and may no longer be as dependent on their parents. In addition, parental teachings acquired by children during the ages of 5 to 12 years can be used as they enter those teenage years. A parent was classified as, someone who was the primary caregiver and legal guardian of the child with asthma, and either a mother, father, aunt, uncle, step-parent or grandparent qualified. Parents could have been from either two-parent families or single parents, and their child's asthma must have been physician-diagnosed. Parents of children with diseases and disorders that prevented them from partaking in PA or were in a debilitating state were excluded from participation.

By keeping the inclusion/exclusion criteria simple, I hoped that this would limit the number of restrictions being placed and would allow me to capture the true essence of the

experience. Using phenomenology meant not knowing what would come up and seeing where the co-participant would take me with their story. Each parent had their own unique experiences to share. In this research study seven (7) co-participants between the ages of 29-39 years old volunteered to participate. These co-participants consisted of six mothers, and both a father and a mother (counted as one co-participant, since their interview was done together).

3.4.3 Recruitment

The recruitment strategy used was purposeful sampling (Patton, 2002), also known as selective sampling, which relies on the judgment of the researcher selecting participants that are to be part of an investigation. Thus, the people I recruited were those co-participants who would be able to answer my research question. To start this recruitment process, I contacted numerous individuals from various organizations. These individuals had a list of parents to contact. These parents were then given information letters (Appendix A) or a letter of invitation (Appendix B) and pamphlets (Appendix C). Interested parents directly contacted me via email or telephone. For individuals from organizations who did not have a list of parents to approach, pamphlets and posters (Appendix D) were left out for parents to see. The appropriate contact information was placed on these pamphlets and posters so that interested parents would know who to contact directly. Snowball sampling (word-of-mouth), was also used as well for recruitment through parents who participated in the research study.

Recruitment took place through the following organizations: The Boys and Girls Club of Durham, The Abilities Center, in addition to various schools throughout Durham Region such as St. Thomas Aquinas Catholic School, St. Kateri Tekakwitha, and Knox Christian School. By recruitment through various venues, I was able to recruit co-participants that were representative of the community of parents with children with asthma.

A sample size of 8-10 co-participants was sought out, due to the nature of this phenomenological study (Robinson, 2007). Once research ethics approval from UOIT was obtained, eligible individuals who were interested in partaking in the study, were given a participant eligibility questionnaire (Appendix E), which determined if parents met the inclusion criteria mentioned above. Parents who answered “no” to the first two questions, were excluded from this research. This is because this study sought out to include parents of children with asthma, whose asthma was physician-diagnosed. Also, parents were excluded if their child was not between the ages of 5-12 years old. If parents met the inclusion criteria and were interested in partaking in the study, they were invited to sign a consent form (Appendix F).

Data collection occurred in locations where co-participants felt comfortable and safe. I had done this by asking co-participants if they had any suggestions for the meeting location. Once both of us had agreed on a location, a time and date was set. Interviews took place at the following locations: Tim Hortons, Second Cup, Starbucks, Oshawa Centre, as well as office and home settings. Co-participants were recruited until data saturation occurred and new themes no longer emerged. Data saturation occurred once themes became redundant.

At the end of each interview, all co-participants were given a thank you card with a \$15 Tim Hortons gift card, to thank them for their time and participation. I felt as though this in no way impacted the results obtained in this study. Additionally, there was no prior relationship between any of the co-participants and myself.

3.4.4 Methods of Data Collection

Upon completion of the eligibility questionnaire, and once deemed eligible to participate, I set up a time and date to meet with my co-participant for the interview. A SONY-IC RECORDER (ICD – UX512) digital audio voice recorder was used with the permission of my

co-participants. I used the recorder to help capture the responses of co-participants, and then transcribed these recordings verbatim. Prior to commencing the interview, I obtained consent by providing my co-participant with a consent form. At the beginning of the interview, I verbally confirmed with my co-participant that he/she had the opportunity to read and sign the consent form. Both of us kept a copy of the form for our records. Any questions or concerns that the co-participant had regarding the research study were answered. I also advised my co-participants that they may voluntarily withdraw consent at any time.

With this being a qualitative study, the best way for me to gather my data was through individual in-depth interviews using open-ended questions. After the consent form was signed I proceeded to ask the co-participant a series of questions (based on an interview guide) (Appendix G). Co-participants were advised to answer these questions to the best of their ability, and that there were no right or wrong answers. My interviews with co-participants helped me address their thoughts, beliefs and feelings with regards to PA as well as the physical environment and its role in the decision-making process. Particular interest was also placed on factors that parents might identify as influential to decision-making processes. A set of prompt questions were developed to help guide my interviews (Appendix G). For instance, I asked parents:

- To describe their experiences with being a parent to a child with asthma
- To talk about PA and how it fit into their lives and their child's life
- What part asthma played in their decisions related to their child's participation in PA
- What part the physical environment played in their decisions related to their child's participation in PA.

These questions were probing yet also open ended, and were designed to address the research questions and research objectives for this study (refer to p. 10, Chapter One), along with the gaps in literature (refer to p. 22, Chapter Two). I collected socio-demographic information from my co-participants at the time of the initial interview through the use of a socio-demographic questionnaire (Appendix H). This questionnaire consisted of questions such as, gender, age, marital status, education, employment, housing conditions, and income.

I conducted these interviews during the months of January to March, 2017, which lasted approximately on average 30 minutes (with the shortest being 20 minutes and the longest lasting 50 minutes). Once the interview was completed, I reminded my co-participant that I would follow-up with them to verify themes from the interview in approximately three weeks time. This follow-up was done through a secure email. During the follow-up, I urged the co-participant to read the identified major themes and to verify that they were in accordance with what was said during the interview.

The interview guide, along with the participant eligibility questionnaire, sociodemographic questionnaire, letter of invitation and consent form, were all reviewed and approved by the Research Supervisor and Thesis Committee Members. During data collection it was important that any of my preconceptions about the phenomenon under study were put aside. I did this through the use of reflexive journaling (Halldorsdottir, 2000), to understand and acknowledge my thoughts, feelings, emotions and assumptions during this process.

3.4.5 Data Analysis

All co-participants were given pseudonyms to maintain their privacy and confidentiality, and the pseudonyms were used throughout the transcript. If during the interviews co-participants mentioned the names of others, I assigned pseudonyms to those as well. In order to capture the

true essence of co-participant experiences and retain the true meaning of the quotes, all quotes were kept verbatim. The co-participants transcripts were uploaded onto NVivo 11 for Windows – Pro Edition [version 11. 4. 1. 1064 (64-bit)]. To further strengthen my skills as a qualitative researcher, I also participated in a Fundamentals of NVivo 11 for Windows online course, which lasted over a duration of 4 weeks (February 20 – March 20, 2017). This course consisted of an online component and live webinar component.

The data I obtained were analyzed through an interpretative process, during which data collection and analysis occurred simultaneously (Idczak, 2007). All the interviews were audiotaped and transcribed verbatim. In reading and re-reading the co-participant transcripts, I hoped to gain a sense of the lived experiences as a whole (Halldorsdottir, 2000) of parents of children with asthma and the experience of making decisions involving PA. All co-participant transcripts were uploaded onto NVivo (a software program which helps organize qualitative data). By reading each individual transcript, I identified key statements, from which I coded themes. This meant figuring out the essence of what my co-participant was saying (Halldorsdottir, 2000). These statements were highlighted different colours. For example, one parent described how PA was important for their child because they believed that it would help strengthen their child’s lungs and breathing over time. As such, this theme was highlighted blue and coded (labelled) as “Health benefits of PA”. As I continued to read the rest of the transcript, if at any time the parent brought up how PA was beneficial for their child’s health, I would in turn highlight that statement blue and code it as “Health benefits of PA”. Similarly, another parent expressed being cautious and worried when their child participated in PA. This was then highlighted pink and coded as “Experiencing emotions related to PA”. I continued to do this for each individual transcript.

All the different themes constructed from each co-participant's transcript were grouped accordingly, in order to construct the "essential structure of the phenomenon for each dialogue partner" or in other words – case construct (Halldorsdottir, 2000, p. 63). In keeping with Halldorsdottir (2000), I acknowledged the importance of verifying each case construct with the corresponding co-participant. This is because as a researcher, it was important that I realized that my choices would always be selective to some degree based on my own preconceptions of the phenomenon. As a result, I followed up with co-participants to discuss with them their case construct for verification. Next, a metasynthesis of all the different case constructions was made, in which different dialogues were compared to find common threads and differences "in order to construct the essential structure of the phenomenon" (Halldorsdottir, 2000, p.64). Themes were shared, discrepancies were dealt with, and an analysis of the text was made. Thus, knowledge was constructed. In addition to following up with my co-participants, the analysis of my themes was also shared with my supervisor and committee members; one of whom has extensive experience, and expertise in the realm of qualitative research. In sharing my findings with my supervisor and committee members, I further verified the credibility of the logical path I had taken to arrive to the labels I had given my themes (Houghton, Casey, Shaw, & Murphy, 2013). In doing so, I stayed true to essence of my co-participants' experiences and minimized the risk of deviating from the truth.

