# Broadening the Bandwidth on Physical Literacy: Perspectives from Within the Context of Disability

by

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## Abstract

The purpose of this research was to explore the meaning and understandings of physical literacy within the contexts of impairment and disability according to the perspectives of those who support the involvement of individuals experiencing disability in physical activity. Three studies were conducted. To provide context to the dissertation, the specific purpose for the first study was to gain an understanding of the knowledge that exists pertaining to the inclusiveness of physical literacy with respect to individuals experiencing disability. A scoping review was conducted to examine peer-reviewed and grey literature from 2001 until August 2018, emphasizing physical literacy and its inclusiveness of individuals experiencing disability. Sixteen pieces of literature satisfied the inclusion criteria for the study. This literature was a contributing factor in identifying three key trends, including: (a) reinforcing the norm, (b) limited contexts, and (c) a need for prepared professionals. From this information, it can be concluded that physical literacy for individuals experiencing disability has been discussed intermittently and at a superficial level. This points to the limited scope of inquiry so far and the need for further exploration.

The purpose of the second study was to explore the meaning and understandings of physical literacy for children labelled with autism spectrum disorder (ASD) held by their parents. Using an interpretive phenomenological analysis, in-depth discussions were held with six parents. Findings helped to illustrate that despite participating in programs emphasizing physical literacy, parents held varying understandings of what physical literacy represents in comparison to the dominant conceptualization, and from one person to the next. Additionally, parents believed that individualized opportunities for activity engagement contributed more to their child's physical literacy development than current practices emphasizing physical literacy, which

were not considered inclusive of their children as a result of their experiences. The experiences and understandings of parents reveal that physical literacy is not inclusive of all, and also illuminates the abelism they have experienced within current physical literacty practice.

The objective of the third study was to explore the meaning and understandings of physical literacy for children labelled with ASD according to the perspectives of community-based adapted physical activity practitioners. Again using an interpretive phenomenological analysis, six practitioners engaged in discussion, offering their perspectives. Results from these discussions indicate that practitioners' understandings are similar to conceptualizations based on normalized patterns of development, and are predominantly focused on the physical domain of development above all else. Additionally, despite this understanding, the practices used to facilitate physical literacy development are those considered to be best practices within the field of adapted physical activity, therefore suggesting that there is no one-size-fits-all model of physical literacy development. These findings not only exemplify potential problems (e.g., ableism) that can occur as a result of adopting models or frameworks of physical literacy development based on normative developmental patterns, but also highlight the uniqueness of physical literacy development for children labelled with ASD.

Overall, the body of research contained within this dissertation provides much needed insight into what physical literacy represents within the context of disability; what it means, and how it is understood according to individuals facilitating physical activity experiences for children labelled with ASD (i.e., parents and adapted physical activity practitioners). Although this adds an element of depth and authenticity to the current body of physical literacy literature, there is still much to learn about physical literacy in the context of individuals experiencing disability.

## Preface

This thesis is an original work by Kyle Pushkarenko. The two studies (Studies 2 and 3) that required research ethics approval, received approval from the University of Alberta Research Ethics Board. Study 2, original project name "Physical activity for children diagnosed with autism spectrum disorder: Exploring perceptions of parents to establish continuity and consistency of practice" (Pro00073227) was approved on June 14, 2017. This project was renamed "Understanding physical literacy: An interpretive phenomenological analysis of parents' perspectives for children labelled with autism spectrum disorder (ASD)." Study 3, original project name, "Exploring physical literacy for individuals with autism spectrum disorder: Interpretations of community physical activity program leaders" (Pro00064219) was approved on September 7, 2016. This project was renamed "Exploring the unknown: Understandings of physical literacy for individuals labelled with autism spectrum disorder (ASD) according to community-based adapted physical activity practitioners.

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# CHAPTER 1

## Introduction

Traditional understandings of the term "literacy" are commonly associated with definitions whereby knowledge and competency in reading, writing, and numeracy are emphasized. However, current perspectives of literacy include domain-specific social practices, relationships, knowledge, language, and culture (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2004). As an expression of this plurality, metaphorical extensions paralleling the significance of more traditional forms of literacy have been utilized to indicate a certain level of knowledge and competency in specific domains (Taylor, 2003). For example, *media literacy*, *information literacy,* and *digital literacy* have been used as indicators of proficiency in accessing, understanding and critically evaluating various forms of information (Koltay, 2011). Similarly, *data literacy*, *quantitative literacy* and *statistical literacy* have been used to delineate competencies in manipulating, summarizing, and presenting data (Prado & Marzal, 2013). With growing concerns about healthy lifestyle practices, the development of *health literacy* has been encouraged as a means to possess the necessary knowledge, skills, and attitudes to make choices regarding personal health and well-being (Kilgour, Matthews, Christian, & Shire, 2015). While these literacy types only represent a fraction of those being used to describe proficiency within disciplines, they illustrate the plurality of "literacy" as it is currently understood.

**What is Physical Literacy?**

In addition to the types of literacy mentioned above, literacy has also made its way into the domains of physical activity and physical education. Here, the metaphorical extension of literacy is known as "physical literacy," which is defined as "the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life" (Whitehead, 2017, n.p.). Physical literacy is thought to encompass the skills, attitudes and lifestyle habits needed to engage in active living over the

lifespan (Keegan, Keegan, Daley, Ordway, & Edwards, 2013; Whitehead, 2010). As such, it has been identified as a key component of increasing participation and enjoyment of physical activity, reducing the likelihood of "exercise-related injury and inactivity-related illness" (Jurbala, 2015, p. 380) and thereby enhancing quality of life.

**Philosophical underpinnings of physical literacy.** Physical literacy is grounded within epistemologies of existentialism and phenomenology, and is framed as the human potential existing from our nature as embodied human beings (Whitehead, 2010). Whitehead asserts that physical literacy can only be understood under a monist ontological assumption. In other words, physical literacy is founded on the idea of understanding the person as a whole as opposed to the view that human beings are made up of separate dimensions of body and mind. More specifically, she contends that physical literacy extends beyond the dualist perspective of simply considering the body-as-object (i.e., the body seen as something that can be acted upon or with), suggesting that our nature as human beings also includes the body-as-lived (e.g., 'lived embodiment,' or 'living as an embodied being'). Physical literacy is therefore viewed as a product of the interrelationships existing between various human dimensions (i.e., motivation, confidence, and perceptions of competence) and the way these dimensions interact with our surrounding environment (Whitehead, 2001, 2007). This perspective implies that physical literacy is dynamic and that individual dimensions have influence on others, contributing to the overall development of the concept.

One of the major philosophical underpinnings of physical literacy is the notion that it pertains to and is inclusive of everyone (Whitehead, 2007, 2010). Regardless of the nature of their embodiment (e.g., age or ability level), Whitehead (2010) suggests that each individual possesses the building blocks of physical literacy. Yet, the manifestation of physical literacy is

unique to each person. To her, physical literacy is a capability describing "the expression of our embodied dimension as one aspect of our innate human nature" (p. 17). In other words, physical literacy is considered to be one's human potential to engage in purposeful physical pursuits. When exercised, this capability leads to the nurturing of a positive attitude toward one's movement potential and further provides the motivation to establish a personal connection and interaction with the surrounding environment. As more interaction takes place, there is increased opportunity for the development of physical competence, and subsequently, more motivation to continue engagement; the cycle between motivations, interaction with the surrounding environment and competence development is continuous (Whitehead, 2010).

As represented within physical literacy, the idea of multiple interacting dimensions yielding a unique representation is characteristic of two other theoretical approaches to human development: *The Capabilities Approach* (Nussbaum, 2000) consisting of dimensions in the form of 'capabilities,' and the *Theory of Multiple Intelligences* (Gardner, 1983) characterized by multi-dimensionality through 'intelligences'. *The Capabilities Approach* is based on the premise that functional capabilities of certain core areas of human life are essential to ensure quality of life. Their presence or absence is understood to be the mark of the presence or absence of full human existence. According to Nussbaum (2000), three different types of capabilities govern our ability to function as humans. First, there are basic capabilities that can be described as "the innate equipment of individuals that is the necessary basis for developing more advanced capabilities, and a ground of moral concern" (p. 84). These capabilities are considered to be rudimentary. Examples of basic capabilities include our capabilities to see, hear, speak, and even to express sentiments like love and gratitude. Second, there are internal capabilities, or "developed states of the person herself that are, so far as the person herself is concerned,

sufficient conditions for the exercise of the requisite functions" (p. 84). Internal capabilities are unlike basic capabilities in that they can be described as mature states of readiness. Essentially, internal capabilities reflect the power to exercise a particular function according to context. Examples include the physical capacity to engage in pleasurable activity or the intellectual capacity to make self-determined decisions. It should be noted here that some internal capabilities develop naturally, while others are developed through the support of those within the immediate environment. Third, there are combined capabilities. These represent the highest form of human functioning according to the capabilities approach, and are defined as "internal capabilities combined with suitable external conditions for the exercise of the function" (p. 85). The distinction between internal and combined capabilities is not readily apparent, as the former often requires practicing the actual function under favourable conditions. However, the distinction can be seen when there is an abrupt change in the material or social environment. For example, when an individual is accustomed to engaging in a particular behaviour and then is restricted from engaging in that same behaviour, the internal capability is fully present yet the combined capability is not (Nussbaum, 2000).

Nussbaum (2000) indicates that there are ten combined capabilities central to determining what people are capable of doing and becoming: life; bodily health; bodily integrity; senses, imagination, and thought; emotions; practical reason; affiliation; other species; play; and control over one's environment. Described as a list of separate components, these ten capabilities are thought to be of equal importance, distinct in quality, and therefore to reflect the irreducible plurality of human functioning (Nussbaum, 2000). All capabilities require optimal educational and material support for their development. Thus, deprivation that prevents transformation into higher-level capabilities limits the potential for full human functioning.

A second approach that shares the idea that human development is multi-dimensional is Howard Gardner's (1983) *Theory of Multiple Intelligences*. Gardner asserts that there are several relatively autonomous human intellectual competencies, labelled as "human intelligences," and that they can be configured to reflect a unique intellectual profile. Gardner describes intelligence as the ability to solve problems and create products valued within one or more cultural settings and states that expression of these intelligences occurs in the context of specific disciplines, domains, and tasks (Gardner, 1993). Every individual is thought to possess these intelligences, but each individual develops them to a different degree and combines them in different ways according to their distinct individual and cultural background (Gardner, 2011). In other words, Gardner proposes a "pluralistic view of mind, recognizing many different and discrete facets of cognition, acknowledging that people have different cognitive strengths and contrasting cognitive styles" (p. 5). Gardner (1983, 2006) has identified eight distinct types of intelligence: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic. Each intelligence is thought to represent the strengths and interests of different types of learners. Moreover, while the intelligences work in harmony, all individuals have the potential to exercise each of them independently (Gardner, 2011).

Both Nussbaum's and Gardner's theories of human potential share similar elements despite arising from very different perspectives on being human. Gardner approaches human development and potential from a bio-psychological perspective while Nussbaum comes from a feministic political context. According to Whitehead (2010), physical literacy does not fit neatly into either position, though each view contains features that parallel the philosophical underpinnings of physical literacy. Both theories also include the recognition of different dimensions of humanness and the expression that results from this. In both cases, "our

embodiment is acknowledged as a fundamental human characteristic offering potential for development" (Whitehead, 2010, p. 18).

**Pedagogical sensitivity and a support-based approach to PL.** According to UNESCO (2004), because literacy is not generic teaching it requires diversified strategies employing content suitable to the learner's unique circumstances. In other words, to foster literacy "flexible approaches that are responsive to the individual circumstances and needs of the learner and the learning environment" (UNESCO, 2004, p. 15) have been recommended. Similarly, the literature pertaining to physical literacy development echoes these suggestions, recommending that in order to translate physical literacy knowledge into practice and further facilitate each learner's unique physical literacy journey, one requires an informed, pedagogical approach that is sensitive to the learner's needs (Almond & Whitehead, 2012; Whitehead, 2001; 2010). With this 'pedagogical sensitivity', those who facilitate physical activity experiences are likely to be more inclined to act sensitively to specific situations and environments, develop a sound knowledge of individual learners, and demonstrate adaptability in their pedagogical position (Almond & Whitehead, 2012).

According to Almond and Whitehead (2012), pedagogical sensitivity is comprised of five skills: reaching out to learners, connecting, engaging, drawing out, and stretching. 'Reaching out to learners' involves the development of a relationship with the learner. Here, every learner is treated as an individual with clear routines and structure being established to meet particular needs. 'Connecting' is about establishing an attachment that enables learning to take place. Generating interests, creating appropriate challenges, and focusing on the individual are illustrative of this skill. 'Engaging' is about creating appropriate challenges that help learners come to terms with any negative feelings that may inhibit their involvement in physical activity;

essentially, getting children to think about their own learning experiences. ‘Drawing out’ is about creating practices that excite learners. Specifically, this skill is about engaging learner interest and assisting learners in developing confidence. This is performed through listening, prompting that encourages the gradual progression of a confident and competent set of abilities, and creating an environment where learners are poised to explore new situations. The final skill of ‘stretching’ refers to the broadening attitudes and abilities, interests, and love of learning (i.e., engagement in purposeful physical pursuits). This is accomplished through challenging abilities through tasks of gradual complexity, and encouraging risk-taking behaviours.

The formation of pedagogical sensitivity is not relegated to any particular context, and is thus not the responsibility of any one individual. Because physical literacy development is thought to occur across multiple environmental contexts (Barber, 2016; Dudley, 2015; Dudley, Kriellaars, & Cairney, 2016; Stanec & Murray-Orr, 2011) and through various developmental pathways (Corbin, 2016; Whitehead, 2010), the use of a collaborative multi-stakeholder approach, whereby pedagogical strategies are shared, has been highly encouraged (Corbin, 2016; Farrey & Isard, n.d.; Stanec & Murray-Orr, 2011; UNESCO, 2015). In addition to facilitating physical literacy development in each specific context, this approach is believed to provide a sense of continuous support across an individual’s ongoing and unique physical literacy journey (Physical & Health Education Canada, 2015).

**Physical literacy through a critical lens.** To date, physical literacy has gained considerable attention as a means of guiding the development of new programs and initiatives aimed at improving health outcomes, establishing cultural identities, and increasing participation in physical activity (Roetert & Jeffries, 2014). Originating in the United Kingdom, physical literacy has been widely adopted in recent years as countries such as Canada, Australia, New

Zealand, and the United States of America have explicitly recognized or implicitly incorporated the concept into their country's policies and programs related to sport and physical activity (Mitchell & Le Masurier, 2014; Spengler & Cohen, 2015). Canada holds one of the most comprehensive adoptions of physical literacy (Roetert & Couturier MacDonald, 2015; Spengler & Cohen, 2015) as the concept underpins a national multi-institutional sport model (Canadian Sport for Life: CS4L) (Corbin, 2016), is considered as a foundation for sport and physical education policies and programming (Mandigo, Harber, Higgs, Kriellaars, & Way, 2013), and has been embraced by policy makers responsible for the creation of municipal sporting strategies (Jurbala, 2015). Additionally, a consensus statement (Canada's Physical Literacy Consensus Statement, Canadian Sport for Life, 2015) has been developed to facilitate alignment and to improve consistency and clarity of communication of physical literacy information across multiple sectors of Canada's physical literacy community, and several physical literacy assessment protocols have been designed in Canada (Francis et al., 2016; Physical Literacy Assessment in Canada, 2014; Tremblay & Lloyd, 2010). Despite these programs and initiatives, there has been a lack of discussion on physical literacy for individuals experiencing disability and an absence of programming specifically designed to facilitate their physical literacy development (Arbour-Nicitopoulus et al., 2018). As a result, the conceptualization and operationalization of physical literacy has been referred to as ableistic, representative of only individuals who do not experience disability, and can be criticized for not fully embracing the philosophical foundations of inclusion that underpins physical literacy (Arbour-Nicitopoulus et al., 2018; Goodwin, 2016).