Chapter Four: Presentation of Findings

In this chapter I present a description of the parental experience of making decisions regarding physical activity for children with asthma. Co-participants in this study acknowledged the importance of physical activity. In particular, I found parents felt strongly that supporting their children to participate in physical activity, and not restrain such activities was an important factor in their development. Parental decisions regarding physical activity were influenced by their experiences, perceptions, and beliefs. Also, parents who participated in this study described their children's participation in a wide variety of physical activities. While making these decisions regarding physical activity for their children with asthma, I found that the presence of environmental factors seemed to have influenced parental decisions to various degrees. As such, four predominant themes emerged from within the in-depth interviews conducted with parents who participated in this research study:

- Physical activity as health promoting
- Normalizing life for a child living with asthma
- Parental experience of worry and fear
- Awareness and control over the physical environment

All names mentioned in this chapter are pseudonyms.

4.1 Demographics of Participants

Participants in this research study consisted of eight parents; the majority were mothers (n=7) and one father. All co-participants resided within Durham Region, Ontario. In terms of the age range of co-participants, seven parents were in their 30's, while one was in their late 20's. The children with asthma of these co-participants ranged from between the ages of five to eleven years old and as classified by parents had mild to moderate to severe asthma. Of these parents,

three were high-school graduates, one had a college diploma, two had a Bachelor's degree, and two had a Master's degree. In terms of employment, two parents worked part-time, four worked full-time, one was a homemaker, and one was currently in school (university). Please see Appendix I for a complete table of co-participant demographics.

Of the ten children with asthma, four were described by parents to have been diagnosed within a couple months of their birth, five were diagnosed between the ages of 1 to 2 years old, and one was diagnosed at 4 years old. Seven of the ten children were boys, while three were girls. In terms of parental attributes, there were three distinct attributes that were common among all parents –supportive, encouraging, and communicative.

4.2 Physical Activity as Health Promoting

The ability of parents to acknowledge the importance of physical activity for children with asthma is crucial in that this acts as a starting point towards the participation of children in physical activity. Once the importance of physical activity for children with asthma is acknowledged, parents can then find ways to incorporate physical activity into their child's daily life. Parents in this study believed in the importance of physical activity for their child, and felt strongly in regards to supporting their children's decisions to partake in physical activity. One parent goes on to explain the importance of physical activity in the following:

I think it's incredibly important for my children to be physically active, and I think it's also because they do have asthma...

I wouldn't want to restrain them because of it...

I don't know if you can make their lungs stronger that way, I don't know... in my head I think it does. And I want them to carry it on when they are adults, when I'm not right there with them all the time so, it's important to me for them to be physically active as much as they can. (Stella, mother to three children with asthma: 9 year old son, 10 year old daughter, and 11 year old daughter)

I found that the strong desire of parents to support their children's participation in physical activity stemmed from the conviction that physical activity was important for the benefit of their child's health. Here Stella, (mother to three children with asthma: 9 year old son, 10 year old daughter, and 11 year old daughter) speaks to the health promoting features of physical activity; this influenced her decision to encourage her children's participation in physical activity. As such, this influenced her decision to not restrict her children's participation in physical activity. In a slightly different vein, another parent goes on to discuss the importance of physical activity further in the following,

I don't think we're going to say, like we don't ever plan on saying you can't do this activity because you have asthma. Because for him it doesn't make sense. It'll be better for him to do those activities and keep his body healthy. (Lina, mother to a 6 year old son with asthma)

Within the parents' belief that physical activity was important for their children in maintaining healthy bodies, there was also the belief that it would not make sense to discourage a child from participating in physical activity because of their asthma. Here Lina, (mother to a 6 year old son with asthma), believed her son's continuing participation in physical activity would help him feel more confident and better with his asthma diagnosis, as well as aid with his development. Furthermore, I found that Lina expressed concern that it may hinder her son's power over his circumstances if they were to explain to him that he could not participate in physical activity strictly because of his asthma. This mother wanted to support her child's agency in relation to managing his asthma. Other parents spoke to this element in the following –

I feel even though it causes an adverse effect as far as maybe wheezing, or having to go to the hospital, or something like that, I feel like we still need to let him be a 7 year old... He still has to be a kid. (Jay, father to a 7 year old son with asthma)

And

If he decides to do soccer, baseball, hockey, whatever it is, that's his activity and like 'okay, let's give it a try' Whatever you want to try we'll give it a go, and I don't want his asthma to stop him from trying that. (Kayla, mother to a 5 year old son with asthma)

Several parents believed that it was important for “children to be children.” This meant encouraging their children to participate in physical activity and come to terms with managing their asthma as needed. This positively influenced parental decisions to support children to participate in physical activity and not overly limit or place restrictions on their children’s activities; that is, parents believed that it was important not to hold their children back and encouraged independent decision-making when participating in sports and exercise. By acknowledging and believing in physical activity as health promoting, parents wanted their children to live well or in other words ‘live healthy with asthma.’ As a result, parents did not want the asthma to prevent or hinder their children from participating in physical activity, and in turn, this influenced parental decisions to support their children’s participation in physical activity.

4.2.1 Effective Asthma Management

While parents in this study saw physical activity as health promoting, similarly, they also experienced the negative effects of asthma to various degrees when their children participated in physical activity (e.g., breathlessness). As parents in the following interview excerpt describe, “*He [their son] has to come off the field and take inhalers*” (Jay and Sharon, parents to a 7 year old son with asthma). Similarly, another parent relays her experience, “*He [her son] has to stop and catch his breath*” (Cathy, mother to a 7 year old son with asthma). This is elaborated on in the following,

He gets winded you know, he'll play soccer... Winn will play one shift and he'll be like, 'I need a break.' But he recognizes that he needs a break....

We always make sure one of us [either mom or dad] are on the field at all times so that we can pull him and give him a break if he needs it. Making sure he's got cold water and his inhalers with us at all times. And then if he's sick in the winter or he's had an attack the day before or something, he just doesn't play.... You know, 'your body needs a break' and he [Winn] understands that. He knows that his body just needs a break to heal and to rest, and he gets that. (Kayla, mother to a 5 year old son with asthma)

Here the parent emphasizes the need for being proactive in teaching children about the importance of taking breaks and having their medication on hand – this to help their children learn about how their body respond's while participating in physical activity and how to manage it. In addition, Kayla acknowledges the role that her husband and she have as parents in assisting their son with asthma management. For their son, they are both the teachers and support system, his guardians, who are always looking out for him. For parents the health promoting effects of physical activity outweigh restricting their child's physical activity, however, this approach is balanced with good teachings and practices – good overall asthma management, so that in doing so children can once again 'live healthy with asthma.'

4.3 Normalizing Life for a Child Living with Asthma

For the majority of parents in this study, I found that though asthma sometimes was a consideration in terms of decision-making related to their child's activities, it played a very small role. A parent goes on to describe this in the following,

To be honest with you it's actually a very minor role, like I said because I don't want to restrict their lifestyle just because of their illness. I don't think that's fair for them... Whatever they want to do, like my son says he wants karate, they want swimming, and you know I never stop them. It's just that we have to try and manage it better in terms of giving them their puffer and their medication on time. (Jennie, mother to a 5 year old daughter and 7 year old son with asthma)

Similarly, another parent expresses this sentiment as follows,

It doesn't actually. We don't think about it at all. Because he has manageable asthma, I know he can do it and if he needs his puffers they are there. (Kayla, mother to a 5 year old son with asthma)

Although having asthma might affect the type of physical activity a child could participate in to various degrees, parents felt comfortable supporting their children to engage in it. However, for parents in this study, they generally perceived that having asthma played a “minor role” in influencing them to limit or restrict their children from participating in physical activity. Rather, other factors tended to play a more deciding role such as those expressed in the following,

They all want to do hockey. It's not so much the physical activity, it's the cost. We can't afford for them to play hockey.....

It's not their asthma, it's the cost factor or how to get there. Its other things. (Stella, mother to three children with asthma: 9 year old son, 10 year old daughter, and 11 year old daughter)

Another parent describes this further,

His age. Some of the activities he wants to do, he's not old enough yet, in my mind. I wouldn't say his asthma has stopped him, it would be more so David [child's father] and I saying like 'that is five hundred dollars, we're not doing that.' You know it would be more David and I saying like, a money thing, we can't afford to have all four of you doing that. Time. Time for sure. Time, money, more his age, but never his asthma. (Kayla, mother to a 5 year old son with asthma)

For parents in this study, decision-making with regards to physical activity was related more to the pragmatics of daily life and resources – time and financial obligations tied to some physical activities. This in turn, created a sense of normalization of living with asthma for the

children and participating in physical activity.

4.3.1 Normalization of Asthma during Physical Activity

All parents in this study described emphasizing the importance of managing their child's asthma signs and symptoms during physical activity. In order to prevent their children from feeling “different” during physical activity, parents explain the following,

We just kind of coach him through stuff, you know if he feels tired he can slow down or if he feel sick then we don't have to do it, like you can take a break... we try to help support him that way. You know, if you're really hot then slow down, like that kind of thing. You don't have to give a thousand percent if you're feeling sick or if you're feeling sick one hundred percent is different than if you're feeling healthy. (Lina, mother to a 6 year old son with asthma)

Similarly, another parent goes on to further elaborate,

I tell them 'you know, asthma is a part of you, it isn't who you are. It doesn't mean you're bad because of it, it's not your fault.' It just means instead of running and playing soccer for an hour straight, you're going to have to take more breaks. (Rebecca, mother to an 8 year old son with asthma)

By explaining to their children and making them aware of good asthma management practices, a sense of normalization was created for the children when they engaged in physical activity. Children now perceived that it was “normal” for children with asthma to stop and rest if they were coughing, to take a break if they needed their inhalers or water. By doing so, this helps children better cope with and manage their asthma while participating in PA, making it a part of daily life – not a limitation. Furthermore, when children are given the tools to manage their asthma diagnosis, they are provided with a sense of their own competence in managing their illness. The child's agency is further supported when parents provide their children with the teachings they require.

4.4 Parental Experience of Worry and Fear

Although parents in this study generally supported the participation of their children in physical activity, several also described the emotional side of living with these decisions. Two parents describe their experience of “worry” in the following,

We worry, we worry more when he's not with us....

We worry that when he gets older he's going to have more get up and go, he's going to have more drive. He's going to be able to make decisions more himself. We won't always be able to watch over him. So for him to go and play sports in the future and stuff, if mum and dad can't stand on the side lines watching it worries us....(Jay and Sharon, parents to a 7 year old son with asthma)

Emotions such as worry and fear in relation to the effect asthma had on their child, played a role in influencing parental decisions regarding daily life and decision-making in relation to physical activity. Many parents expressed a constant state of worry surrounding their child's asthma – whether it be on a daily basis or while participating in physical activity. This worry promoted a greater sense of awareness and vigilance within the parents – parents were preparing for the future and the changes that their child would go through over time. In addition, other parents also expressed experiencing “fear” such as in the following,

When my son, my oldest son was diagnosed with asthma I didn't know what that meant and what to expect so it came with a lot of fear at first and then there's times where if his asthma is flared up, there's some fear as well. (Lina, mother to a 6 year old son with asthma)

This experience of worry and fear, in turn influenced parents to be cautious of the decisions that were taken in relation to their child's day to day activities and urged them to be proactive in preventing and managing symptoms.

4.4.1 Establishing the Foundation for Autonomous Adulthood

Experiencing emotions of worry and/or fear prompted a further sense of awareness in parents when it came to decision-making regarding their child's participation in physical activity. As such, parents would plan and prepare ahead of time should their child's asthma symptoms become triggered, as described in the following,

I think I prepare them for when 'you start to feel that feeling in your chest you need to take a break, get a drink. If it's too much, then you take your inhalers, you need to let your coach know, let your teachers know' I think it's just being proactive about if it should happen, that's what we do for them. I still worry. (Stella, mother to three children with asthma: 9 year old son, 10 year old daughter, and 11 year old daughter)

Likewise, another parent states,

We just tell him to take lots of breaks and stop if he needs to. And if he feels he's short of breath, really stop right away, come and sit down, take a break, miss a turn if you have to. (Cathy, mother to a 7 year old son with asthma)

The two excerpts above, show that in relation to physical activity, planning and preparing ahead of time primarily included communication between parents and their children. Parents communicated to their children that it was okay to take breaks, drink water, and use their inhalers during physical activity. In doing so, parents wanted their children to understand that this in no way reflected their commitment towards participating in physical activity to the best of their abilities. By preparing for the future, parents ensured that their children would be able to manage their own health and illness in the absence of their parents. Parents are slowly building the foundation for independent decision-making and instilling in their children the teachings needed for good asthma management.

4.5 Awareness and Control over the Physical Environment

For the purpose of this research study the physical environment referred to the surrounding environment (natural and built) in which the children's physical activities occurred. The majority of parents in this study described taking the physical environment into consideration when making decisions regarding physical activity for their children with asthma. One parent goes on to explain how the physical environment affects their decisions regarding physical activity in the following,

I don't think it changes our decision. It just changes how we react to it. Like some soccer fields have lovely fields of ragweed right beside them so we'll just give him his inhalers before he plays. If we get to the field and it's like, well that's going to cause a problem, we'll just be like let's just do this before you play and then he's fine. (Kayla, mother to a 5 year old son with asthma)

Here Kayla (mother to a 5 year old son with asthma), expressed that while she considered the physical environment, it would not discourage her son's involvement in physical activity solely due to the physical environment in which the activity occurs. Instead, parents such as Kayla described the use of asthma management techniques, such as inhalers, and making smart decisions (e.g., knowing when to take a break) to help their children cope with their asthma symptoms should they arise. A sense of awareness was created within these parents should a situation arise in which their children required an inhaler or a water break. Similarly, another parent describes:

I'm never a 100% on a 'no'. If they want to try it, and it doesn't work out, then that's fine with me. But, it's never a 100% 'no'. Like, I'll let them try baseball but I know it's not going to work. I wouldn't restrict them, I'd let them try it just so they know where their limits are themselves. (Rebecca, mother to an 8 year old son with asthma)

In this case, Rebecca considered the physical environment in which baseball occurs. Even

though she was aware of the environmental conditions and that these conditions may be unfavourable for her son, she would remain open to the possibility of her son's participation in baseball and not restrict him from partaking should he wish. Furthermore, I found that it was more important for Rebecca that her son learned about factors that may exacerbate his symptoms, so that he could independently make these decisions for himself as he got older. Thus, increasing the child's agency.

Although the majority of parents in this study considered the physical environment before making decisions regarding physical activity, several parents expressed that they did not. For example, when Cathy (mother to a 7 year old son with asthma), was asked if she considered the physical environment she described, "*Not so much outside, as indoor.*" Even though on the surface Cathy expressed that she does not much consider the physical environment in which outdoor activities occurred, for her to say "*Not so much outside, as indoor,*" signified that she was indeed aware of both outdoor and indoor activities, but is perhaps more concerned about activities that take place indoors as opposed to the outdoors. This may be due to the fact that her perception of indoor environments is that they present a variety of unknown factors, which are out of her control and can act as triggers towards her son's asthma symptoms. As a result, I interpreted that Cathy may feel less at ease about letting her son partake in indoor activities due to her inability to be in control of the triggers present in indoor environments.

Similarly, Jennie (mother to a 5 year old daughter and 7 year old son with asthma), expressed that the physical environment plays a minimal role into her considerations, stating,

Almost during all their sports and stuff, I am pretty okay, because when they are doing karate – it is very controlled, swimming – is very controlled. So, I don't really have an issue with the environment at this point. (Jennie, mother to a 5 year old daughter and 7 year old son with asthma)

Here, Jennie perceives the current environments in which her children's physical activity

take place to be “controlled” environments and as such, she believed that she does not consider the physical environment. However, after further examination, I suggest that by Jennie identifying these controlled environments she has already *implicitly*, interpreted activities such as karate and swimming to be okay for her children. Implicitly, these physical activities present less of a concern to Jennie as they could be controlled to some extent (e.g., if breathlessness occurred it could be temporarily halted), and were perceived as less risky. Thus, in this case, controlled environment might translate to risk elimination (risk of the presence of factors which may trigger symptoms or risk of harm).

After deconstructing these parental interviews, it was revealed that though some of these parents expressed not really taking the physical environment into consideration, they were in fact aware of the physical environment and considered it when making decisions regarding physical activity, just implicitly. The fact is that parents might not have realized that they did indeed consider the physical environment because their children have been living with asthma for so long that it has become routine, a part of their daily lives. Parents use their authority as decision-makers in an attempt to control situations in which they may feel powerless over – i.e., their child having asthma. As regulators, parents were able to regain power over the types of physical activities that their children participated in and how to effectively help manage the asthma in situations where it could become triggered and/or exacerbated.

Parental control over the environment in which activities occurred and the ability of parents to take the physical environment into consideration before supporting their children’s participation in physical activity played a factor in influencing parental decision regarding physical activity. Parents believed in supporting their children to participate in or at least try any physical activity that was of interest to their children and ultimately, not limit or restrict their

children's physical activity experience solely due to the physical environment in which the physical activities occurred.

For parents, they believed that it was better for their children to experience these activities as they would be able to learn how their bodies responded, and in turn foster independent thinking and decision-making in their children. I understood that parents considered being prepared and ready for all situations should their children's asthma become exacerbated due to the physical environment rather than limiting their participation in physical activities. In doing so parents were able to regain control over their circumstances. Essentially, this process involved being proactive in creating a supportive environment in which parents and children could openly communicate about their asthma and the appropriate steps to manage/cope with exacerbations, should they arise.