Ableism is defined as "a network of beliefs, processes and practices that produces a particular kind of self and body (the corporeal standard) that is projected as the perfect, species-

typical and therefore essential and fully human" (Campbell, 2001, p. 44). Therefore, ableism is thought to reflect the attitude of certain social groups and social structures that value and promote certain abilities over others (Wolbring, 2008). This preference for certain abilities over others leads to a labelling of real or perceived deviations from a state of "normative abledness" (Campbell, 2009, p. 10). In this context, disability is implied to be a diminished state of being human (Campbell, 2001, 2009) and those who experience disability are ultimately branded "as 'less able' and or as 'impaired' disabled people" (Wolbring, 2008, p. 253). This creates a dichotomy based on 'being able to' versus 'not being able to' do something. This perspective is reflective of the medical model of disability (Withers, 2012).

From the medical model perspective, the locus of the disability itself lies within the person (Blustein, 2012; Shyman, 2016). Disability is understood as an individual and/or a medical phenomenon resulting in limited functioning, ultimately viewed as deficient (Mitra, 2006; Palmer & Harley, 2012). Limitations can include structural or functional impairments caused by variations of physical, sensory, affective, or cognitive development (Blustein, 2012), and/or by disease, injury, or health conditions (Forhan, 2009). This view is strongly normative, signifying that people are disabled on the basis that they are unable to adhere to a similar functional standard as a so-called normal person does (Haegele & Hodge, 2016; Mitra, 2006; Roush & Sharby, 2011). Therefore, the disability becomes the defining characteristic of individuals who experience disability, leading to a focus on eradicating the cause of or fixing the impairment considered to be inherently disabling (Forhan, 2009; Wolbring, 2008).[1]

[1]The term "experiencing disability" is used throughout the document as it acknowledges the variation of embodied experiences and identities that may be related to personal experiences of disability (Peers, Spencer-Cavaliere, & Eales, 2014).

Canada's current physical literacy practices encompass the idea of ableism as they emphasize the development of physical literacy in a unidirectional and linear fashion (Lloyd, 2016). This approach does not emphasize the individual capabilities that those experiencing disability may possess, or the interdependence that individuals may require in their attempt to develop physical literacy. It also does not account for variation in or absence of the individual elements of physical literacy (i.e., physical competence, confidence, motivation, knowledge and understanding). Instead, it suggests there is a single and standardized vision of physical literacy development and implies a resemblance to the notion that either you have it or you do not, reinforcing the notion of 'ableness'. This ultimately excludes those who do not adhere to a particular standard of development, further marginalizing them in the process (Spencer-Cavaliere, Thai, & Kingsley, 2017). As described by Whitehead (2013), a dichotomy is created whereby individuals whose endowment includes the individual elements of physical literacy are described as physically literate, while those lacking in these elements or that lose them over time are described as physically illiterate.

Goodwin (2016) highlights the idea that physical literacy is an exclusionary concept in her discussion of the discrepancies that exist between the way the concept is defined and the practices intended to facilitate its development. She states that although physical literacy, by definition, promotes participation and inclusion, "the challenges individuals experiencing disability face negotiating the ableistic norms of physical activity and sport suggest that physical literacy is a concept that is exclusionary in its basic premise" (p. 313). In other words, while current understandings of physical literacy are based upon ideas of individual responsibility, individuals—regardless of ability—are required to develop physical literacy according to the normalized standards of those with privileged capabilities. These requirements differentiate,

devalue and/or exclude individuals with other forms of embodiment (Goodwin & Peers, 2011). These standards emphasize the idea that one's ability plays a defining role in the development of physical literacy. As a result, individuals experiencing disability are at a disadvantage and may be ultimately excluded in physical literacy practices even before they begin their so-called individualized physical literacy journey (Goodwin, 2016).

Coates (2011) also suggests that exclusivity and ableism are expressed in the nature of physical activity environments and the opportunities offered to individuals within them. Highlighting this suggestion, Canada's physical literacy practices reflect a preoccupation with performance-based environments and incorporate normative standards used for comparison purposes (Longmuir et al., 2015; Tremblay & Lloyd, 2010). For example, assessment strategies use standardized measures and methods of quantification (e.g., scoring according to proficiency level) to determine levels of progress in physical education classrooms. Physical activity pursuits emphasize team games and competition to create opportunities for activity engagement. These practices emphasize individuals' ability levels (Spencer-Cavaliere et al., 2017) and can prove to be difficult or unrealistic for some children experiencing disability; the requirements to recognize and understand rules, and to have awareness of positioning and tactics are elements of physical activity that may not be demonstrated with relative ease by some of these children (Smith, 2004; Smith & Green, 2004).

In contrast to suggestions that physical literacy is exclusionary, physical literacy has also been proclaimed to hold benefit for all, including individuals experiencing disability. For example, Vickerman and DePauw (2010) support the development of physical literacy for individuals experiencing disability as a means of facilitating their physical development, and promoting social, emotional, intellectual and cognitive capacities. Like their peers who do not

experience disability, it is beneficial for children experiencing disability to engage in physical activity in a wide range of activities and environments (Johnson, 2009; Murphy & Carbone, 2008; Smith, Austin, Kennedy, Lee, & Hutchinson, 2005). Through this involvement children experiencing disability are encouraged to "use their embodied potential to the best of their ability" (Vickerman & DePauw, 2010, p. 133), creating future opportunities to reap the benefits associated with ongoing physical activity participation. However, Canada's physical literacy practices have aligned the concept to a readiness model of motor development, suggesting that fundamental movement skill acquisition is a precursor to engagement in a wider variety of activities (Francis, Johnson, Lloyd, Robinson, & Sheehan, 2011; Higgs, 2010). This implies that physical literacy is an outcome one strives toward rather than something that is developed over the course of one's lifespan. Portraying physical literacy as a "one-size fits all" concept (Ezzeldine, 2014), and mechanizing it to fit within the dominant paradigm that has been adopted (Lloyd, 2016) contradicts the idea that physical literacy is a journey that occurs in the context of one's own personal endowment (Almond, 2013; Whitehead, 2010, 2013). As Whitehead (2013) states:

> Physical literacy is not a state that is reached and then persists throughout life. It is best seen as a journey, a journey unique to each individual. Each journey is likely to encounter twists, turns and maybe setbacks along the way. Journeys may stall on account of a range of personal circumstances, some maybe beyond the individual's control. ("Cradle to Grave Journey", para. 1)

In an effort to portray physical literacy as more inclusive of diverse abilities and ways of moving, resources have been created to supplement physical literacy programming for those experiencing disability (Physical and Health Education Canada, 2010). However, these resources emphasize adaptation to skills performed by children who do not experience disability and a developmental approach to instruction, ignoring individualized functional strengths and

weaknesses, capabilities and preferences. Such an approach, one that lacks attention to the individual, can be criticized for disregarding the heterogeneity making individuals unique, and perhaps even the nature of inclusive and ethical practice (Goodwin & Rossow-Kimball, 2012; Spencer-Cavaliere & Watkinson, 2010). Vickerman and DePauw (2010) indicate that individuals experiencing disability by their very nature possess a wide range of personal and specific needs, interests, and capabilities that have enormous complexity and diversity, suggesting that physical literacy may be developed or understood differently for those experiencing disability. In order to create meaningful connections to purposeful physical pursuits leading to the motivation to engage in future physical activities, consideration for individual complexity and diversity is necessary.

It is not reasonable to discuss and promote a concept established with the idea of individual expression and based upon one's unique embodied potential (Vickerman & DePauw, 2010; Whitehead, 2010), yet not consider the different life experiences of those experiencing disability and those who advocate for and support them. Does the concept of "physical literacy" hold a different meaning for individuals experiencing disability? Is physical literacy developed differently in these individuals? If so, should planning and programming not reflect this? These questions have not yet been investigated, reflecting a lack of understanding about the degree to which the current conceptualization and implementation of physical literacy is relevant to individuals experiencing disability. Answers to these questions are essential for fostering an operationalization of this concept that centers on the idea of individuals using their embodied potential to the best of their abilities, allowing for the cycle of opportunity, motivation, competence, and confidence introduced earlier.

**Enlightened Physical Literacy**

According to Arbour-Nicitopoulous et al. (2018), readily available and appropriately

designed physical literacy-enhancing programs for children and youth of diverse abilities are thought to provide the foundation for optimal life-long physical activity engagement. However, practices that truly embody the inclusiveness expressed within today's conceptualizations of physical literacy are few and far between (Andrews, Falkmer, & Girdler, 2015; Rimmer, Vanderbom, & Graham, 2016; Shields & Synnott, 2016). There is a general lack of available inclusive programs and most often, programs developed for children who do not experience disability are retrofitted (D'Eloia & Price, 2018) or quickly adapted in an effort to include children experiencing differing levels of ability (Magill-Evans, Darrah, & Adkins, 2003). These strategies lack the intentional programming required to meet individualized needs, increasing the potential for perceived negative experiences and an overall disinclination to participate (Hall, 2009).

Despite the inclusiveness that physical literacy is thought to encapsulate, critical examination of the concept and its practices indicates that there is a substantial gap existing between conceptualization and operationalization. It appears there is greater emphasis toward ensuring that physical literacy is simply used to describe programs for individuals experiencing disability rather than toward engaging in practices that adhere to the inclusive and philosophical foundations of the concept. This can be viewed as enlightened physical literacy, an idea that runs parallel to Lyons (2013) notion of 'enlightened ableism' whereby there is a sidestepping or even lack of recognition of the implementation of an ableist paradigm. Here, Lyons states, "the rhetoric of enlightened ableism presents a rational, modern, well-informed and humanitarian world view yet allows the continuation of practices that marginalize persons with disabilities" (p. 240). Similarly, the rhetoric surrounding the inclusiveness of physical literacy appears to be conjectural given how the concept has been operationalized in direct contradiction of its

foundations. This idea of enlightened physical literacy therefore begs the question: Are we truly encouraging the development of physical literacy for all, and in particular for individuals experiencing disability?

**Autism Spectrum Disorder**

Autism spectrum disorder (ASD) is a developmental impairment[2] represented through varying degrees of ability in areas such as communication and language, social interaction, and behaviour (Centers for Disease Control and Prevention, 2016). According to Autism Speaks Canada (2016), ASD is the fastest growing and most commonly identified developmental impairment in Canada with an approximate prevalence rate of 1 in 68 people (Christensen et al., 2016). This rate equates to almost 2% of the national population, approximately 700,000 people (Centers for Disease Control and Prevention, 2016), and has increased by 10 to 17 percent annually in recent years (Autism Speaks Canada, 2016).

ASD is commonly presented from the perspective of the medical model (i.e., the Diagnostic and Statistical Manual of Mental Disorders [DSM-5; American Psychiatric Association, 2013]). Here, deviations from the norm in areas such as communication and language, social interaction, and behaviour serve as the defining features of the disorder (Kapp, Gillespie-Lynch, Sherman, & Hutman, 2013). In addition to the DSM-5's classification criteria for diagnostic purposes, the medicalization of ASD has been reinforced through research literature highlighting several other characteristics. These include: intellectual and cognitive deficits (Fombonne 2003; Todd & Reid, 2006); behaviors such as hyperactivity, short attention span, aggression, impulsivity, self-injurious behaviour, and tantruming (Johnson, 2004; Patel & Cutis, 2007); psychiatric disorders such as anxiety, depression, and various phobias (Salazar, et

[2] The word "impairment" is used to replace the word "disability" to frame ASD within a context of a social model of disability, rather than a medically-oriented approach to disability.

al., 2015; Siminoff et al., 2008), and fine and gross motor difficulties (Pan, Tsai, & Chu, 2009; Staples & Reid, 2010; Whyatt & Craig, 2012). However, with this lengthy list of characteristics, the use of terminology such as "deficit" and "difficulty" to describe characteristics associated with ASD, and its diagnostic classification as a "disorder" within the DSM-5, ASD has been positioned largely within a deficit-based framework (Broderick & Ne'eman, 2008; Lester, Karim, & O'Reilly, 2014).

A deficit view pathologizes human difference, conceptualizing individuals or groups in terms of their "perceived deficiencies, dysfunctions, problems, needs, and limitations" (Dinishak, 2016, n.p.), formulating a framework or conception that stigmatizes individuals on the basis of particular developmental patterns according to normative standards (Burack et al., 2016). This view has fuelled the bulk of ASD research and intervention aimed at identifying, characterizing and intervening on 'what's wrong' with those labelled with ASD[3] (Dinishak, 2016; Potter, 2016). Moreover, in regards to physical activity participation and engagement, this view of ASD where difference is associated with deficiency, has resulted in the emergence of negative perceptions surrounding the abilities of children labelled with ASD (Buchanan, Miedema, & Frey, 2017; Obrusnikova & Miccinello, 2012; Must, Phillips, Curtin, & Bandini, 2015). These perceptions have contributed to children labelled with ASD being increasingly susceptible to physical activity decline (Bandini et al., 2013; Gregor et al., 2018, Must, et al., 2015; Pitetti, Rendoff, Grover, & Beets, 2007), compromising their ability to capitalize on the benefits

[3] Using the word "diagnosis", or some variation of it, to describe an individual can imply the use of a medicalized approach to disability. To align ASD to a social model of disability, where disability and impairment are not synonymous, and impairment does not automatically equate to nonnormative biological function, the phrase "labelled with ASD" was used. This replacement was thought to encompass the "social structures, attitudes and relations that disable classes of people, not on the impairments of individuals" (Peers, Spencer-Cavaliere, & Eales, 2014, p. 273).

associated with prolonged physical activity engagement. This places children labelled with ASD at an increased risk of chronic disease and poorer overall quality of life (Criado et al., 2017; Curtin, Jojic, & Bandini, 2014; MacDonald, Esposito, & Ulrich, 2011; Menear & Neumeier, 2015).

In challenging the medical approach of characterizing ASD according to a list of deficits, many have taken to celebrating ASD as "an inseparable aspect of identity" (Kapp et al., 2012, p. 59). Referred to as the 'neurodiversity' approach, ASD is represented as natural human variation, characteristic of a different way of existing as a human being (Jaarsma & Welin, 2011). Proponents of a neurodiversity approach claim that ASD is not something to be cured, but rather recognized and equally respected (Armstrong, 2010; Jaarsma & Welin, 2011; Ortega, 2009). In other words, individuals labelled with ASD should not be considered as those who are handicapped or pathological, but instead be accepted from a point of difference similar to other forms of human variation such as skin colour or sex (Jaarsma & Welin, 2011). Such an approach aligns well with the foundations of physical literacy where one's unique embodied capability shapes their overall physical literacy development and how they perceive engagement in physical activity pursuits over their lifespan.

**Purpose and Overall Research Question**

Questioning the current operationalization of physical literacy does not necessarily mean that the concept is not applicable to individuals experiencing disability. However, it is naïve to assume that the current conceptualization of physical literacy is inclusive of every individual given the heterogeneity existing amongst individuals experiencing life under differing circumstances (e.g., individuals experiencing disability) and with varying levels of support. The purpose of this research is to explore the meaning of physical literacy within the context of

disability, according to the perspectives of those who support the involvement of individuals experiencing disability in physical activity. Specifically, the research will investigate the meaning and the general understandings of physical literacy for children labelled with ASD held by parents and community practitioners who facilitate the physical activity experiences of these children beyond the context of education. The following research question will guide the dissertation as a whole: *How is physical literacy understood within the context of disability, both in a general sense, and specifically according to individuals who facilitate and support the physical activity experiences of children labelled with ASD within the community?*

**Dissertation Structure and Framework**

The dissertation is comprised of three studies. The first study is a scoping review of the physical literacy literature. Scoping reviews identify the nature and extent of the research evidence on a given topic thus providing a measure of assessment in regards to the size and scope of available research literature (Arksey & O'Malley, 2005; Grant & Booth, 2009). Particularly relevant to areas with emerging perspectives that lack a body of empirical evidence (Levac, Colquhoun, & O'Brien, 2010), scoping reviews are "a form of knowledge synthesis, which incorporate a range of study designs to comprehensively summarize and synthesize evidence with the aim of informing practice, programs, and policy and providing direction to future research priorities" (Colquhoun et al., 2014, p. 1291). The goals in undertaking this scoping investigation were to examine the extent, range, and nature of discussions and research activity, and to determine gaps in the existing literature, as they relate to the concept of physical literacy and its inclusiveness of individuals experiencing disability.

The second and third studies employ an interpretive phenomenological analysis (IPA) framework (Smith, Flowers, & Larkin, 2009) to explore the meaning and general understandings of physical literacy for children labelled with ASD held by those who facilitate the physical

activity experiences of these children beyond the context of education – namely, parents (Study 2) and community-based adapted physical activity practitioners (Study 3). IPA is informed by three key positions: phenomenology, hermeneutics, and idiography (Smith et al., 2009). Phenomenology describes the "what" and "how" of individuals' experienced phenomena into accounts representing the essences of experiences, yet does not explain or analyze these accounts (Creswell, 2013). Hermeneutics is a theory of interpretation in regards to textual meaning, as in the techniques used in speaking and writing that reveal the intentions and context of the speaker/writer (Smith et al., 2009). Finally, idiography relates to detail, analysis and development of understanding of the particular, which differs from mainstream psychological studies that are nomothetic and concerned with making claims at the population level (Smith et al., 2009).

IPA is "concerned with understanding personal lived experience and thus with exploring persons' relatedness to, or involvement in, a particular event or process [phenomenon]" (Smith, et al., 2009, p. 40). Moreover, IPA pursues an idiographic commitment, whereby participants are situated within their particular contexts and personal perspectives are explored (Smith, et al., 2009). This type of methodology is appropriate for the second and third studies of the dissertation as the purpose is to examine in detail how parents of children labelled with ASD and adapted physical activity instructors make sense of the concept of physical literacy.

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# CHAPTER 2

## Study 1

## Why are we not discussing inclusion? Identifying gaps in the physical literacy literature via a scoping review

Physical activity participation is a critical element in the overall healthy development of children and adolescents. Engagement in physical activity has the potential to not only impact physical well-being, but also cognitive and social functioning, resulting in a holistic improvement to quality of life (Janssen & Leblanc, 2010; Masse, Miller, Shen, Schiarti, & Roxborough, 2012; Penedo & Dahn, 2005). Despite this, physical inactivity has reached problematic levels (Kohl et al., 2012), with children of all ages and abilities accumulating significantly less physical activity than needed to achieve health benefits (Hallal et al., 2012). In Canada, inactivity in children is rapidly increasing (Active Healthy Kids Canada, 2014) with only 33% of children between the ages of 5 and 17 years achieving recommended levels of an average of 60 minutes of moderate-to-vigorous physical activity per day (Colley et al., 2017).

A leading suggestion presented to address trends of declining levels of physical activity is the development of physically literate societies (Mandigo, Harber, Higgs, Kriellaars, & Way, 2013). Physical literacy is viewed as a multi-dimensional concept, defined as “the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life” (Whitehead, 2017, n.p.). According to Whitehead (2010, 2013), physical literacy is understood through the process of "lived embodiment" whereby both the body-as-object and the body-as-lived are considered. Collectively and interdependently lived embodiment is fostered through one’s interaction with their external surroundings. When these interactions are perceived as meaningful, personal connections with the surrounding environment are established, awareness is developed about of how such engagement can enable the individual to flourish and enhance their wellbeing, and the capacity to continuously engage with the world around them is heightened (Durden-Myers, Whitehead, & Pot, 2018; Whitehead, 2010). Consequently, individuals see physical activity as an integral

component of their lives, and develop a willingness to "embed it within their life pattern" (Almond, 2013, p. 36).

In Canada, enthusiasm of physical literacy has led to the creation of Canada's Physical Literacy Consensus Statement (Tremblay et al., 2018). Adopting Whitehead's perspective, the statement serves as a model that clarifies the defining characteristics of physical literacy and how physical literacy is developed (Corbin, 2016). According to the statement, physical literacy includes four interconnected elements, representing four distinct domains of human development. These include motivation and confidence (affective domain), physical competence (physical/psychomotor domain), knowledge and understanding (cognitive domain), and engagement in physical activities for life (behavioural domain). Motivation and confidence refers to the desire and enthusiasm to engage in physical activity and the self-assurance in adopting physical activity as a part of one's lifestyle. Physical competence refers to the ability to develop skills, and the capacity to use those skills in activities of varying durations, intensities, and contexts. Knowledge and understanding includes the ability to identify the essential qualities of movement, understand the benefits of an activity, and appreciate the features of participating in various settings and environments. Engagement in physical activities for life refers to an individual taking personal responsibility for their physical literacy development, including freely choosing to participate in physical activity on a regular basis. All elements are considered as essential for physical literacy development.

Both in Canada and globally, physical literacy has been discussed and debated with great intensity as countries continue to employ the concept in national programming initiatives, policies, and practices (Corbin, 2016; Roetert & Jeffries, 2014). As a result, the literature framing physical literacy as an important concept in physical education, sport, and recreation

continues to expand extensively. Topics of discussion include the philosophical underpinnings and defining features of physical literacy, methods of assessment, and contextual applicability (Almond & Whitehead, 2012; Giblen, Collins, & Button, 2014; Jurbala, 2015; Pot & van Hilvoorde, 2013; Tompsett, Burkett, & McKean, 2014). Despite the growing body of literature, there remains a lack of empirical evidence in support of the concept (Jurbala, 2015; Lundvall, 2015); most of the literature on the topic is conceptual or theoretical. Further, despite inclusiveness being a core principle of physical literacy (Canada's Physical Literacy Consensus, Canadian Sport for Life, 2015), its applicability and inclusivity with respect to individuals experiencing disability has not been widely considered as yet.

To date, five reviews of literature have been conducted on the topic of physical literacy (Edwards, Bryant, Keegan, Morgan, & Jones, 2016; Edwards et al., 2018; Lundvall, 2015; Mitchell & Le Masurier, 2014; Tompsett et al., 2014). Of note, none have specifically considered inclusion or discussed it beyond a superficial level. The early reviews focused attention on the global adoption of physical literacy (Mitchell & Le Masurier, 2014) and the need for movement competency as a precursor to physical literacy development (Tompsett et al., 2014). More recently, attention has shifted toward the application of physical literacy. For example, in Lundvall's (2015) review of over 100 articles on physical literacy, three areas were identified as making up the majority of the physical literacy conversation: the application and role of physical literacy within physical education, the link between sporting development and physical literacy, and how physical literacy can be evaluated or assessed. Absent from this list is discussion surrounding the inclusivity of physical literacy, and its applicability to people who engage in physical activity differently, or who experience their embodied potential outside the boundaries of standardized norms. Edwards et al. (2016) evaluated the core attributes of physical literacy, as

reflected in contemporary research literature. Their discussion included the attributes that define physical literacy, areas of conflict among different philosophical approaches, and the various associations and contexts linked to the concept of physical literacy. Again, no mention was made of the inclusiveness of physical literacy. In the most recent review, Edwards et al. (2018) reviewed the measurements/assessments of physical literacy and related constructs by identifying the strengths and limitations of both quantitative and qualitative approaches. Within this review, a single empirical study associated with inclusion is identified, but not discussed in any sort of depth or at any sort of length.

The aim of this scoping review was to gain an understanding of the knowledge that exists pertaining to the inclusiveness of physical literacy with respect to individuals experiencing disability. The research question guiding the present investigation was: *What is known from the existing literature about physical literacy in relation to its inclusiveness of individuals experiencing disability?* By addressing this question, evidence supporting or refuting assumptions of physical literacy will be found, or a need for further investigation will be revealed.

**Scoping Review**

Research reviews are important ways of "bringing together what is known from the research literature using explicit and accountable methods" (Gough, Oliver, & Thomas, 2012, p. 1). Yet, with the variation that exists in review types one must carefully consider each and select the one best suited to answer the research question being asked. For the present study, a scoping review was selected as the most appropriate review type to answer the research question.

Scoping reviews identify the nature and extent of the research evidence on a given topic, thus providing an indication with regard to the size and scope of available research literature (Arksey & O'Malley, 2005; Grant & Booth, 2009). Particularly relevant to areas with emerging

perspectives that lack a body of empirical evidence (Levac, Colquhoun, & O'Brien, 2010), they are "a form of knowledge synthesis, which incorporate a range of study designs to comprehensively summarize and synthesize evidence with the aim of informing practice, programs, and policy and providing direction to future research priorities" (Colquhoun et al., 2014, p. 1291). That being said, a scoping review was considered desirable for the current investigation for three reasons: (1) because it offers a rigorous and transparent method for mapping key concepts underpinning a research area, and the main sources and types of evidence available (Mays, Pope, & Popay, 2005; Mays, Roberts, & Popay, 2001); (2) because it allows researchers to incorporate a range of material including peer-reviewed and grey literature, increasing the scope of the study beyond research and/or discussions of an empirical nature (Levac et al., 2010); and (3) because the results are presented in an accessible and summarized format, allowing for an efficient presentation and effective use of the findings (Arksey & O'Malley, 2005). The value of a scoping review relates to distinguishing what we know versus what we do not, thus establishing a direction for future primary research (Grant & Booth, 2009).

## Method

Arskey and O'Malley's (2005) original five-stage scoping review framework was selected to guide the methodological structure for the current study. This framework is believed to offer the best framework to date (Daudt, van Mossel, & Scott, 2013). The stages and the manner in which they were applied to the research question being asked are described below.

### Stage 1: Identify the Research Question

The goals in undertaking this scoping investigation were to examine the extent, range and nature of discussions and research activity, and to determine gaps in the existing literature as they relate to the concept of physical literacy and its inclusiveness of individuals experiencing disability. The specific research question addressed was: What is known from the existing

literature about physical literacy in relation to its inclusiveness of individuals experiencing disability?

**Stage 2: Identify Relevant Studies**

To identify literature pertaining to physical literacy and its inclusiveness of individuals experiencing disability, an inductive search strategy was devised in partnership with a resource specialist from a research library at a research-intensive university in Canada. The search strategy (See Table 2.1) included the identification of keywords related to the concept of interest ("physical literacy" and "physically literate"), and its foundational architect ("Whitehead"). Initial searches were conducted iteratively using an online search engine (i.e., Google Scholar), and seven electronic databases specific to the fields of health and social sciences, education, and sport: Academic Search Compete, CINAHL Plus, ERIC, MEDLINE, PubMed, Scopus, and SPORT Discus. Literature that was published from peer-reviewed sources (i.e., journals and edited book chapters) and grey literature – defined as non-peer-reviewed but published literature, including information from international, national and local-level education, sporting and disability organizations, conference abstracts and full-text documents, and post-secondary theses/dissertations – were considered. To identify additional literature related to the inclusivity of physical literacy to individuals experiencing disability, follow-up manual searches of journals, reference sections and authors of identified publications were also conducted.

**Stage 3: Study Selection According to Inclusion Criteria**

The following inclusion criteria were applied to determine whether studies identified through the search strategies were included or eliminated from the review:

- The literature provided concrete referencing of the "physical literacy" term in its holistic sense (e.g., does not emphasize only a single element or developmental domain – for

example, the acquisition of fundamental motor skills or the physical domain of development);

- The literature was published in English;
- The literature provided reference to, or is consistent with, the modern day origins/originator of the term "physical literacy" (i.e., Margaret Whitehead). Margaret Whitehead is considered to be the foundational architect and leading expert of the concept, and her original definition of physical literacy (Whitehead, 2001) serves as the basis for Canada's Physical Literacy Consensus Statement (Canadian Sport for Life, 2015) and the current definition of the concept recognized by the International Physical Literacy Association;
- Given that the modern-day foundations of physical literacy were established in 2001 (Whitehead, 2001), literature that has been published as of 2001 or thereafter;
- The literature provided information (i.e., specific activities, means of instruction, etc.) pertaining to the development of physical literacy or the physical literacy journey for those experiencing disability, regardless of disability-type, age, or setting.

The initial iterative process of searching using keywords yielded 5024 pieces of peer-reviewed and grey literature. After removing duplicates (n = 922) and adding literature through manual searching (n = 41), titles and abstracts were screened against the first four inclusion criteria, resulting in 227 publications requiring full-text review. Publications were then reviewed and excluded based on the final inclusion criterion relating to disability, leaving nine publications for examination. Manual searching yielded an additional three peer-reviewed publications, and four publications from the grey literature, resulting in 16 publications included in the study (See Figure 2.1 and Table 2.2). The searches to identify relevant literature and the

application of the inclusion criteria were conducted independently by two reviewers (Levac et al., 2010). Disagreements in publication selection were discussed until consensus on the final number of publications to be included was achieved.

**Stage 4: Chart the Data**

Using a technique called "charting" (Arksey & O'Malley, 2005; Ritchie & Spencer, 1994), material from 16 included publications was synthesized and interpreted by sifting, charting and sorting according to key issues and themes identified. The charting process is similar to a "narrative review" (Pawson, 2002, p. 170) whereby material was examined broadly as to generate a holistic understanding of the material. The information charted included: the author(s), year and location of publication, publication type, target audience, main focus of publication, and other relevant information (see Table 2.2). As with previous stages within the investigation, two reviewers independently charted the publications (Levac et al., 2010). Variations within the charted data were discussed until consensus on the information was reached.