4.5.1 Environmental Triggers

Much like being aware of the physical environment, all parents in this study expressed their awareness towards factors present in the environment, which could trigger or exacerbate asthma symptoms. Upon reflecting on the triggers discussed with parents, I found that the best way to illustrate these triggers was through the form of a drawing which was adapted from my field notes. After careful review of my field notes, I realized that I had written down the factors mentioned by parents in a branching formation – with connections and relations to one another. As such, I began to see a relationship form between all the different environmental factors which parents considered when making decisions regarding physical activity for their child. In this case, the tree trunk symbolizes the chronic condition itself, asthma, while the branches symbolize all the different factors that can trigger or influence parental decisions regarding physical activity. Both the trunk and branches influence each other just as all the factors can have an

influence on a child living with asthma and parental decisions for that child. This tree represents continuity through the connections and relationships to all the different factors that parents must consider before coming to a conclusion.

The factors parents perceived to trigger and/or exacerbate asthma symptoms for their children are illustrated below in Figure 1: Visual representation of triggers perceived by parents. This visual representation depicts the presence of triggers in both the indoor and outdoor environments. For indoor environments – parents identified cleaning products, and chlorine. For outdoor – temperature, pollen, ragweed, and seasons (change in seasons). Air quality, allergens, and dust were perceived by parents as triggers that are present in both the indoor and outdoor environments. In addition, parents identified over-exertion and illness (e.g., having a cold) as triggers of asthma symptoms for their children.

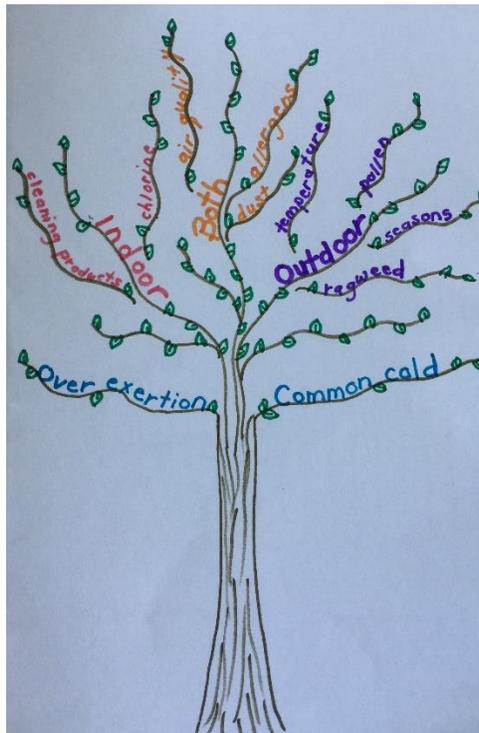


Figure 1. Visual representation of triggers perceived by parents

Additionally, among these factors, temperature seemed to have been perceived by parents as an initial trigger in both colder temperatures, and hot, humid temperatures. Jay (father to a 7 year old son with asthma), explains this in the following,

I would say probably temperature...like overly hot or overly cold. Not like a day like today...it's cold out, but it's not an extreme cold. If it was extremely cold or extremely hot he would get triggers. (Jay, father to a 7 year old son with asthma)

Similarly, other parents describe having a common cold or over exertion during physical activity as triggers of asthma symptoms. One parent goes on to elaborate the following,

If he has a cold, so it's already starting to be triggered and you add in things like running to the bus stop then yes, we will hear him coughing a lot more. (Lina, mother to a 6 year old son with asthma)

Parents' awareness towards factors such as temperature, illness, and physical exertion prompted further diligence and attention to triggers present in the physical environment during physical activity. Though parents articulated 'over-exertion' as a potential trigger, this did not limit or restrict the type of physical activity in which their children participated. Instead, I found these factors created further awareness for parents as they worked to control the physical environment in which physical activities occurred – whether it be explicitly or implicitly.

Furthermore, parents also describe their awareness to seasonal factors. For the spring and fall seasons, parents considered allergens such as – pollen and ragweed, as a parent goes on to discuss the following,

Its more spring and fall seem to affect him, cause of his ragweed allergies and I think it triggers the asthma. (Cathy, mother to a 7 year old son with asthma)

Once again, cold temperatures were identified during the winter season as a trigger-related factor, as a parent describes the following,

Winter is not good for him, summer he's totally fine. So, we go down South every winter just to give him a break....winter is definitely worse for him, the cold air. (Kayla, mother to a 5 year old son with asthma)

There was also a parental awareness to dust as a factor present in both the outdoor and indoor environments. As such, parents discussed the usage of HEPA filters in their homes as a means of protection against dust, various pollutants, and particles. Parents understood that this would help their child better manage and cope with their asthma, while also reducing the presence of trigger-related influences. I felt as though these methods of protection (e.g. HEPA filters) provided parents with a sense of control and comfort over their circumstances.

Additionally, Jay and Sharon (parents to a 7 year old son with asthma), explicitly asserted their awareness to the importance of air quality. When asked what part the physical environment played in their decisions related to their child's participation in physical activity these two parents explained the following,

Jay - If it was indoors, the decisions tends to be a bit easier I think, because you don't have environmental triggers for his allergies and stuff...

If he's jumping on a trampoline outside and jumping on a trampoline inside, for most parents it would be the same thing. For us it's not. If he's outside, is he under trees? So, he's shaded?

Sharon - Is the air... is it smoggy?

Jay - Is the air thick or anything like that. There's other considerations that we have to make. (Jay and Sharon, parents to a 7 year old son with asthma)

For these two parents, being aware of air quality meant taking it into consideration and trying to control its effect on their child by being prepared and proactive in caring for their child at all times. Some parents also described being aware of other factors such as chlorine and cleaning products. These factors were perceived by parents as having the ability to initiate

asthma symptoms while the child participated in indoor activities. Awareness to these environmental factors played a role in influencing and shaping parental decisions related to physical activity, and in turn this knowledge and understanding better prepared parents to prevent and alleviate asthma symptoms. This again went back to asthma management practices, such as openly discussing asthma with their child, carrying inhalers, as well as encouraging rests and water breaks during physical activity.

4.5.2 Environment-related Technology Tools

Much like the awareness of parents to the physical environment and factors within the physical environment, the majority of parents in this study were aware of the existence of tools, such as the Air Quality Health Index (AQHI) – an online tool which displays the air quality (e.g., pollutant levels) of a particular area and associated health-effects. Though parents were aware of the AQHI, it did not play a determining factor in influencing or shaping decision-making related to physical activity for children with asthma. For example, when this parent was asked whether or not she used the AQHI, she describes:

Not overly much. There are times in the summer, but you can kind of figure out what it is... I watch the weather itself, and so I kind of use that to know what the air quality index is. (Lina, mother to a 6 year old son with asthma)

Similarly, another parent states, “*I can’t say that we follow it heavily*” (Jay, father to a 7 year old son with asthma). For parents in this study, though they were aware of the AQHI, it was not something that they relied on or used on a daily basis. Rather, parents felt more comfortable relying on their own judgments and knowledge, and frequently watched the Weather Channel, or had a weather related app on their phone. As such, though parents were aware of the online tool, they did not use it on a regular basis, nor did it play a determining role in influencing parental

decisions in relation to physical activity for their children. Parents did refer to other online tools (e.g., Weather Channel, News app) which aided in daily asthma management practices. I understood that tools such as the Weather Channel and News apps were readily accessible at all times – on cellphones, television, and radio. As such, this provided parents with quick information when needed.

4.6 Summary of Chapter

The physical environment is something that was taken under consideration when making decisions regarding physical activity for children with asthma. In doing so, parents felt that they could better regulate their child's asthma symptoms and exacerbations. By working together with their children and teaching them how to control and better manage their illness, parents can help increase their child's agency in relation to asthma management. Although parents may experience emotions such as worry, fear, and anxiety in relation to their child's asthma, it is important that parents do not allow these emotions to influence their decisions to limit or restrict their child's participation in physical activity. Therefore, by supporting and encouraging children's participation in physical activities parents can help promote the importance of 'living healthy with asthma' and normalizing life for children living with the condition.

Chapter Five: Discussion of Findings

As noted in Chapter Four, I found four major themes in this study: physical activity as health promoting, normalizing life for a child living with asthma, parental experience of worry and fear, and awareness and control over the physical environment. In this chapter I discuss these findings and conclude by acknowledging the strengths and limitations of my study.

5.1 Parents Acknowledging the Importance of *Living Healthy with Asthma*

Recognizing the importance of physical activity and its contribution to the well-being of their children is an important feature in relation to decision-making as it can promote the regular participation of children with asthma in activities such as sports and exercise. Parents encouraged and supported their children's participation in physical activity, in that they believed in the health promoting aspect of physical activity. In their examination of parental knowledge, attitudes, and practices when caring for a child with asthma Jones, Weinberg, Ehrlich and Roberts (2000) found that several parents perceived physical activity to be beneficial towards their child's health. Parents who allowed their child to participate in physical activity felt that it was beneficial for their child, in particular physical activity such as swimming and aerobics. These activities were positively viewed by parents as they were perceived to strengthen the lungs (Jones et al., 2000). Similarly, Lang, Butz, Duggan, and Serwint (2004) interviewed the primary caregivers to compare physical activity levels of children age's six to twelve with asthma to children without asthma and found that, parents of children with asthma who believed that their child could participate in as much physical activity as their peers were less likely to be inactive. Parents who believed that exercise was beneficial, and that children with asthma could participate in activities to a similar capacity as their peers, had children who were more likely to be active at least 120 minutes per day (Lang et al., 2004).

Parents believed that it was important for children to know how their own body responded in certain situations (e.g., during physical activity). In doing so, these children may learn how to prevent and respond to the occurrence of asthma symptoms during physical activity. For instance, Garnett, Smith and Ormandy (2016) explored child-parent decision-making in relation to childhood asthma management and found that it was important for parents of children with asthma that their children be able to listen to their own bodies. By knowing their body's response, this would enable children and parents to take the appropriate measures to minimize asthma symptoms, and their ability to get worse (Garnett et al., 2016). In other words, while making decisions regarding physical activity parents should encourage their children to be aware of how their body responds. In doing so, both parents and children can work together to prevent and respond to any asthma symptoms, as well as continue supporting their children's participation in physical activity. In terms of decision-making related to asthma management, I found that it was vital to recognize that neither the parents nor child has complete autonomy over the decisions being made (Garnett et al., 2016). Instead, recognizing that decision-making is a "dynamic shifting, and shared process" (p. 19) will enable parents to work with their children to prevent and manage asthma symptoms, not just during physical activity but in day to day activities as well.

5.2 Pragmatics of Daily Life vs. the Chronic Condition Itself

Having asthma can influence parental decisions regarding physical activity for their children to various degrees. In regards to my study findings, although parents acknowledged taking their child's asthma into consideration while making decisions, what was interesting was that it did not play a determining role in influencing parents to limit or restrict their child's participation in physical activity. Instead, factors such as time, finances, and developmental

factors played a more influential role in this decision-making process of parents. Hardy, Kelly, Chapman, King, and Farrell (2010) conducted a study in which they examined parental perceptions on how cost, time, travel, and the variety of organized sporting activities available influenced their decisions regarding their child's participation in organized sports. They found that time and finances were identified as a barrier to children's participation in organized sport by parents. In a similar vein, Hardy et al. (2010) found that parents of children ages five to twelve years were more likely to allow their child to participate in organized sports if it took up less of their own time. Furthermore, this study showed that parents were more likely to allow their child to participate in organized sports if the cost was lower.

Despite the fact that it was not reported whether or not children in Hardy et al. (2010) study had asthma, in keeping with the research of Hardy et al. (2010), I found that although parents in my study had children with asthma, they too perceived the pragmatics of daily life as barriers to participation. Upon speaking with parents, it was brought to my attention that sometimes these factors may have more of an influential role than the child's chronic condition itself. That is, through asthma management and control (e.g., knowing when to rest, when to use medication, being aware of triggers), children with asthma have the ability to participate in physical activity to their fullest extent. By parents not letting asthma limit their children's participation in physical activity, in turn this normalized life with asthma and as such the children were able to carry on and learn how to master the management of their illness.

5.3 Importance of Asthma Management Communication between Parents and Children

While making decisions regarding physical activity, parents may experience emotions such as worry, fear and anxiety. Jones et al. (2000) found that parents experienced anxiety that stemmed from situations in which their child had displayed trouble breathing. Similarly, the

experience of fear was in association of an asthma attack occurring, fear of death, and concerns about their child's future (Jones et al., 2000). In addition, worry stemmed from the belief that partaking in physical activity would exacerbate their child's asthma symptoms (Jones et al., 2000).

Likewise, in relation to physical activity, Chiang (2005) who explored the quality of life of children with asthma, found that mothers expressed fear of asthma symptoms being triggered during physical activity, and in turn this contributed towards their child's limited participation in activities. My study findings were contrary to Chiang (2005) in that, parents in my study did not limit or restrict their child's participation in physical activity due to their emotions of worry and fear. This difference observed in Chiang's (2005) findings may be due to the cultural environment, as the study was conducted in Taiwan. Also, the author states, "While it may be a misconception that children with asthma should not participate in any exercise whatsoever, it is an idea that found general acceptance among all of the mothers and children interviewed" (Chiang, 2005, p. 35). With Chiang's (2005) study taking place over a decade ago; parents today may be getting more information regarding childhood asthma as well as an increase in resource availability (e.g., better medication, readily accessible information online or from their pediatrician).

Culturally speaking, with all parents in my study currently resided within Durham Region; the majority of parents being Caucasian, and others being of European and Asian descent, I found that overall none of this had a limiting or restricting influence on the decisions being made regarding their children's participation in physical activity. Contrary to Chiang's (2005) study, all parents in my study encouraged and supported their children's participation in physical activity and did not have the misconception that children with asthma should not

participate in physical activity. In terms of my study, although I found parents to be influenced by their child's asthma to be cautious of their child's participation in certain physical activities, their primary focus was continuously on being proactive in preparing for the future and controlling symptoms. In turn, this urged parents to communicate with their children and explain to them the importance of asthma management. By parents working together with their children to manage the asthma – through proper medication usage, controlling various aspects of their environment, parents found a way to put their own worries and fears at ease. In doing so, they were able to continue supporting their child's participation in physical activity.

This finding is supported by Fereday, MacDougall, Spizzo, Darbyshire, and Schiller's (2009) study which examined the lives of children living with chronic conditions such as asthma, type I diabetes, and cystic fibrosis and their perceptions and experiences of physical activity; parents' experiences were explored as well. In it they found that parents enabled their children's participation in physical activity by engaging in diligent background planning and support. As such, parents normalized living with an illness for their child. In keeping with the findings of Fereday et al. (2009), in his review of the sociology of chronic illness Bury (1991) writes that normalization of an illness can mean "treating the illness, or treatment regimen, as 'normal', and incorporating it more fully into the person's identity and public self" (p. 461). Much like Fereday et al. (2009) and Bury (1991), I found that for parents of children with asthma, as a result of this kind of communication in which parents and children worked together to engage in self-management, children were provided with the confidence they needed to take control over their circumstance and be in charge of their illness – not only during physical activity but throughout daily life.

With regards to communication between parents and their children, the duration of living with asthma can have an impact on asthma management and communication. For parents in my study, since the majority of their children had been diagnosed with asthma at such a young age (i.e., as infants), parents have been able to adjust how they deal and cope with their children's symptoms. Since their children have been living with asthma for quite some time, parents have been able to use trial and error, learn new information, and adapt their management and care practices accordingly. As such, communication between parents and their children has strengthened over time and with its good asthma management practices. Furthermore, with their children being diagnosed at such an early age, parents have been given the time to learn from their mistakes and success, thus perhaps contributing to the positive findings obtained.

5.4 Explicit and Implicit Awareness of the Physical Environment

Parental awareness of the physical environment can influence decisions regarding physical activity for children with asthma. Though I found that the majority of parents were explicitly aware of the physical environment when making decisions regarding physical activity, what was interesting was that in some cases there was implicit consideration. This implicit consideration meant that parental awareness and decision-making regarding the physical environment appeared embedded within their thoughts. That is, although some parents explicitly stated that they did not consider the physical environment the choices that they made for their children appeared to suggest otherwise. Custers and Aarts (2010) conducted a review of literature analyzing how goal pursuit could possibly operate unconsciously. In it they state that "the mind is designed for action, and continuously and largely unconsciously processes behavioral-relevant information to readily 'tell' its owner what she wants and should do to deal with the opportunities and challenges presented by the environment" (pp.47-48). Upon reading

this I found that this applied to those parents who were implicitly aware of the physical environment in their decisions regarding physical activity. For these parents, the challenges presented by the environment were in the form of triggers, which had the ability to initiate or exacerbate their child's asthma symptoms during physical activity. Since their child had been living with asthma for so long, they had implicitly been processing the physical environment and had not realized the extent to which the physical environment was considered in their decision-making process. As such, these parents might not have been explicitly aware of the role that the physical environment played in their decisions related to physical activity.

Parental concerns regarding a child's safety can be influenced by their belief that certain activities may be more likely to expose their child to triggers of asthma (Williams et al., 2010). Williams et al. (2010) conducted a qualitative study which explored parents' experiences and beliefs in relation to physical activity levels among children with asthma in which they cited similar triggers to those found in my study. Similarly, Jones et al. (2000) found that parents cited awareness to triggers such as pollen, grass, pollution, perfume and outdoor dust. In addition, other factors such as wind, change in seasons, cold evening air, exercise, infection, anxiety, stress, damp rooms, being near the sea, getting wet, and crowded living conditions were perceived by other parents to trigger their child's asthma symptoms (Jones et al., 2000). Consequently, I found that being aware of triggers could influence parental perceptions and beliefs regarding the environmental conditions of certain physical activities, which in turn modified how parents responded to caring for their child with asthma. Nevertheless, unlike other studies (Mansour et al., 2000; Meng & McConnell, 2002; Dantas et al., 2014) what was interesting was that regardless of parental perceptions, beliefs, and experiences, I found that parents continued to encourage and support their child's participation in physical activity, and

did not believe in restricting their child's participation in physical activity due to asthma – a particular quality which these parents possessed.