**Stage 5: Collate, Summarize, and Report Results**

In this stage, data from the publications included in the review were described and interpreted. Findings are reported in the Results section. Scoping reviews are not intended to synthesize data from multiple publications or assess the quality of findings (Arskey & O'Malley, 2005); rather, an overview of material identifying the breadth and depth of available literature and the key themes and issues identified was generated (Green & Thorogood, 2014; Nye, Brunton, & Wendt, 2016). In doing so, we were able to determine prevailing areas of interest included in the literature related to physical literacy and individuals experiencing disability, to identify gaps in the available literature, and to discern research directions and topics needing further discussion.

## Results

Of the 16 publications included within this scoping review, nine were peer-reviewed publications and seven were from the grey literature. Of these 16, only four were empirical, while the remaining publications were theoretical or conceptual in nature. As per Stage 5 of Arksey and O'Malley's (2005) scoping review framework, information from the 16 publications was collated, revealing three key themes. These included: (a) reinforcing the norm, (b) a narrow contextual scope, and (c) a need for prepared professionals.

### Reinforcing the Norm

Within many of the publications, physical literacy for individuals experiencing disability was emphasized as a tool to be used to develop towards the norm, and as a means of identifying individuals who require some level of correction. For example, it was indicated that assessment based on physical literacy would assist in the identification of motor development difficulties and limited physical literacy abilities of those experiencing disability (Alpous & Longmuir, 2016; Dudley, Kriellaars, & Cairney, 2016; Dugas, 2017; Vickerman & DePauw, 2010). This was discussed as integral to the implementation of supports and strength-based treatments to eliminate deficits, address the limited physical literacy abilities of vulnerable populations compared to others, and increase the initiation and maintenance of physical activity across all members of society (Dudley et al., 2016; Farrey & Isard, n.d.).

Also highlighted, were expressions of individuals experiencing disability as a group in greatest need of physical literacy development given their predisposition to movement difficulties, susceptibility to negative health outcomes (e.g., obesity), and overall lack of physical activity engagement (Coates, 2011; Farrey & Isard, n.d.; Ladda, 2014). Physical literacy development was suggested as being integral to minimizing socially constructed barriers (Mandigo, 2015), correcting misconceptions that prevent inclusion (United Nations Educational,

Scientific and Cultural Organization, UNESCO, 2015), and allowing for increased activity for those experiencing disability (Dudley, Cairney, Wainwright, Kriellaars, & Mitchell, 2017; Farrey & Isard, n.d.). Initiatives and activities emphasizing physical literacy were also thought to enhance motivation (Di Torre, 2016) and respect (UNESCO, 2015) and therefore improve levels of involvement in recreation and other forms of traditionally organized sport; opportunities often lacking for those experiencing disability (Di Torre, 2016; Dudley et al., 2017; Farrey & Isard, n.d.).

Through the provision of equitable access to physical activity opportunities emphasizing physical literacy (Mandigo, 2015), it was conveyed that a practical commitment to social justice with respect to individuals experiencing disability could be achieved (Ladda, 2014). Moreover, physical literacy development for individuals experiencing impairment was considered as an essential mechanism for raising their standing within the community through equal participation in activities valued by society (Dudley et al., 2017; UNESCO, 2015; Vickerman & DePauw, 2010). Here, the ultimate objective was described as achieving "full civic participation" (Dudley et al., 2017, p. 13).

**A Narrow Contextual Scope**

Consideration for the contexts in which physical literacy development is, or should be, encouraged for individuals experiencing disability was also prevalent within the included publications. However, discussions were limited in scope to the contexts of physical education and sport. For example, despite mentioning that physical literacy development exists beyond the context of physical education and through the encouragement by all individuals facilitating activity experiences for individuals experiencing disability (Vickerman & DePauw, 2010), discussions on the topics of organizational initiatives, strategies, and policies were, for the most part, directed towards educators (Vickerman & DePauw, 2010). Moreover, these discussions

were restricted to improving school-based health and inclusive physical education and sporting practice (Ladda, 2014; Muir, 2013; Spengler & Cohen, 2015). Here, initiatives such as the United Nations Educational, Scientific and Cultural Organization's *International Charter on Physical Education and Sport*, and organizations like *Physical and Health Education Canada*, *Canadian Sport for Life* and England's *Youth Sport Trust* were highlighted. Limited contexts were also evident in Dudley et al.'s (2017) newly proposed model of physical literacy policy considerations for key decision makers. These authors emphasized that educational and physical infrastructure (i.e., teachers, physical education, and participatory sport curricula) for individuals experiencing disability were essential pieces in the creation of future opportunities for sport and physical activity engagement.

Reflecting the specific context of physical education, recommendations extracted from the included publications were aimed at improving curricula (Coates, 2011; Di Torre, 2016; Secco, Vercillo, & Martiniuk, 2015; UNESCO, 2015) and establishing practitioner resources connecting physical literacy with practical guidance for teaching children experiencing disabilities (Mandigo, 2015; Muir, 2013; Roetert, Kriellaars, Ellenbecker, & Richardson, 2017). Examples of curricular recommendations included Di Torre's (2016) suggestion to utilize exergames as an inclusionary tool to support the psychomotor learning and cognitive motor skills of special education students, and Secco et al.'s (2015) advocacy for an increased focus on fundamental movements skills for students experiencing disability, targeting secondary health conditions arising from a lack of physical activity engagement. In regards to practitioner resources, the literature emphasized the idea of developmental appropriateness as a means of assisting teachers in creating an inclusive learning environment that supports the physical literacy development for all students (Mandigo, 2015; Roetert et al., 2017).

**A Need for Prepared Professionals**

The final theme emerging from the 16 studies included in the review is the need for prepared professionals to improve the development of physical literacy for those experiencing disability. Specifically, publications described prepared professionals as those possessing the knowledge to address the needs of individuals experiencing disability, and those willing to challenge their personal attitudes of, and practices for individuals experiencing disability. Highlighting the former, UNESCO (2015) stated that adequately trained professionals are vital to the promotion of inclusivity and overall physical literacy development for individuals experiencing disability. Such training was described as being flexible, adaptable, and possessing a knowledge base allowing for the successful integration of students with disabilities into programming emphasizing physical literacy development (Barber, 2016; UNESCO, 2015; Vickerman & DePauw, 2010). Vikerman and DePauw (2010) described this knowledge base as an understanding of the individual, their surrounding environment, and the interactions that take place between them. Relatedly, Muir (2013) suggested that physical literacy development for individuals experiencing disability is lacking as a result of the inability of teachers to create inclusive environments. Similarly, Secco et al. (2015) concluded that difficulties in providing inclusive opportunities for physical literacy development exist due to the challenges practitioners face in adjusting and modifying programs according to the unique behavioural and cognitive needs that are often characteristic of individuals experiencing disability. From this information, it is implied that knowledge in adapted physical activity is needed to increase inclusion in programs emphasizing physical literacy, ultimately leading to increased opportunities for participation for those experiencing disability.

In regards to challenging attitudes and practices, UNESCO's (2015) *Quality Physical Education – Guidelines for Policy-Makers*, highlighted physical education as a platform for

inclusive physical literacy practice in wider society. Here, it was thought that physical education could be used to embrace difference and value individual contributions, thus challenging stigmas and overcoming stereotypes. With respect to one's own attitudes, Coates' (2011) examination of how physical literacy is perceived in a special education environment referred to the potential for inclusive physical literacy practice when teachers overcome personal barriers, such as their reluctance to deviate from traditional instructional methods emphasizing competition, strategies and rules. Barber's (2016) case study of pre-service teacher's perceptions of inclusive physical education indicated that addressing personal attitudes early in one's career is beneficial for challenging and changing perspectives on inclusive practice, as well as developing diverse understandings of physical literacy. Specifically, it is asserted that by redeveloping and redefining our own understanding of terms such as ability and dis-ability, we are able to recognize that multiple approaches to physical literacy are necessary for those with varying levels of ability (Barber, 2016). Two additional publications also openly recommended that future research is necessary to challenge attitudes and traditions associated with physical literacy development for individuals experiencing disability (Coates, 2011; Dugas, 2017).

## Discussion

The scoping review examined literature available through peer-reviewed publications and grey literature on the topic of physical literacy, and specifically in relation to the inclusiveness of physical literacy for individuals experiencing disability. The findings of the review emphasize three types of information: what is known about the topic, what implications can be drawn from current discussions on the topic, and directions for future research relative to existing knowledge gaps. Each type of information will be addressed in relation to the themes emphasized.

In regards to the theme of *Reinforcing the Norm*, the literature pointed to ways to improve the quality of life for individuals experiencing disability via physical literacy. Emphasis

was placed on using physical literacy as a means of achieving health outcomes, increasing social acceptance, and improving limited abilities or deficits. Moreover, physical literacy was considered as a means of assessing developmental difficulties in those experiencing disability, leading to supports intended to foster increased initiation and maintenance of physical activity for the long term. Although these perspectives highlight the acquisition of benefits and the inclusion of those experiencing disability, they also imply that individuals experiencing disability engage in physical activity deficiently relative to the normative standards valued by society. Physical literacy for individuals experiencing disability is thus branded as an intervention geared towards correcting deficiencies, which is thought to increase the ability to engage in activities considered to be 'normal', and enhancing social acceptability. As a result, perspectives on physical literacy for individuals experiencing disability can be considered ableistic on the basis that certain abilities (those considered to represent a societal standard of behaviour) are valued over others (Campbell, 2009; Withers, 2012; Wolbring, 2008). This view is strongly normative, signifying that people are disabled on the basis that they are unable to adhere to a similar functional standard as a so-called normal person does (Haegele & Hodge, 2016; Mitra, 2006; Roush & Sharby, 2011).

Perspectives that do not consider the individual capabilities of those experiencing disability are not consistent with the foundation of inclusiveness that underpins physical literacy, which highlights development as unique according to the abilities and capacities of the individual (Whitehead, 2010, 2013). Moreover, these perspectives suggest that there is a single and standardized vision of physical literacy development, implying a resemblance to the notion that either you have it or you do not, and reinforcing the notion of 'ableness'. This ultimately excludes those who do not adhere to a particular standard of development, further marginalizing

them in the process (Spencer-Cavaliere, Thai, & Kingsley, 2017). Supporting the idea that physical literacy is an ableistic concept, Goodwin (2016) suggests that individuals – regardless of ability – are required to develop physical literacy according to the normalized standards of those with privileged capabilities. These requirements differentiate, devalue and/or exclude individuals with other forms of embodiment (Goodwin & Peers, 2011). As such, individuals experiencing disability are at a disadvantage and may ultimately be excluded in physical literacy practices even before they begin their so-called individualized physical literacy journey (Goodwin, 2016).

The second theme of *Limited Contexts* provided reference to the discussion of particular environments in relation to the topic of physical literacy for individuals experiencing disability. Specifically, the contexts of physical education and sport were predominant within the included publications, and so initiatives, strategies, and resources discussed pertained to a focus on these environments. Although this information is valuable for teachers and coaches, the overall scope of these discussions can be considered too narrow, as it is not representative of contexts beyond physical education and sport. Discussion of other environments, including the home and community, are not present despite the abundance of literature suggesting that physical literacy is developed across multiple environmental contexts (Dudley, 2015; Stanec & Murray-Orr, 2011; Whitehead & Murdoch, 2006), through various developmental pathways (Corbin, 2016; Whitehead, 2010), and via the influence of all individuals who are in a position to impact attitudes towards physical activity (Murdoch & Whitehead, 2006; Whitehead, 2013). These contexts are important to consider for a number of reasons. First, family members are integral to the participation of individuals experiencing disability who are often dependent on parents for the planning and overall facilitation of their physical activity participation (Beets, Cardinal, & Alderman, 2010; Martin & Choi, 2009; Siebert, Hamm, & Yun, 2017). Moreover, parents are

thought to be the most influential on attitudes toward physical activity at an early age and later in life (Whitehead & Murdoch, 2006), and given that physical literacy is considered as a lifelong pursuit occurring beyond the ages where children are exposed to education and sporting opportunities (Whitehead, 2010, 2013), such perspectives require consideration. Second, individuals experiencing disability often demonstrate low levels of involvement in community-based physical activity and recreational activities compared to typically developing peers (Bedell et al., 2013; Law, Petrenchik, King, & Hurley, 2007; Solish, Perry, & Minnes, 2009). As the literature states that low levels of involvement are often the result of community-based physical activity practitioners lacking in specific training to facilitate meaningful experiences for individuals experiencing disability (Block, Taliaferro, & Moran, 2013; Shields & Synnott, 2016; Shields, Synnott, & Barr, 2012), discussion related to increasing the capacity of these practitioners and the organizations that offer programming to individuals experiencing disability, should be looked at in greater depth. Third, individuals experiencing disability are often less likely to take part in sporting activities (Darcy & Dowes, 2013) due to an emphasis on competition and the complex requirements (e. g., recognizing and understanding rules, having an awareness of positioning and tactics, etc.) that usually accompany physical activity in this context (Smith, 2004; Smith & Green, 2004). Because these environments can be overwhelming to individuals experiencing disability and result in feelings of inadequacy (Healy, Msetfi, & Gallagher, 2013; Must et al., 2015; Obrusnikova & Cavalier, 2011), environments such as those with increased emphasis on fun and participation should be discussed.

The third theme – *A Need for Prepared Professionals* – focused on what needs to happen in order for the successful facilitation of physical literacy development for individuals experiencing disability. Here it was identified that a knowledge base about how to establish

inclusive environments is necessary to facilitate the development of physical literacy for these individuals. Additionally, demonstrating a willingness to challenge attitudes surrounding the physical activity participation of persons experiencing disability was endorsed. Although this information provides an essential starting point from which to begin discussion on the inclusiveness of physical literacy for individuals experiencing disability, they are conceptual in nature and lack empirical validation. Furthermore, this information lacks an element of specificity that is usually necessary to ensure the engagement of those experiencing disability in physical activity (Murphy & Carbone, 2008; Rimmer & Rowland, 2008). This is concerning given that physical literacy development is thought to occur according to the unique capabilities of each individual (Whitehead, 2010, 2013), and approaches that are best suited to develop physical literacy are those that are sensitive to an individual's unique capabilities and needs (Almond & Whitehead, 2012). A final concern about this trend is that the information seemed to be limited in terms of the element of practicality. Rather than providing practical strategies for adapting current physical literacy practices to better suit the needs of individuals experiencing disability, the literature simply identified the issues that exist and provided general recommendations for addressing these problems. This is a relatively superficial approach, and perhaps indicative of uncertainty about how to go about facilitating the development of physical literacy for individuals experiencing disability.