5.5 Strengths and Limitations

Through the use of in-depth interviews, the data gathered in this study generated rich detailed descriptions of participants' experiences of decision-making related to physical activity in caring for a child with asthma. These detailed accounts allowed me to identify common themes as well as differences within these experiences. In addition, the interpretative analytic approach that I adopted allowed me to gain deeper insights as to how the meaning parents attached to asthma and physical activity influenced the decision-making process of parents of children with asthma in relation to physical activity and the management of their child's asthma. It also was important for me to realize that as a researcher I need to acknowledge myself throughout my writing and as such cannot be removed from the narrative. Through this reflexivity the decisions that I have taken can be accounted for by the reader.

My study contributes to knowledge related to how parents of children with asthma experience making decisions regarding physical activity. As such, the findings are best understood through the context of the eight parents I interviewed for my investigation. In a study of this nature, instead of thinking of the notion of generalizability, this kind of research engages with the notion of transferability, i.e., whether or not the study findings may be transferable to other settings and situations. Also, due to the self-selection of participants into the study, this could have influenced and led to the positive results uncovered. In addition, the duration of living with asthma and the age at which children were diagnosed could have influenced parental decisions, as well as the child's agency and mastery over their condition. Since the majority of parents in my study described that their children were diagnosed at an early age – between a

couple months to 2 years old, over time parents were able to learn about practices and techniques that best worked for their children in preventing and managing signs and symptoms. This could have also contributed to the positive findings. It is also worth noting that fathers were under-represented in this study, as the majority of my participants were mothers. Fathers provide a unique perspective which needs to be further studied in relation to physical activity and decision-making for children with asthma. Furthermore, although I examined the influence of the physical environment in parental decision-making surrounding physical activity for children with asthma, I did not consider the socio-economic status of parents and how the physical environment may impact differently for individuals in differential financial circumstances.

Chapter Six: Conclusion

In this final chapter I discuss the current approaches taken as well as the future recommendations I suggest based off my findings for the research sector, education sector, and healthcare (practice) sector. Finally, I conclude this chapter by providing a summary of my research study.

6.1 Current Approaches

Numerous programs and initiatives, such as *Active Canada 20/20: A Physical Activity Strategy and Change Agenda for Canada*; *The Canadian Sport Policy*, have been put in place over the years surrounding physical activity to help encourage children to participate in physical activity. Although these programs and initiatives focus on incorporating physical activity into the daily lives of children with and without chronic conditions, such as asthma, many lack the integration of the physical environment and how this can impact opportunities for physical activity. In terms of shedding light on the physical environment, in 2010, Canada's federal, provincial, and territorial ministers of health and health promotion/healthy living adopted the *Declaration on Prevention and Promotion*. In this declaration, ministers acknowledged that the health of citizens is influenced by the physical and social conditions in which they live, and that we must work together to create safe living conditions to reduce risks for poor health. Though this declaration acknowledges the physical environment and the effect that it has on health, it does not provide a framework or guide for moving forward.

In my view, there is a need for a national framework or guide, which addresses the physical environment and how it influences physical activity in children, especially children with asthma who may experience additional challenges when participating in physical activity. *The*

Framework for Recreation in Canada 2015: Pathways to Wellbeing, is a new, joint initiative brought forth by the Interprovincial Sport and Recreation Council and the Canadian Parks and Recreation Association, which if implemented throughout Canada, has the potential to improve the health and wellbeing of Canadian children by taking into account five main factors, active living, inclusion and access, connecting people and nature, supportive environments, and recreation capacity. The goal of this Framework is to help in the revisioning and redefining of the meaning recreation holds for all citizens, and ensure that every individual is presented with the same opportunities to partake in physical activity, regardless of their social status and class. All five of these goals together aim to create experiences of recreation and physical activity in environments that are both physically and socially supportive for all Canadians (CPRA/ISRC, 2015). Although this Framework provides an outline moving forward and touches upon certain priorities within each of the five goals, it is imperative to understand that each specific group (e.g., children with chronic conditions, children with disabilities, children from lower socio-economic status) requires specific attention and recommendations, which must be accounted for. Starting off general is a great way to get things going but there is a need for specificity. This is important to keep in mind moving forward.

6.2 Future Recommendations

6.2.1 Research

While using interpretative phenomenology helped me explore the essence of the lived experiences of parents of children with asthma, it is important to understand that interrelation of parents and children in this decision-making process. Hence, for future studies children could be present during parental interviews and engage in the conversation, or both children and parents could be included but interviewed separately. In doing so, this could add a particular richness to

the study as researchers could analyze similarities and differences between children and their parents' accounts. Also, with the majority of participants in my study being mothers, it is worth further investigating the dynamic between mother and father participants volunteering to take part in such research studies, and why more mothers tended to volunteer their participation in comparison to fathers. Additionally, future research needs to investigate the physical environment and its impact on parents and their children with asthma who come from a lower socio-economic status. By doing so, opportunities for physical activity may be further incorporated into the lives of children with asthma who are socioeconomically disadvantaged.

6.2.2 Education

Parents need to recognize that decision-making is a shared process in which both the parent and child must work together to better manage the child's condition. By communicating and teaching children good asthma management, children will be able to make good decisions in the absence of their parents, as they develop and age. Furthermore, by parents sharing the decision-making process with their children, this will help children in the development of mastery over their condition. It is also important to recognize that at school, rather than allowing children to be exempted from gym class or activities surrounding physical activity, teachers should encourage parents to sit down with their children and communicate an action plan together to reduce any signs and symptoms which may arise during physical activity. In doing so, participation in physical activity can be maximized for children with asthma. It is only through recognizing triggers of asthma and situations that can further exacerbate their child's symptoms that parents can work to minimize these symptoms. This again would go back to parental health literacy surrounding their child's asthma and physical activity. Upon speaking with my co-participants it became evident that there was a lack of support groups for parents of

children with asthma. Moreover, much like the teamwork that took place between the parents and their children when dealing with their asthma, it is also vital that this teamwork exists between members of a healthcare team (i.e. between doctors, nurses, and respiratory therapists).

6.2.3 Practice

The findings of my research support the need to promote programs and initiatives which focus on incorporating physical activity into the daily lives of children with chronic conditions, such as asthma. It is important to recognize that many approaches towards increasing physical activity participation in youth lack the integration of the physical environment and how this can impact opportunities for physical activity. Furthermore, parental awareness and consideration of the physical environment influenced parents' decisions both explicitly and implicitly. Regardless of perceptions, beliefs, and experiences, I found that parents were well involved in their child's asthma management and as a result, they were comfortable enough to encourage and support their child's participation in various forms of physical activity. This is something that should be re-iterated by healthcare professionals to maximize physical activity in children with asthma. Healthcare professionals can use the information presented in my thesis to further solidify their stance on the benefits of participating in physical activity for children with asthma, as well as the pivotal role that parents play in supporting their children throughout this process.

Moving forward, having frameworks such as *The Framework for Recreation in Canada 2015: Pathways to Wellbeing* can act as a guide for organizations and agencies by providing a base when developing programs and initiatives surrounding physical activity for children with asthma. Through the use of such framework the physical environment would be considered when making decisions regarding physical activity and create opportunities surrounding physical activity. This would mean analyzing and identifying environmental triggers, accessibility, safety

and green space, the location of the neighbourhood, all of which contribute towards the health and wellbeing of children. It is also important to realize that various physical environments can bring about different signs and symptoms for children with asthma. Awareness surrounding such things must be created when developing guidelines so that health professional, parents, teachers, and coaches can be better equipped to deal with triggers and exacerbations. With all this being said, there is still a need for public policies which focus on reducing the incidence of childhood asthma.

In addition, though parents in my study were aware of the Air Quality Health Index (AQHI), it was not something that was expressed to be used regularly. As such, future initiatives and funding surrounding the use of such environment-related tools need to focus on findings ways to reach and get through to parents so that they may use and understand the importance of incorporating such tools on a daily basis. These tools can contribute towards improving the health of children with asthma.

6.3 Conclusion

This research sought out to explore the perceptions, beliefs, and experiences of parents of children with asthma when making decisions regarding physical activity for their child. In addition, factors such as the physical environment were explored to understand how they influenced the decision-making process of parent in relation to physical activity for their child. After speaking with parents, learning about their experiences, and interpreting the data, I began to understand the answers to the question I sought out at the very beginning of this journey. Through the four themes that emerged from my findings: physical activity as health promoting, normalizing life for a child living with asthma, parental experience of worry and fear, and

awareness and control over the physical environment, I was able to obtain these answers to my research question and research objectives.

Partaking in physical activity can promote health and wellbeing in all children. However, children with chronic conditions such as asthma may need certain accommodations (e.g., inhalers, longer rest breaks, favourable environmental conditions) to be made so that they may participate in physical activity to the same extent as children without asthma. As Canadians we must work towards developing guidelines and initiatives around optimizing the physical environment, managing activities for children with asthma, and reducing inequalities which act as barriers of physical activity for these children – every child with asthma has the right to partake in physical activity to the same extent as other children and as such rightful deserve to be accommodated for without being made to feel less than, unworthy or undeserving. Society needs to realize that children with asthma are not always treated equally and equality can only be achieved when these differences are accommodated for.

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Appendix A

Information Letter

Dear Parent(s) or Guardian(s),

My name is Astrid DeSouza and I am currently a Masters student at the University of Ontario Institute of Technology (UOIT), in the Faculty of Health Sciences – Community Health stream, under the supervision of Dr. Caroline Barakat-Haddad.

I am writing this letter to invite you to participate in an innovative research project. This project explores the perceptions, beliefs, and experiences of parents in relation to shaping and influencing decision-making for partaking in physical activities for children with asthma. As such, I am looking for parents/guardians of children who have been diagnosed with asthma and who are between the ages of 5 to 12 years old. My hope is that, by exploring this area of research, we will be able to better understand the factors that influence and shape the lives of children with asthma. Additionally, I hope to generate information that may improve the lives of families impacted by asthma, including community project planning and public policy implementation.

Please find attached to this: a Letter of Invitation, Consent form, as well as a project pamphlet, which will provide you with detailed information of this research project should you be interested in participating. Your participation would involve reading and signing the consent form, as well as, conducting an interview. Participating in this study is completely voluntary and refusal to participate will not carry any consequences. Participants will also receive a \$15 Tim Hortons Gift Card compensation as a token of appreciation for taking the time out of their busy schedules to participate in the research project.

If you have any questions concerning the research study, please contact the researcher, Astrid DeSouza at 905.721.1906 or astrid.desouza@uoit.net

Any questions regarding your rights as a participant, complaints or adverse events may be addressed to Research Ethics Board through the Research Ethics Coordinator – researchethics@uoit.ca or 905.721.8668 x. 3693.

This study has been approved by the UOIT Research Ethics Board REB (/14095) on 28/11/2016.

If you would like to learn more or are interested in participating, please contact myself, Astrid DeSouza at, astrid.desouza@uoit.net or my faculty supervisor, Dr. Caroline Barakat-Haddad at, caroline.barakat-haddad@uoit.ca . Thank you in advance for your interest and support of this project.

Sincerely,

Astrid DeSouza, BSc. (Honours)
MHSc (Candidate)
Faculty of Health Sciences, UOIT

Dr. Caroline Barakat-Haddad, PhD.
Assistant Professor
Faculty of Health Sciences, UOIT

Appendix B

Invitation to Participate in Research Study

Title of Research Study: Parental perceptions, beliefs, and experiences regarding the physical environment in relation to physical activity for children with asthma

Principal Student Investigator: Astrid DeSouza, MHS (Cand.)

Faculty Supervisor: Dr. Caroline Barakat-Haddad, PhD (Research supervisor)

Departmental and Institutional Affiliation: Faculty of Health Sciences, University of Ontario Institute of Technology (UOIT)

Contact Email: astrid.desouza@uoit.net ; caroline.barakat-haddad@uoit.ca

Dear Participant,

You are invited to take part in a research study with the University of Ontario Institute of Technology (UOIT), Faculty of Health Sciences.

The purpose of this research study is to explore how parents of children with asthma make decisions regarding physical activity for their child. This study has been reviewed by the University of Ontario Institute of Technology Research Ethics Board and has received ethics approval UOIT REB file # (/14095).

As a participant, you will be asked to complete a socio-demographic questionnaire and participate in an interview, which will be 45-60 minutes in duration. This research study poses no potential harm and/or injury. All the information gathered during the study will be held in strict confidence, with only the researcher and research supervisor having access.

With the information gained from this research study, the hope is that it will assist health researchers and educational institutions provide parents with better suited advice and recommendations. Learning about the perceptions and beliefs that parents have is a driving factor in developing programs which promote physical activity in children with asthma, thus improving their overall quality of life.

If you are interested in participating in this research study, the research team will provide you with an Informed Consent Form to review and sign prior to the start of the research study. Please do not hesitate to contact me with any questions or concerns you may have and thank you for your interest in this research study.

Sincerely,

Astrid DeSouza

Appendix C

Recruitment Pamphlet

Front and back

Contact Us



astrid.desouza@uoit.net
caroline.barakat-haddad@uoit.ca

THIS STUDY HAS BEEN REVIEWED BY THE UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY RESEARCH ETHICS BOARD AND HAS RECEIVED ETHICS CLEARANCE UOIT REB FILE #(/14095)

Parental Decision-Making Surrounding Physical Activity For Children With Asthma



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Inside

ARE YOU THE PARENT TO A CHILD WITH ASTHMA?

IS YOUR CHILD BETWEEN THE AGES OF 5-12 YEARS OLD?

We are looking for parents who would like to participate in a research study exploring the perceptions, beliefs and experiences of parents, which shape and influence the decision-making regarding physical activity for their child with asthma.

This research study also seeks to understand the role that factors, such as the physical environment play in this decision-making process.

Who is Eligible?

We are looking for parents who have children with asthma between the ages of 5 to 12 years old.

Who Can Qualify as a Parent?

A parent would be classified as, someone who is the primary caregiver and legal guardian of the child with asthma, and either a mother, father, aunt, uncle, step-parent or grandparent would qualify. Parents can be from either two-parent families or single parents.

**** If you would like to learn more or are interested in participating, please contact Astrid DeSouza at astrid.desouza@uoit.net or Dr. Caroline Barakat-Haddad at caroline.barakat-haddad.ca***

Appendix D
Recruitment Poster



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PHYSICAL ACTIVITY FOR CHILDREN WITH ASTHMA

- **ARE YOU THE PARENT TO A CHILD WITH ASTHMA?**
- **IS YOUR CHILD BETWEEN THE AGES OF 5-12 YEARS OLD?**

We are looking for parents who would like to voluntarily participate in a research study exploring physical activity, sports, and exercise for child with asthma

If you would like to learn more or are interested in participating, please contact **Astrid DeSouza** at astrid.desouza@uoit.net or **Dr. Caroline Barakat-Haddad** at caroline.barakat-haddad@uoit.ca

Parental Decision-Making
Surrounding Physical
Activity For Children With
Asthma



Contact Us



astrid.desouza@uoit.net

caroline.barakat-haddad@uoit.ca

This study has been reviewed
by the University of Ontario
Institute of Technology
Research Ethics Board and
has received ethics clearance
UOIT REB file # (/14095)

Appendix E

Participant Eligibility Questions

Does your child have asthma?

_____ Yes

_____ No

Is the asthma physician-diagnosed?

_____ Yes

_____ No

Does your child participate in any forms of physical activity? (Part-taking in sports/exercise during school, after school, at home, in clubs/organizations)

_____ Yes

_____ No

At what age was your child diagnosed?

How old is your child now?

What is your relationship to the child with asthma?

Appendix F

Consent to Participate in Research Study

Title of Research Study: Parental perceptions, beliefs, and experiences regarding the physical environment in relation to physical activity for children with asthma

Principal Student Investigator: Astrid DeSouza, MHSc (Cand.)

Faculty Supervisor: Dr. Caroline Barakat-Haddad, PhD (Research supervisor)

Departmental and Institutional Affiliation: Faculty of Health Sciences, University of Ontario Institute of Technology (UOIT)

Contact Email: astrid.desouza@uoit.net ; caroline.barakat-haddad@uoit.ca

You have been invited to participate in a research study entitled ‘Parental perceptions, beliefs, and experiences regarding the physical environment in relation to physical activity for children with asthma’. Please read this form carefully and feel free to ask any questions that you may have at any time.

Purpose of Research Study: The purpose of this research study is to provide insight and a deeper understanding into parental perceptions, beliefs, and experiences in regards to the physical environment and how it impacts the physical activity of children with asthma.

Methodology (Procedure): Selected participants will take part in an interview with the researcher, which may approximately last up to 60 minutes in length. During this interview, participants will be asked to share their experiences in making decisions surrounding physical activity for their child with asthma. Parental perceptions, beliefs, and experiences will be explored through the use of in-depth interviews with open ended questions.

All interviews will be audio-recorded so that they may be transcribed verbatim (audio-recording will be put into typed words). Participants who wish to review their transcript may request to do so. Participants who request to view their transcript should send comments or changes to the researcher within seven (7) days. Otherwise, it will be presumed that participant’s experiences have been correctly described and captured in enough detail. Once the interview has been transcribed, a follow-up will be done with the participant within three weeks (21 days) to ensure that the entirety of their experience has been captured.

Potential Benefits of Research Study: Though there may be no direct benefit to the participant for taking part in this research study, the goal is that by shedding light on decision-making, health researchers and educational institutions may provide parents with better suited advice and recommendations. Learning about the perceptions and beliefs that parents have is a key driving factor in developing programs – in order to promote physical activity in children with asthma and therefore improving their overall quality of life.