**Mapping Gaps and Directions for Future Research**

From the discussion, four gaps in the literature are evident. These gaps serve as avenues for future research on physical literacy for individuals experiencing disability. Within the literature, physical literacy for individuals experiencing disability is currently largely reflective of a medical model approach to disability where, physical literacy is seen as a means to correcting or rehabilitating the 'deficiencies' that individuals are thought to possess. Thus, the

focus is on changing the individual. Yet, in today's society there is a push toward adoption of a newer approaches to disability (i.e., the social and biopsychosocial approaches), where the focus is on addressing the "externally imposed restrictions" (Oliver, 2004, p. 19) that are thought to disable, or impair, the individual (Shakespeare, 2006). Specifically, the social approach contests that it is society that imposes disability on individuals with impairments, and is thus the major contributory factor to limiting ability (Haegle & Hodge, 2016; Palmer & Harley, 2012), while the biopsychosocial approach focuses on the full range of psychological, biological, and sociocultural influences on development and functioning along with their interactions (Engel, 2009; Peterson & Threats, 2016). To date, addressing these restrictions (or the environment in general) has been neglected, despite its benefit over approaches that are individually based (Oliver, 2013). Such is the case regarding the concept of physical literacy, where there is an absence of discussion on the environment and its impact on the development of physical literacy for individuals experiencing disability. Therefore, this gap represents an important direction for future research – the exploration of the environment and its impact on the physical literacy development of individuals experiencing disability.

With the predominance of discussion occurring within the contexts of physical education and sport, perspectives of physical literacy for individuals experiencing disability have been limited to teachers and coaches, and thus not only represent a portion of the individuals who may impact development, but they can be seen as the perspectives of 'outsiders'. As a result, the scope by which the concept is understood is narrow. The voices of those who may be increasingly involved in providing opportunities for individuals experiencing disability beyond the contexts of physical education and sport (e.g., community-based adapted physical activity practitioners), and those who are closest with individuals experiencing disability who can offer

insider information allowing for the creation of a more individualized physical activity experience (e.g., immediate family members), have yet to be heard. This lack of perspective represents a second gap in the literature that is worthy of future research exploration. In our view, future exploration should include the perspectives of those with disabilities, as well as the key stakeholders that facilitate the development of physical literacy for these individuals (e.g., parents, adapted physical activity specialists, inclusive education practitioners, etc.). In gathering these perspectives, a deeper and more insightful understanding of physical literacy for individuals experiencing disability can be developed.

With the growing number of individuals experiencing disability who are not physically active (Block et al., 2013; MacDonald, Esposito, & Ulrich, 2011; Rimmer, Riley, Wang, Rauworth, & Jurkowski, 2004), there should be less talk and more action when it comes to the development of physical literacy for these individuals. As noted earlier, discussion regarding the practicality of physical literacy for individuals experiencing disability is lacking. Furthermore, the limited amount of information that does exist is general in nature, and not specific to seeking to understand and adapt to individual needs. Additional conversation surrounding practical strategies that are specific to fostering physical literacy development for individuals experiencing disability is warranted. For example, exploration of successful approaches to instruction, tried and tested strategies for increasing engagement, examples of creative adaptations to the environment, and what factors to consider in addressing individual needs should be considered. In other words, elaborating on Almond and Whitehead's (2012) recommendations for establishing 'pedagogical sensitivity' to include specific considerations for individuals who experience life under different circumstances. This is representative of the third gap in the literature and should be contemplated for future research.

Finally, based on the physical literacy literature (Giblin, Collins, & Button, 2014; Lundvall, 2015; Edwards et al., 2016) there is a significant lack of empirical research regarding the practices used to effectively facilitate the development of physical literacy. Moreover, there is an absence of research to facilitate the development of physical literacy for individuals that experience life under different circumstances (i.e., those that experience disability). Addressing this gap through empirical research is important for determining what physical activity practices and strategies work best for creating meaningful and positive experiences for individuals experiencing disability, thus optimizing how their physical literacy journey is facilitated. Examples of this research include qualitative inquiry directed at uncovering the types of strategies considered appropriate for the physical literacy development of individuals experiencing disability, and intervention studies aimed at evaluating the effectiveness of these strategies.

## Concluding Comments

The purpose of this investigation was to determine what is known from the existing literature about physical literacy in relation to its inclusiveness of individuals experiencing disability. To date, physical literacy specifically for individuals experiencing disability has been discussed infrequently, with a narrow focus, and at a largely superficial level. This points to the limited scope of inquiry so far and the need for further exploration. This scoping review represents a first step toward developing a comprehensive understanding of physical literacy for individuals experiencing disability, thus supporting claims made of its inclusivity of all.

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Table 2.1 – Search Strategy for Scoping Review

| Search | Keywords Used |
|---|---|
| 1 | “physical literacy” |
| 2 | “physically literate” |
| 3 | “physical literacy” OR “physically literate” |
| 4 | “physical literacy” AND “Whitehead” |
| 5 | “physically literate” AND “Whitehead” |
| 6 | (“physical literacy” OR “physically literate”) AND “Whitehead” |

Figure 2.1 – Results of Scoping Review Search Strategy

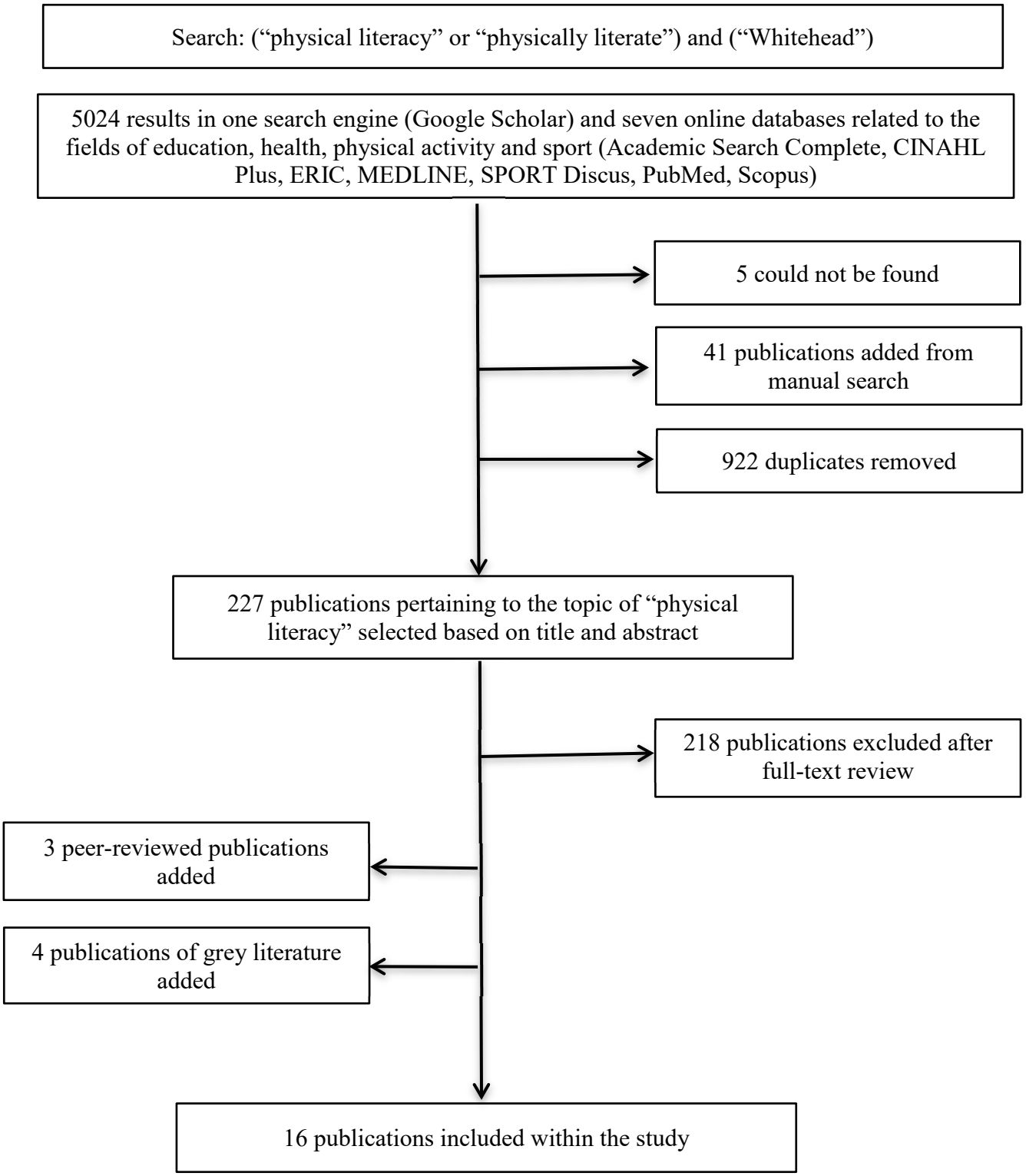

Table 2.2 – Summary of Included Publications in Scoping Review

| Author(s) | Journal | Publication Type | Main Focus/Foci of Paper | Other Relevant Information |
|---|---|---|---|---|
| Alpous & Longmuir (2016) | Pediatric Exercise Science | Conference Abstract | Development of quick and easy screening procedures and protocols to be used in community settings for those with physical literacy deficiencies. | Recommendation provided for future research to evaluate the reliability of the screening protocols and screening task suitability for children with identified disabilities/chronic illnesses. |
| Barber (2016) | Sport, Education, & Society | Empirical, Peer-Reviewed Journal Article | Emphasizes inclusive practices in physical education through multiple approaches to physical literacy; Allows teachers to see through a lens of ability to design possibilities to include physical literacy as a central element to physical education; | Multiple approaches to PL requires diverse understandings; Call is to alter the preconceptions and attitudes of future physical education teachers; Emphasis on individual approaches to physical literacy development via empowerment. |
| Coates (2011) | European Physical Education Review | Empirical, Peer-Reviewed Journal Article | Children with special education needs are unaware of what the concept of physical literacy means; These children's perceptions of physical literacy do not reflect its defining characteristics. | Children with special needs perceive physical literacy as fitness-related (i.e., weight control); Interviewing teachers to gain an understanding of what is being taught and how physical literacy is understood would be advisable. |
| Di Tore (2016) | Sport Science | Literature Review, Peer-Reviewed Journal Article | Individuals with disabilities may benefit more with the use of exergames due to the games' capacity to support the psychomotor learning and cognitive motor skills of these individuals; Recognizes that no research exists specifically to support these claims. | Exergames are: (1) a means of creating a motivational climate conducive to prolonged engagement in physical activity; (2) described as being an inclusive way to promote the development of physical literacy; (3) combative against the environmental and social barriers that individuals experiencing disability may be subject to in more traditional games. |
| Dudley et al. (2016) | Current Developmental Disorders Reports | Theoretical, Peer-Reviewed Journal Article | Physical literacy should be used as a means to identifying, diagnosing and intervening with children experiencing Neuro-Developmental Behavioural Intellectual Disorders (NDIBD). | Using assessments of physical literacy as opposed to functional motor skills to evaluate motor development and begin to identify children with NDIBD. |
| Dudley et al. (2017) | Quest | Theoretical, Peer-Reviewed Journal Article | Presentation of a new model of physical literacy policy considerations for key decision makers in the fields of public health, recreation, sport, and education; Major emphasis is to be consistent with international understandings of what "physical literacy" is, and how it can be used to achieve public health, recreation, sport, and educative goals. | There is a need to recognize the growing awareness of the social contexts in which physical literacy is being encouraged; There needs to be a strength-based approach to physical literacy development as opposed to the traditional deficit-based approach associated with persons experiencing disability/impairment. |

| | | | | |
|---|---|---|---|---|
| Dugas (2017) | N/A | Master's Thesis (Canada) | Pilot project investigating a physical literacy assessment tool for children/youth with physical disabilities; concluded that physical literacy is an inclusive concept accessible to all and represents a unique journey for each person. | Emphasis placed on evaluating the individual to determine one's level of physical literacy. |
| Farrey & Isard (n.d.) | N/A | PDF document – Aspen Institute (USA) | Provides a model for the United States with the objective of developing a physically literate nation; Emphasizes goals and objectives, as well as key sectors involved (or that need to become involved) in order to promote the concept at a national level. | Notes that those in greatest need for developing physical literacy include: ethnic minorities, females, low-income families and individuals with physical and developmental disabilities. |
| Ladda (2014) | Journal of Physical Education, Recreation and Dance | Theoretical, Peer-Reviewed Journal Article | Describes the inclusive nature of physical literacy from the scope of social justice; In order for the concept to be considered socially just, a commitment to inclusion and diversity in theory and practice must be present. | References SHAPE America's Global partnership with children with disabilities (UNICEF) – greater emphasis on physical activity is needed for children with disabilities (increased awareness of physical literacy for these populations). |
| Mandigo (2015) | N/A | Online publication – Physical and Health Education Canada | Discusses the gains and contributions that Canada has made with respect to physical literacy in the global community; Makes reference to adhering to standards set by UNESCO in regards to global physical literacy development. | Suggests that we have not fully reached a point of true equity and that we must strive towards equal and equitable access to quality physical activity for groups who have been disadvantaged including those with a disability; inequalities that these groups face have been socially constructed and only with a concerted effort can we begin to break down these barriers. |
| Muir (2013) | Physical & Health Education Journal | Conceptual, Peer-Reviewed Journal Article | Provides insight into the idea that teachers may not be prepared to manage a student with disabilities within a physical education environment. | Several resources exist for the facilitation of physical literacy for populations experiencing disability. |
| Roetert et al. (2017) | Journal of Physical Education, Recreation and Dance | Theoretical, Peer-Reviewed Journal Article | Discusses physical activities and exercises that can be used to develop physical literacy; the focus is on a sample set of exercises that teach motor skills and develop confidence in students, which may have a direct transfer and application to lifelong learning. | A proper understanding of the concept of physical literacy is necessary to design programs based on student experience and maturity level; Explains that "student" is meant to be inclusive of all; Inclusiveness and opportunity for all is key for physical literacy. |
| Secco et al. (2015) | Epilepsia | Empirical, Peer-Reviewed Conference Abstract | Use of an 8-week physical literacy curriculum implemented to combat the secondary health concerns of children living with epilepsy; Evaluated gross motor skills, motor coordination, posture, balance, and confidence; Evaluation conducted with tool revealed improved physical skill performance by 30% on average. | Curriculum based on Physical and Health Education Canada's physical literacy curriculum – overall goal is to prevent sedentary behaviours and correlates such as obesity, diabetes 2, depression, and heart disease; Parental feedback was used as a means of evaluation along with PLAY tool. |

| | | | | |
|---|---|---|---|---|
| Spengler & Cohen (2015) | N/A | PDF document – Aspen Institute (USA) | Discusses physical literacy and its global adoption – specifically breaks down how physical literacy is defined, assessed, and operates according to various global locations (Canada, Wales, England – major 3, and others such as Australia, New Zealand, Northern Ireland, Scotland, the Netherlands, Venezuela, and the US.) | Disability is specifically discussed in reference to physical literacy through examples of programs that are thought to provide a vehicle for the inclusion of disabled and non-disabled individuals; Suggests that physical literacy is an inclusive idea and that comparisons should be made according to the individual not the collective – each individual should be valued based on their own personal progress. |
| UNESCO (2015) | N/A | PDF document - United Nations Educational, Scientific, and Cultural Organization | Provision of guidelines that have been developed to foster the idea of physical literacy and create inclusive physical education opportunities via policies in primary and secondary education; Outlines inconsistencies in physical education policy implementation; Suggests that quality physical education is critical for the establishment of physical literacy for all - a platform for inclusion in wider society – challenges stigmas and overcoming stereotypes. | There is no overarching, one-size-fits all approach to physical literacy; Coordinated and inclusive opportunities for participation should be provided for all students, despite ability level; Quality physical education and physical literacy occurs through multi-stakeholder involvement and collaborative efforts on behalf of these stakeholders; Flexibility of approach is necessary according to the ability of the learner; Inclusive opportunities provide many benefits including physical, social, emotional, as well as assisting in the breaking down of societal barriers; Education and training are a must in order to achieve these objectives/benefits. |
| Vickerman & DePauw (2010) | N/A | Book Chapter from Whitehead (2010) | Highlights the importance of physical literacy for individuals experiencing disability and how it can be achieved according to the unique capabilities of the individual; Identifies best practices that aim to foster physical literacy development in physical activity contexts. | The benefits of being physically literate and the importance of movement development is addressed and emphasized through discussion of two case studies. |

# CHAPTER 3

## Methodological Reflections

Markula and Silk (2011) indicate that the ontological and epistemological assumptions that a researcher possesses "form the philosophical parameters that guide decisions on appropriate methodological practices" (p. 24). As such, I felt that it was a necessity to provide an in-depth expansion of my chosen research methods for the final two studies comprising my dissertation (beyond those presented within the manuscripts in Chapters 4 and 5), and to include discussion on how my assumptions influenced the decisions that were made over the course of the research process.