Potential Discomforts: Participants may feel embarrassed about their answers not being the "correct" answers in addition to worrying about being judged for the types of decisions that they make for their child. Under no circumstances should participants feel pressured to answer, as they are not obligated in any way, shape, or form to share any information and should only answer questions that they feel comfortable responding to. Participants will be advised that they will not be judged or penalized for their answers and that there are no incorrect answers since each parent's experience will be unique.

Confidentiality: In order to maintain confidentiality – all interviews, transcribed data, researcher notes, reflections, and personal information pertaining to the participant will only be shared with members of the research team listed on this form. No information about the participant's identity will be shared or published without permission, unless required by law. Participants will be given the choice to choose a pseudonym or one will be assigned to them.

Storage of Data, Access, and Destruction: All data pertaining to the research study will be stored and housed within a secure, password-protected laptop as well as a secure USB key, which only the researcher will have access to. Data being shared between the researcher, research supervisor and participants will be done through the secure UOIT.net platform. All data will be removed from the UOIT.net servers upon submission of the thesis and publication of research articles.

Right to Withdraw: Participants should note that participation in this research study is completely voluntary. Participants may discontinue participation and withdraw at any time without penalty before the publication of results. Publication is scheduled to start April 2017.

Location of Study (Multi-Centre Research Study): Data collection will occur in a public location – a location in which the participant is seated comfortably and feels safe speaking about their experiences. A safe space will be created for all participants.

Publication of Results: At the participant's request, an electronic copy of the published thesis will be available along with any other publications pertaining to the research study. Publication is scheduled to start April 2017.

Participant Concerns and Reporting: If you have any questions concerning the research study or experience any discomfort related to the study, please contact the researcher, Astrid DeSouza at 905.922.2529 or astrid.desouza@uoit.net, or Dr. Caroline Barakat-Haddad at 905.721.8668 x. 2173 or caroline.barakat-haddad@uoit.ca

Any questions regarding your rights as a participant, complaints or adverse events may be addressed to Research Ethics Board through the Research Ethics Coordinator – researchethics@uoit.ca or 905.721.8668 x. 3693.

This study has been approved by the UOIT Research Ethics Board REB (/14095) on 28/11/2016.

Compensation: Participants will receive a \$15 Tim Hortons gift card as a token of appreciation for taking time out of their busy schedule to participate in the research study. Participants will receive this compensation upon completion of the interview. If participants choose to withdraw from the research study, they will not be required to return the compensation.

Consent to Participate

If you consent to participate in this research study, please read the following and sign and date the bottom of this form:

- I have read and understood the relevant information described by this letter of invitation;
- I understand that I may ask questions regarding the research study in the future, and that I may discontinue participation at any time without penalty;
- I freely consent to participate in the research study

***Please remember to keep a copy of the signed consent form for your records.

Name of Participant (first and last printed)

Date

Signature of Participant

Signature of Researcher

Appendix G

Interview Prompt Questions

Start off interview by saying the following: I would really like this conversation to be as informal as possible – kind of like a chat, so if you have any ideas or comments at any time throughout, please feel free to share them! Also, please remember that there are no right or wrong answers, and that I am interested in your experiences and your opinions so just answer based on that – basically, anything that pops into your head.

First I would like to start off by asking you, what interested you to take part in my study?

Just to let you know, throughout our conversation you will hear me say “physical activity”. When I say this I am referring to sports and exercise.

I am wondering if you could tell me a little bit about your experiences with being a parent to a child with asthma.

Probing questions ...

- In your opinion, what could be some possible triggers of asthma?
- Are you yourself affected by asthma?
- Does your child take any medication to manage or control their asthma?
 - If yes - How do you feel about your child taking this/these medication(s)?
 - If no – Why is that?
- Could you tell me a little bit about the severity of your child’s asthma, and how this influences or shapes your decisions?
- Do you discuss asthma with your child? Are they receptive to talking about their asthma?
- Have you discussed the appropriate steps to managing your child’s asthma with your child? How do these conversations usually go?

I am wondering if you could tell me a little bit about physical activity and what you think in terms of how it fits in your life and your child’s life.

Probing questions...

- (If yes, physical activity does fit into the lives of the participant and child) – What type of physical activity does your child participate in, how many hours do they spend per week, monthly, during different seasons? With whom do they do these activities with?
 - For the physical activity that your child has been involved in, did these activities take place in the indoor or outdoor environment (maybe both)?
- (If no, physical activity does not fit into the lives of the participant and child) – Why is that? Could anything be done so that your child can participate in physical activity (accommodations)?

I am wondering if you could tell me about what part asthma plays in your decisions related to your child's participation in physical activity.

Probing questions...

- How do you feel about your child participating in physical activity even though they have asthma?
- Are there any activities that you limit your child from participating in? (Maybe physically or are not allowed by parents). Why?
- Do you or members of your family participate in forms of physical activity?
- Are there any forms of physical activity that your child would like to try?
 - What has stopped them? If no, why not.
- Do you think asthma affects your child in any way when they partake in physical activity?
 - If yes, then how?
 - If no, then ask, could you tell me a little bit about what they do to control/cope with symptoms? Is there anything that causes an asthma attack? Anything that makes it worse?
- What do you do to help your child deal with their asthma when participating in physical activity?
- Is there anything that might encourage your child to participate in more physical activity?

Could you tell me about what part the physical environment plays in your decisions related to your child's participation in physical activity?

*If parents do not know what the physical environment is then, provide them with a definition.

Probing questions...

- Do you consider the physical environment before allowing your child to participate in physical activities?
- Are there any types of physical activities that you do not feel comfortable allowing your child to participate in because of the physical environment in which the activity occurs?
- Do you know about the air quality index? If yes, could you tell me a little bit about this?
- Could you tell me a little bit about how the change in seasons, especially during the winter season affects your child's asthma and physical activity?

Finally, could you tell me a little bit about what it is like having a child with asthma and living in Durham Region?

(See if parents bring up the physical environment of Durham Region, any complains about the weather etc....)

Appendix H

Socio-demographic Questionnaire

Demographic Information

Just to finish up, I have an anonymous questionnaire for you to complete. This will be used to gather information regarding the characteristic of the population taking part in this study. If there is any information you do not feel comfortable including in this survey, you may skip any question without consequence. If you have any questions about the questionnaire or if anything is unclear, please do not hesitate to ask.

Q. Gender

What is your sex?

Male

Female

Q. Age

In what year were you born? _____

Q. Marital Status

What is your marital status?

Now married

Widowed

Divorced

Separated

Never married

Q. Education

What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.

Elementary school

High school graduate - high school diploma or the equivalent

College diploma

- Bachelor's degree (for example: BA, AB, BS)
- Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)
- Professional degree (for example: MD, DDS, DVM, LLB, JD)
- Doctorate degree (for example: PhD)
- None of the above (less than high school)
- Other (please specify)

Q. Employment Status

Which of the following best describes your current main daily activities and/or responsibilities?

- Working full-time
- Working part-time
- Unemployed or laid off
- Looking for work
- Homemaker/raising children full-time
- Retired

Q. Employer Type

With regards to your current or most recent job activity:

- a. In what kind of business or industry do (did) you work?

(For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, breakfast cereal manufacturing.)

- b. What kind of work do (did) you do? (Job Title)

(For example: registered nurse, personnel manager, supervisor of order department, gasoline engine assembler, grinder operator.)

c. How much did you earn, before taxes and other deductions, during the past 12 months?

- Less than \$5,000
- \$5,000 through \$11,999
- \$12,000 through \$15,999
- \$16,000 through \$24,999
- \$25,000 through \$34,999
- \$35,000 through \$49,999
- \$50,000 through \$74,999
- \$75,000 through \$99,999
- \$100,000 and greater
- Don't know
- No response

Q. Housing

How many people are currently living in your household, including yourself?

- Number of people
- Of these people, how many are children?
- Of these people, how many are adults?
- Of the adults, how many bring income into the household?

Is the home where you live:

- Owned or being bought by you (or someone in the household)?
- Rented for money?
- Occupied without payment of money or rent?
- Other (specify)

Q. Household Income

What is your total household income?

- Less than \$5,000
- \$5,000 through \$11,999
- \$12,000 through \$15,999
- \$16,000 through \$24,999
- \$25,000 through \$34,999
- \$35,000 through \$49,999
- \$50,000 through \$74,999
- \$75,000 through \$99,999
- \$100,000 and greater
- Don't know
- No response

Appendix I

Demographic Characteristics of Co-participants

Name (Pseudonym)	Age	Relationship to children with asthma	Age of children with asthma	Educational level	Employment status
Rebecca	29	Mother	Son, 8	College	Part-time
Jennie	32	Mother	Daughter, 5 Son, 7	University	Studying
Kayla	34	Mother	Son, 5	University	Full-time (on maternity leave)
Lina	35	Mother	Son, 6	University – Master’s degree	Part-time
Jay and Sharon	36 and 37	Father and mother	Son, 7	High school	Full-time
Stella	37	Mother	Son, 9 Daughter, 10 Daughter, 11	High school	Homemaker
Cathy	39	Mother	Son, 7	University – Master’s degree	Full-time