**Philosophical Assumptions Guiding the Dissertation**

According to Guba and Lincoln (1994), a paradigm is "the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically ways" (p. 105). As a qualitative researcher, I perceive the world as socially constructed. Therefore, my research falls under an interpretive paradigm, otherwise known as the constructivist paradigm (Guba & Lincoln, 1994; Markula & Silk, 2011). An interpretive paradigm illustrates that the "basic beliefs" or "worldview" that human beings hold regarding the world and their place in it are constructed based on personal experience (Guba & Lincoln, 1994). Research conducted under this paradigm aims to understand and reconstruct the constructions that people hold, "aiming toward consensus but still open to new interpretations as information and sophistication improve" (Guba & Lincoln, 1994, p. 113). In other words, with the intention to understand the subjective world of an individual's specific experiences (Cohen, Manion, & Morrison, 2007; Markula & Silk, 2011).

Given the interpretive paradigm, my research assumptions are grounded in a relativist ontology where multiple forms of social and experiential realities exist (Guba & Lincoln, 1994; Mertens, 2005). Due to the impact of the social world and the constant flow of new experiences we encounter, the constructions that we create are considered to be malleable. Therefore,

perceptions of reality may change over the process of study, and assumptions lacking the notion of absolutes with respect to the truth about constructions can be made. The epistemological underpinnings supplementing this ontology are considered to be transactional and subjective (Guba & Lincoln, 1994). Here, an interactive process between researcher and participant allows for the creation of new social constructions as the investigation progresses, providing opportunity for the formation of a fresh understanding of the phenomenon in question. Finally, my methodological assumptions guiding the dissertation are hermeneutical and dialectical (Guba & Lincoln, 1994; Markula & Silk, 2011), whereby social constructions are elicited and refined through the "interaction *between and among* investigator and respondents" (Guba & Lincoln, 1994, p. 111). In other words, constructions are interpreted using a "process of understanding one's self through reflection of other's understandings" (Markula & Silk, 2011, p. 35), and are compared and contrasted through a dialectical interchange to produce a consensus construction that is more informed and sophisticated than those previously created.

In conducting my research under an interpretive paradigm, I recognize that there are several implications that need to be taken into consideration for my research. For example, the aim of the research is not to generalize findings across contexts, but to transfer knowledge across settings through the "provision of vicarious experience" (Guba & Lincoln, 1994, p. 114). Knowledge, therefore, accumulates via informed and sophisticated constructions, and an increased awareness of competing constructions occurring as a result of the hermeneutical/dialectical process (Guba & Lincoln, 1994). Additionally, the researcher acts as a "passionate participant", whose voice is passive but who actively facilitates the reconstruction of knowledge (Lincoln, 1991 as cited in Guba & Lincoln, 1994, p. 115). Because of this active role, the researcher's values have an impact on the research outcomes, and thus cannot be excluded

from research. Operating under an interpretive paradigm, an awareness of ethics is also intrinsic to the research process. Such is the case because of the "inclusion of participant values" and the "close personal interactions required by the methodology" (Guba & Lincoln, 1994, p. 115). Finally, the quality of the research is judged through a level of trustworthiness (Guba & Lincoln, 1994). Despite the lack of universal rules to judging trustworthiness (Denzin & Lincoln, 2005), it has been suggested that using criteria specific to the research approach being utilized is an appropriate way of evaluating the quality of the research (Zitomer & Goodwin, 1994). Recognition of these implications is thought to be imperative to carrying out qualitative research methodologies, such as those falling under the interpretive paradigm (Guba & Lincoln, 1994).

**Conceptual Framework**

Sandelowski (1993) states that, "it is naïve to assume that any human project can ever be approached naïvely or atheoretically" (p. 215) as theory is produced from within and also enters from outside the boundaries of any research project. In qualitative work, theory can be used as: the impetus for a research investigation, a way to frame a study's research question(s), a rationalization for a particular methodological approach, a comparative context or framework for data analysis and interpretation, or as a means of justifying study findings (i.e., triangulation) (Anfara & Mertz, 2006; Mitchell & Cody, 1993; Sandelowski, 1993; Wu & Volker, 2009). Theories provide researchers with ways of thinking and seeing (Anfara & Mertz, 2006), thus guiding the development of new beliefs, deeper philosophical insights, and renewed assumptions and expectations in regards to a particular phenomenon (Wu & Volker, 2009). Therefore, the use of theory is important in research because it makes it possible for researchers to understand the processes that occur beneath the visible surface of the data, thus aiding in further knowledge development underlying principles (Reeves, Albert, Kuper, & Hodges, 2008). In doing so,

theory can help generate understanding of a phenomenon that is more meaningful and has wider applicability.

**Ecological systems theory.** To investigate understandings of physical literacy from the perspective of parents of children labelled with ASD (Chapter 4) and community-based adapted physical activity practitioners (Chapter 5), I chose to use Bronfenbrenner's (1979, 1992) ecological systems theory (EST). EST is a view of human development based upon the dynamic interplay between the organism and their environment (Gabbard & Krebs, 2012). It is considered a *process-person-context model* (Bronfenbrenner, 1979, 1992) whereby developmental outcomes occur as a joint function of the characteristics of the organism and the environment. EST (Figure 3.1) is organized into five distinct systems in which organismic-environmental interaction take place: *microsystem*, *mesosystem*, *exosystem*, *macrosystem,* and *chronosystem*. Per this theory, each individual system contains a set of influences that may either positively or negatively affect development. Influences range in proximity to the individual (i.e., the immediate family, extending distally to include broader social contexts and transitions over the lifespan), and change or conflict in a single system have the potential to ripple throughout other systems (Paquette & Ryan, 2001).

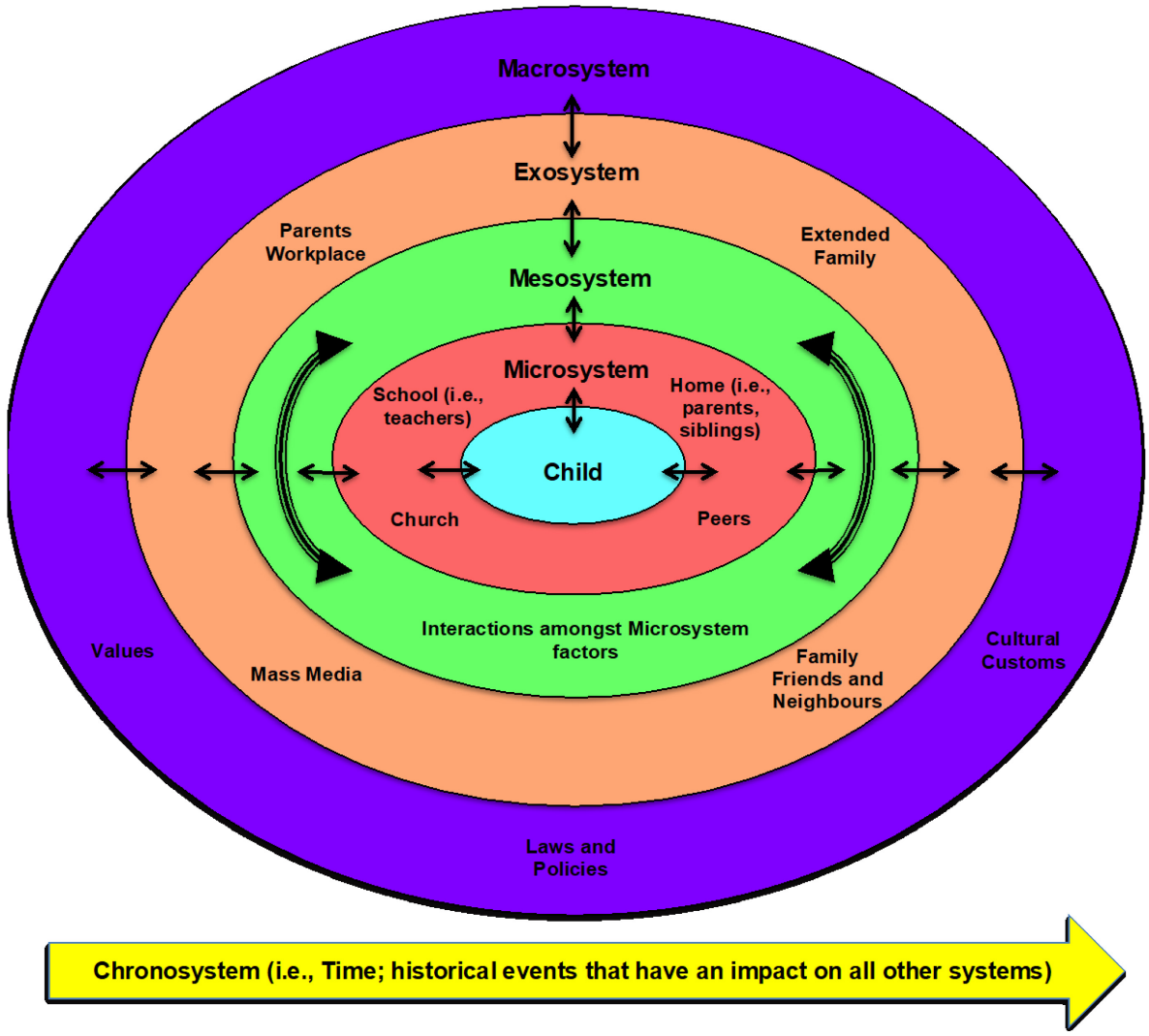


Figure 3.1. Diagram of ecological systems theory. Adapted from "Ecological systems theory," by L. E. Berk and A. B. Meyers, 2016, Infants, children, and adolescents (8th ed.) Copyright © 2016 Laura E. Berk.

First, the *microsystem* "represents an individual's immediate context including associated roles, actors and environmental characteristics" (Duerden & Witt, 2010, p. 111). It involves the relationships between the individual and their immediate environment, and has the most immediate and impactful influence as a result of direct interaction (Gabbard & Krebs, 2012; Huit, 2012). Paquette and Ryan (2001) indicate that the relationships established within the

microsystem have impact in two directions (i.e., both away and toward the developing individual), and therefore are considered to be bidirectional. For example, the beliefs of an influential adult may affect a child's beliefs or behaviour, and the child's behaviour may also impact the beliefs and behaviours of that adult. These bidirectional influences are thought to extend beyond the microsystem to other systems within EST, and are representative of the interaction of structures both within and between different systems.

Second, the *mesosytem* encompasses the interactions between the different aspects of an individual's microsystem (Bronfenbrenner, 1992). Here, development is affected by through existing relationships. For example, if there is a link between an individual's family and their school- teachers, development is likely influenced through the connection across the two contexts of home and school (Berk, 2013). In order for an interaction to be considered as part of the mesosystem, it has to be a direct interaction between two aspects of the microsystem that influences the development of the individual.

Third, the *exosystem* includes the larger social system that the individual is not directly a part of (Paquette & Ryan, 2001). In other words, the exosystem involves links between a social setting that the individual does not play an active role in and some structure within an individual's microsystem (i.e., parents) (Berk, 2013). For example, the length of time that a parent spends working at their place of work may influence the amount of time and the overall quality of interaction between the parent and their child. Similarly, the information that a parent acquires from their social circle (i.e., friends) or through social media may inspire new ways of parenting a child.

Fourth, the *macrosystem* can be thought of as a societal blueprint for a particular culture, subculture, or other broad context (Bronfenbrenner, 1992). It consists of the overarching pattern

of characteristics embedded in each of the previous three systems, with particular reference to belief systems, societal values, cultural customs and principles, and lifestyle behaviours (Berk, 2013; Paquette & Ryan, 2001). The effects of the larger principles defined by the macrosystem have a cascading influence throughout the interactions of all other levels of the system. For example, if it is the belief of a society that healthy lifestyles are of particular value, that society will be more likely to provide resources to its members to help facilitate these lifestyles.

Fifth, the *chronosystem* "encompasses the dimension of time as it relates to an individual's environment" (Paquette & Ryan, 2001, n.p.). It is comprised of major life transitions and environmental events that transpire over the course of development, including major socio-historical events. Elements of this system can be either external to the individual, such as the untimely separation of parents or relocation to a new geographical location, or internal, such as the physiological changes that occur with aging (Paquette & Ryan, 2001).

EST emerged as a logical choice for the conceptual framework for the final two studies of my dissertation for a number of reasons. First, physical literacy and its development occurs via the influence of an individual's surrounding environment, including all those (both proximal and distal to the individual) who are in a position of impacting attitudes towards physical activity (Whitehead & Murdoch, 2006; Whitehead, 2013). Second, Jurbala (2015) has suggested that physical literacy cannot be understood by a simple summation of its static individual elements, but rather through the ongoing process of interactions between these elements existing as a product of one's experiences with the physical world. Third, Bronfenbrenner's EST focuses on the quality and context of the individual's environment (Bronfenbrenner, 1979, 1992). According to Paquette and Ryan (2001), this theory has dire implications for the practice of teaching; essentially, by fostering a positive learning climate, a teacher can influence the beliefs and

behaviours of a student. And fourth, individuals external to those experiencing disability are often thought to be integral components of participation of individuals experiencing disability as they are often responsible for the planning and overall facilitation of their physical activity participation (Beets, Cardinal, & Alderman, 2010; Martin & Choi, 2009; Siebert, Hamm, & Yun, 2017). If the surrounding environment (including the attitudes of others) has not been created as to encourage participation in physical activity, then individuals experiencing disability may be limited in regards to the opportunities that are offered to them. As a result, I used EST as the impetus and methodological foundation for the final two studies. Specifically, this framework served to guide the creation of the overall research question for each investigation, the creation of interview guides, and as a context for data analysis and interpretation for each of Studies 2 and 3.

**Research Approach**

According to Whitehead (2010), phenomenology is a fundamental tenet to understanding and appreciating "the contribution of the embodied dimension of human existence" (p. 28), and thus the concept of physical literacy. As such, the research approach that I used to uncover the meanings and understandings of physical literacy for children labelled with ASD, according to the perspectives of individuals facilitating physical activity experiences for these children in community-based settings was Interpretive Phenomenological Analysis (IPA). IPA is an approach to research that explores in detail personal lived experience, allowing for further examination of how people make sense of their personal and social world (Shinebourne, 2011; Smith, Flowers, & Larkin, 2009). IPA is about attempting to understand what the world is like from the point of view of the participants, while simultaneously acknowledging "this understanding is mediated by the context of cultural and socio-historical meanings" (Shinebourne, 2011, p. 44). Hence, the process of making sense of personal lived experience is

interpretive with the researcher assuming the fundamental role of 'giving voice' to participants in regards to their experience (Larkin & Thompson, 2012; Reid, Flowers, & Larkin, 2005; Willig, 2008).

According to Smith et al. (2009), IPA is "informed by concepts and debates from three key areas of philosophy of knowledge: phenomenology, hermeneutics and idiography" (p. 11). All three contribute to the distinctive epistemological framework and research methodology of IPA.

**Phenomenology.** Phenomenology is concerned with attending to the way things appear to individuals in their experience. In other words, it aims to identify the essential components of a phenomenon or experience making them exclusive or distinctive from others (Pietkiewicz & Smith, 2014). Derived from the philosophy of Husserl and Heidegger, phenomenology is often understood as having two important historical phases: the transcendental and the hermeneutic (Larkin & Thompson, 2012). Developed by Husserl, transcendental phenomenology uses eidetic reductionism to identify the core structures of a given experience (Pietkiewicz & Smith, 2014). For Husserl, phenomenology was about transcending our everyday assumptions by bracketing off past knowledge or presuppositions, therefore allowing one to get at the universal essence of a given phenomenon, as it presents itself to consciousness (Finlay, 2011; Larkin & Thompson, 2012). However, Heidegger argued that because we are constantly and reciprocally engaging with the others and the world around us it is impossible to suspend our previous personal history, and thus reduce experience to a universal essence. Such a worldly nature of our existence entails that phenomenological inquiry need be described as "a *situated* enterprise … a position often called *hermeneutic phenomenology*, to emphasize that, while phenomenology might be descriptive in its inclination, it can only ever be interpretative in its implementation" (Larkin &

Thompson, 2012, p. 100). IPA, therefore, involves a combination of phenomenological and hermeneutical insights by definition.

**Hermeneutics.** Hermeneutics is the study of interpretation and meaning (Shinebourne, 2011). It is guided by the researcher's comprehension into the mind-set of a person and their language, thereby giving rise to one's experiences of the world (Freeman, 2008). In other words, the researcher attempts to understand the meaning that the participant has made of their experience, and makes meaning based upon this understanding. The researcher plays an active role in "influencing the extent to which they get access to the participant's experience and how, through interpretive activity, they make sense of the subject's world" (Pietkiewicz & Smith, 2014, p. 8). This process of interaction between the researcher and participant is thought to be dynamic and ongoing, where meaning is considered to be something that is fluid, and continuously open to new insights, revision, interpretation, and reinterpretation (Smith et al., 2009).

The dynamism of this process of interpretation, revision, and reinterpretation parallels the model of the hermeneutic circle, which lies at the heart of hermeneutic theory. This model contains three implications with respect to its use within IPA, and familiarizing oneself with it can assist in uncovering deeper experiential meanings. The first implication refers to the dynamic relationship existing between the 'parts' and the 'whole' of the data. According to Eatough and Smith (2017):

> The hermeneutic circle encourages researchers to work with their data in a dynamic, iterative and non-linear manner, examining the whole in light of its parts, the parts in light of the whole, and the contexts in which the whole and parts are embedded and doing so from a stance of being open to shifting ways of thinking what the data might mean (p. 12).

In moving between these elements, the researchers may essentially open up possibilities that may have not been foreseen by the researcher otherwise.

The second implication arising from the hermeneutic circle references the dialectical encounter between elements of projection and evaluation (Patterson & Williams 2002). The forward portion of the circle (i.e., projection) uses a researcher's forestructure to make sense of a research participant or situation. Specifically, interpretation at this stage of the circle is thus a product of one's existing preconceptions or prejudices. In the backward part of the circle (i.e., evaluation) the researcher evaluates the initial interpretation to determine what went unseen. According to Ellis (2006), "… the data are re-examined for contradictions, gaps, omissions, or confirmations of the initial interpretation" (p. 27). Through re-examination, the researcher can generate an appropriate interpretation based upon what was already known in addition to new information acquired.

It is thought that the forestructure of understanding should be considered as "the scaffolding upon which knowledge is built" (p. 23) — a dialogue whereby "what we seek to understand and our prejudices are dynamically involved in each other" (Patterson & Williams, 2002, p. 24). This is referred to as a double hermeneutic: "… participants trying to make sense of their world, and the researcher trying to make sense of the participants trying to make sense of their world" (Smith & Osborn, 2008, p. 53). These layers of interpretation reflect the complexity of conducting experiential qualitative research celebrated for its intersubjectivity (Tuffour, 2017). Moreover, it is through this double hermeneutic that there is support for researcher reflexivity whereby "the self and other – and the relationship between them – are explicitly examined as part of the research process" (Shaw, 2010, p. 236).

The final implication expressed through the model of the hermeneutic circle is that interpretation is ongoing. Eatough and Smith (2017) describe this ongoing process of interpretation as "navigating between different layers of interpretation" (p. 13). Essentially, IPA is viewed as several hermeneutical circles working together to uncover and generate findings – a spiral so-to-speak. According to Ellis, Janjic-Watrich and Marynowski (2011), "the backward arc gives direction or purpose to the next loop or research activity" (p. 12) which may be viewed as a subsequent hermeneutic circle. This spiral effect gradually leads the researcher into asking more questions in order to get closer to what he or she hopes to understand. As the research moves down the spiral, the researcher uncovers pieces of information that may pertain to the question being asked. The process is never complete, and the conclusions expressed within each circle of the spiral are only "seen as representing the researcher's understanding at the moment … subject to revision as a result of future insights" (Patterson & Williams, 2002, p. 27).

**Idiography.** According to Smith et al. (2009), an idiographic approach refers to an in-depth focus on the particular, rather than the general; essentially, how a particular experience has been understood from a particular perspective within a particular context. Within IPA research, each participant, or case, undergoes extensive analysis to ensure a sense of value with respect to the participant's diverse and/or variable experience (Eatough & Smith, 2017), prior to moving onto a more general cross-case analysis aimed at uncovering convergence and divergence across cases (Smith et al., 2009). "The fundamental principle behind the idiographic approach is to explore every single case, before producing any general statements" (Pietkiewicz & Smith, 2014, p. 8).

**The researcher's role and reflexivity.** Because IPA is based upon the understanding of human experience, the researcher can be viewed as the primary instrument through which an

inquiry is undertaken (Ross, 2017). The researcher "is responsible for collecting, understanding, and reconstructing participants' stories through the researcher's own use of language" (Sawler, 2005, p. 35), and as such the preoccupations, biases, and prejudices that the researcher possesses play an important role as to the interpretations that can come to light. These can be explained by referring to Heidegger's "forestructure of understanding" (cf. Patterson & Williams, 2002 p. 23). Here, what we understand as researchers is dependent on what we already know (Packer & Addison, 1989); therefore, understanding and the researcher's current creation of meaning are shaped by past experience, culture, and other influences hence reflecting an element of bias or prejudice. As stated by Mayers (2001):

> There is no unbiased position from whence to offer up a value-free assessment, to extricate information from its context. We always begin from a perspective and carry with us our history, language, purpose, and convictions. In other words, there is no place of pristine tabula rasa from which to depart. The point of departure is always referential and prejudiced, relational and prejudged in terms of one's history and all that is invoked by one's tradition (p. 4-5).

It is argued that although a researcher possesses certain assumptions entering into the research process, they should be viewed not as a barrier to overcome, but rather something that can enhance the interpretation of another's lived experience (Patterson & Williams, 2002; Shaw, 2010). Essentially, these opinions, beliefs, values, and ideas have the potential to provide new perspective or insight into the experience being examined, indicating a level of 'truth' with respect to what is being experienced, and an element of depth to the overall understanding that one is attempting to create. However, oftentimes researchers are not always fully aware of their own assumptions, thus they must actively reflect on their own position within the research process in order to expose and become attentive to them for the purposes of future participant encounters, analysis and interpretation (Clancy, 2013; Papadimitriou, 2009).

The process of engaging with one's own assumptions in research is called reflexivity, and it is a process that is active, ongoing, and exists at every stage of the research process (Shaw, 2010). As Guillemin and Gillam (2004) state:

> Our research interests and the research questions we pose, as well as the questions we discard, reveal something about who we are. Our choice of research design, the research methodology, and the theoretical framework that informs our research are governed by our values and reciprocally, help to shape these values. Who we include and who we exclude as participants in our research are revealing. Moreover, our interpretations and analyses, and how we choose to present our findings, together with whom we make our findings available to, are all constitutive of reflexive research (p. 274).

Reflexivity in research, then, contributes to both producing knowledge that aids in the generation of understanding, and providing information as to how that knowledge is produced (Pillow, 2003). It is important to note here, that reflexivity is often confused with reflection, yet they are quite different. Despite both having value within IPA (Shaw, 2010), Chiseri-Strater (1996) distinguishes the two as follows: "to be reflective does not demand an 'other', while to be reflexive demands both an other and some self-conscious awareness of the process of self-scrutiny" (cf. Pillow, 2003, p. 177).

According to Berger (2015), reflexivity is about the "turning of the researcher lens back onto oneself to recognize and take responsibility for one's own situatedness within the research and the effect that it may have" (p. 220). It is about exploring how one's personal characteristics impact the research process, and involves ways of questioning our attitudes, thoughts, and reactions thus providing the researcher with a level of understanding regarding their roles in relation to others (Berger, 2015; Bolton, 2010; Holloway & Biley, 2011). To be reflexive is to examine our involvement, and become aware of the limits of our knowledge and how our behaviour may influence or affect others (Clancy, 2013). This act allows us to look more critically at circumstances and relationships, helps us review and revise ways of being and

relating, and ensures concerns such as those affecting the findings and conclusions of the study are addressed (Berger, 2015; Cunliffe, 2009; Kacen & Chaitin, 2006).

Reflexivity is a process by which researchers are able to evaluate and develop explicit awareness of themselves (Shaw, 2010). This includes addressing their positionality (i.e., the relatedness of the researcher to the participant group) that might shape the research interest and thus its focus (Cousin, 2009; Merriam, 2001). Many factors are important to consider when thinking about positionality, including education, gender, ethnicity, age, previous life experiences, social identity, class, race, and personality (Jootun et al., 2009; Merriam, 2001). The extent of this influence varies greatly and is dependent on the most relevant factors that are shared between the researcher and the participants, and with the specifics of the research itself (Clancy, 2013).

**Participant Recruitment**

According to Smith and colleagues (2009), the first step in conducting IPA research is to "access rich and detailed personal accounts. These accounts will be elicited from persons who are able and willing to offer us a view of the phenomenon under investigation" (p. 40). As such, purposeful, criterion-referenced sampling was utilized for Studies 2 and 3, enabling the selection of "information-rich" (Patton, 2002, p. 242) research participants, and permitting effective, in-depth exploration and understanding of a central phenomenon (Creswell, 2012). Smith et al. (2009) indicate that this procedure ensures a desired level of homogeneity essential for determining meaningfulness with respect to the research question being asked.

Participant recruitment for Studies 2 and 3 were identical in how it was carried out. Initiating this process, I sent out a call for participants via email to the directors of various community-based organizations providing adapted physical activity programming and/or inclusive programming for children with a label of ASD, focusing on the development of

physical literacy located throughout a large Canadian city. Directors, then, circulated this information throughout their respective organizations. Those interested in the investigations were asked to contact me to express their interest. Via either email or telephone correspondence with each interested participant candidate, I asked several questions to ensure the eligibility criteria were met.

Eligibility criteria for Study 2 (i.e., parents) included parents whose child: (1) had been labelled with ASD[4]; (2) was between the ages of 7 and 12 years; and (3) was enrolled in community-based physical activity programs emphasizing the development of physical literacy within the previous 12 months prior to the commencement of the investigation. The age range of 7 to 12 years was selected because children labelled with ASD falling within this range are the most susceptible to activity decline (Bandini et al., 2013; Gregor et al., 2018, Must, et al., 2015; Pitetti, Rendoff, Grover, & Beets, 2007). This decline may be further amplified as children enter into adolescence due to the increased demands and complexity of the activities they may be expected to engage in (Pan, 2009). In targeting this age range, it was believed that the perspectives acquired might provide insight into how programming can be formatted to better meet the needs of the children, setting them up for success later in life. Enrolment in a program emphasizing physical literacy development within a 12-month time period was selected as it was assumed that the instructors of the program would have had engaged in discussions with parents of children labelled with ASD on what physical literacy is and how the child would be developing it.

[4] A label of ASD was not formally determined through the use of diagnostic assessment tools or through examining child records. Rather, the researcher received verbal confirmation of ASD from parents.

Eligibility criteria for Study 3 (i.e., community-based adapted physical activity practitioners) included those who: (1) provided community-based adapted physical activity instruction to individuals with ASD between the ages of 7 and 12 years over the past 24 months; (2) had held the role of instructor/physical activity leader for a period of 6 consecutive months or more; and (3) possessed some knowledge of the concept of physical literacy based on their involvement in programs emphasizing physical literacy development. The age range of 7 to 12 years for this investigation was selected as a means of being consistent across studies within the dissertation, while instruction over the past 24 months was chosen because it was believed to be a timeframe that practitioners could accurately recall and reflect on experiences instructing children labelled with ASD; instruction beyond the 24-month window was considered to be too far removed for the purpose of the investigation. The second criterion, that of 6 consecutive months as an instructor/physical activity leader, was chosen as it was considered as a sufficient amount of time to become accustomed to a program and its participants, thus allowing for the articulation of a point of view on instructing children labelled with ASD. The final criterion was selected based on the assumption that practitioners who instructed within a program framed upon physical literacy development would be able to articulate perspectives on the concept of physical literacy. Once eligibility criteria were confirmed (for both Study 2 and Study 3), I provided participants with a detailed information letter via email, and arranged a time for a face-to-face meeting so that a formal interview could be conducted.

It should be noted, that despite my ongoing efforts to recruit participants and have representation from multiple organizations throughout a large Canadian city, participants (for both Study 2 and 3) were largely recruited from a single organization. Only two participants from Study 2 (i.e., parents) were recruited from outside this organization. These participants

heard about the study via word-of-mouth and contacted me directly. After determining that they met all eligibility criteria, they were invited to partake in the study.

**Study Context**

Aside from the participation of two parents in Study 2, Studies 2 and 3 (Chapters 4 and 5) involved participants recruited through a not-for-profit, disability-specific, community-based physical activity and fitness centre located within a large Canadian university. Several programs are offered at this centre, including those emphasizing parasport athlete development, community exercise transition, group and individual-based adapted physical activity for adults and children designed to meet fitness and recreation goals, and functional electrical stimulation. Within this organization, programs are led and supervised by staff trained in Adapted Physical Activity, equipment and space are easily accessible, and emphasis is placed on adapting to the individual needs of each participant.

For the purpose of these two investigations, a program designed to support children between the ages of 4 and 19 years who have been labelled with developmental disabilities was selected. Focusing on the development of skills and knowledge towards health and wellness, while asserting autonomy and independence in a fun and social environment, this program emphasizes physical literacy development according to the first three stages (Active Start, FUNdamentals, and Learning to Train) of the Long-Term Athlete Development Model (LTAD) developed by Canadian Sport for Life (CS4L, 2016) (see Figure 3.2). These stages stress fundamental movement and skill acquisition according to normative data based on the general population of typically developing children. To date, Canadian Sport for Life serves as the dominant paradigm from which programs in physical education and sport are developed in Canada, and is considered to be one of the largest contributors to Canada's Physical Literacy Consensus Statement (CS4L, 2015).

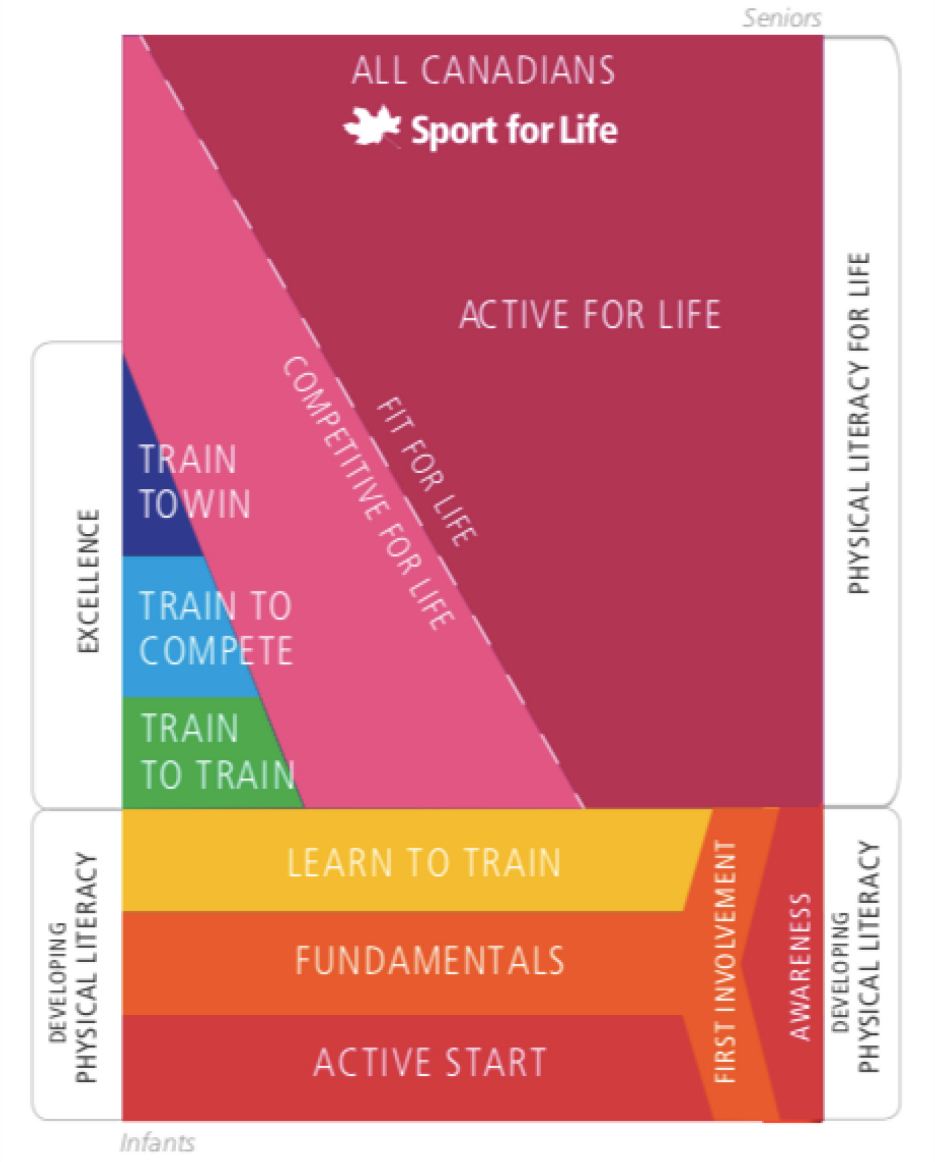


Figure 3.2. Progression of the long-term athlete development framework. Taken from "Progression of the long-term athlete development framework," by R. Way, C. Trono, D. Mitchell, T. Laing, M. Vahi, C. Meadows, & A. Lau, 2016, Long-term athlete development 2.1.

**Participants**

According to Smith et al. (2009), a sample size of 6-8 participants is sufficient for IPA research at the doctoral level to achieve a rich, in-depth analysis of the central phenomenon. Six participants were recruited to both Study 2 and Study 3.

For Study 2, participants were comprised of six mothers of children labelled with ASD. Four participants were recruited from one organization, while the remaining two from a second organization. The average age of the participants was 43 years (range: 30 to 53 years), while the average age of their children was 8.2 years (range: 7 to 10 years). Five of the six mothers were married, and only two had children other than their child labelled with ASD (one younger and one older). On average, children of the participants participated in adapted physical activity programs for a period of 3.8 years (range: 1 to 8 years).

For Study 3, the average age of community-based adapted physical activity practitioners was 27 years (range: 22 to 35 years), while the average number of years spent at the organization was 3.9 years (range: .5 to 6.5 years). Four participants were employees of the organization, while the remaining two were volunteer-instructors. Four out of the six participants possessed other professional experience working with children labelled with ASD beyond their current involvement as a community-based adapted physical activity practitioner.

Participants of both investigations provided written consent to participate in the research. To protect identities, I assigned pseudonyms to the each of the participants, and omitted any identifying information from the data I collected.

**Data Collection**

The data collected for Study 2 and Study 3 was completed using four different methods: demographic forms, semi-structured interviews, reflective field notes, and a reflexive journal.

**Demographic form.** Upon meeting participants for their initial interview, I collected demographic information from them. Information pertaining to name, gender, age, contact information, marital status, number of children and their ages, age of child with ASD, enrolment status of their children with ASD in community-based adapted physical activity programs emphasizing physical literacy development, and the length of enrolment in programs of this type were included in the demographic form for Study 2 (see Appendix A). Information pertaining to name, gender, age, contact information, employment status and location, length of time at present location, length of time working with children labelled with ASD in general, and other professional experience were included in the demographic form for Study 3 (see Appendix B). Contact information was included on these forms in order to set up follow-up interviews if required, and in order to conduct member reflections on the transcribed interview data and subsequent interpretations of this data. All other information from the demographic forms was used to create a context from which idiographic interpretations could be developed.

**Semi-structured interviews.** Semi-structured interviews allowed me to delve deeper into the experiences, and enabled me to become an active participant in the interview process (Markula & Silk, 2011). The interviews for Studies 2 and 3 followed interview guides (see Appendices I and J) that were inspired by their research foci and the conceptual framework, and were developed to ensure that the same basic lines of inquiry were pursued across participants in each of the two studies (Patton, 2002). Experts in qualitative research reviewed each interview guide (Sparkes & Smith, 2014) to ensure the conceptual and methodological frameworks were represented, and that the questions provided data contributing to fulfilling the research objectives. Revisions to original interview guides were made based on the recommendations of the qualitative research experts. Additionally, because I analyzed the data as it was collected,

minor revisions (e.g., ordering of questions, rewording questions to ensure clarity, etc.) to the interview guide were ongoing to ensure the research question was being addressed.

A total of eight interviews took place across the six participants for Study 2. The first two participants participated in an initial interview and a follow-up interview, while the remaining four only participated in a single interview. Follow-up interviews with the first two participants were conducted between two and four months after the initial interviews took place. Initial interviews focused on acquiring perceptions of physical activity for children labelled with ASD, general understandings of physical literacy, and understandings of physical literacy specifically for children with ASD. Follow-up interviews focused on clarifying information from previous interviews. Initial interviews lasted between 50 and 80 minutes (on average 62 minutes), with follow-up interviews lasting approximately 15 minutes. Following transcription of interviews, I provided opportunities for member reflections (Smith & McGannon, 2017; Tracy 2010). Specifically, I sent participants a copy of their transcript(s) via email, providing an opportunity for participants to initiate a dialogue about what they found interesting, or to change or add to the transcript, thus generating new insights into the data and highlighting their experiences in response to the questions.

A total of 13 interviews took place across the six participants for Study 3. The first three participants participated in an initial interview, and two follow-up interviews. The fourth participant participated in an initial interview, and a single follow-up interview. The final two participants participated in a single interview. Follow-up interviews were conducted between one and ten months after the initial interviews took place. Similar to Study 2, initial interviews focused on creating an overall understanding of physical activity and physical literacy for children labelled with ASD. The first set of follow-up interviews for the first three participants

were held with the purpose of clarifying information from their previous interviews. Additionally, because new information was brought to my attention from the final two participants, I was curious to know if similar experiences existed on behalf of the first four participants. As a result, additional interviews were held with the first four participants, hence the tiered interviews that occurred across the participant group. Initial interviews lasted between 50 and 75 minutes (on average 59 minutes), with follow-up interviews lasting between 10 and 45 minutes (on average 20 minutes). Again, like Study 2, participants were provided with an opportunity to initiate a dialogue with the researcher, and/or change or add to the data collected through member reflections (Smith & McGannon, 2017; Tracy 2010).

**Reflective field notes.** Reflective field note taking is thought to allow the researcher to conceptually return to the interview setting during analysis (An & Goodwin, 2007; Mayan, 2009), and ensures reflexivity (Walker, Read, & Priest, 2013) and engage in the process of critical scrutiny on the "factors influencing the researcher's construction of knowledge" (Guillemin & Gillam, 2004, p. 275), including themself and their personal principles that could affect data collection and interpretation.

Following each interview for each investigation, I recorded reflective field notes. These notes included my reflections on what participants discussed, thoughts about the conversation, and considerations of potential emerging themes. Additionally, I took reflective field notes while engaged in the process of data analysis and interpretation. These notes included my thoughts, feelings, and questions that came up in regard to the developing trends within each participant's data, and how these trends are reflective of the conceptual framework being utilized.

**Reflexive journaling.** In addition to taking field notes immediately following each interview in Studies 2 and 3, I kept an ongoing reflexive journal throughout the research process.

It was here where I considered my positionality within the research process. I considered how my various roles (and the knowledge acquired within them) as an athlete, coach, and doctoral student impacted my understanding of participants' experiences, thus affecting my interpretation of those experiences. For example, I asked myself whether my personal successes and failures in practice as an athlete and coach framed my perspective on physical literacy, and provided a lens from which I interpreted participant experiences. Or, whether my knowledge of the concept of physical literacy (due to countless hours of study and research) and my personal philosophical position on how I feel it should be developed, caused me to be judgemental in others' understanding of the concept. I also considered how my privileged position as a Caucasian male who does not experience disability and is a highly educated researcher.

Throughout the research process, I constantly questioned my approach to the research and the interpretations that were gradually emerging with every pass through the data in relation to this privileged position. I asked myself questions such as 'Is this my own perception of what is going on, or the participants'?'; 'How is what I am perceiving meaningful to me, and how do I experience it?'; 'How is this meaningful to the participants, and how is that evident to me?'; and 'If I look again, what do I see?'. In doing so, I was able to expose and engage with my own biases and prejudices based upon my privileged position, and acknowledge how this position affected my status as a researcher (i.e., insider versus outsider), the research relationships that I established with participants (i.e., creation of an imbalanced power dynamic), and the collection and interpretation of the study data for both Study 2 and Study 3.

In Study 2, I considered my insider position as a parent, and how my own struggles in trying to facilitate my daughter's engagement in physical activity was a position from which I could access and contextualize the experiences of other parents. I also acknowledged how my

position shifted to that of an outsider given the fact that I was a male researcher exploring the experiences of a participant group made up entirely of mothers. Although uncomfortable to mention, reflecting on this outsider positionality exposed a deeper level of bias and prejudice (from which I assume derived from the traditional gender roles my own mother and father assumed in relation to my physical activity experiences) about the distribution and division of parental roles and responsibilities; one that I was unaware of, and that provided me with an unfamiliar level of vulnerability to approach the data with. This allowed me to reconsider interpretations from an alternative point of view, and consider potential power imbalances that may have emerged in the relationships that I had established with my female participants. Similarly, in reflecting upon my outsider position from the perspective of being a parent who has neither experienced disability nor fathered a child who experienced disability, I uncovered ableistic assumptions that I was also unaware of, regarding the facilitation of physical activity experiences for children experiencing disability. This exposure helped me distinguish between my own perspectives on the phenomenon in question (i.e., physical literacy) and the participants'. Furthermore, by identifying these biases, I was able to engage with data free from judgement, moving away from explanatory descriptions and analyses to an emphasis on lived experience.

As with Study 2, I felt that I entered Study 3 from the position of an insider. I believed that participants, many of whom I held working relationships with and all of whom I shared similar previous experiences as an adapted physical activity consultant afforded me with the ability to create a comfortable space for each of the participants to share their stories and experiences. Such commonalities also provided a lens from which to interpret participant experiences. While I attempted to remain critical of this insider positioning and how it may affect

relationships, and the data collection and interpretation, I was not always aware of how my participants perceived me. Being reflexive throughout the research process helped me acknowledge that my role as a researcher held a vantage point that could potentially be problematic, ultimately positioning me as more of an outsider. For example, reflecting upon my position as a male interviewing a large number of female practitioners, I considered whether my gender generated a power imbalance, influencing participants' responses, and thus the interpretations and conclusions generated. I also recognized when my biases and prejudices from several years of experience practicing in the field of adapted physical activity overshadowed participant perspectives on facilitating physical activity opportunities for children experiencing disability. Finally, being reflexive helped expose when my interpretations reflected judgement, and perhaps even arrogance, regarding my knowledge on the phenomenon being explored. All in all, the awareness developed as a result of my reflexive practice throughout the research process allowed for participants' lived experiences to surface void of assumption, thus providing opportunity for the creation of a rich and nuanced interpretation.

**Data Analysis**

Aligning with and informed by the methodological framework chosen for the study (e.g., IPA), I conducted an inductive, line-by-line analysis of the interview data using Smith et al.'s (2009) six-step framework as a guide. Step 1 included reading and re-reading the transcripts to ensure the participant was the focus of analysis. After transcription, I read each participant's transcript twice: once while listening to the audio recording of the interview, and once independent of the audio recording. Each time I went through these transcripts, I highlighted passages that reflected both elements of physical literacy (according to CS4L, 2015), and of the conceptual framework. Additionally, I reviewed my observational and reflective field notes in order to re-familiarize myself with the context of the interview, and provide myself with a frame

of reference from which I could begin to understand each participant's experiences. Finally, after each read-through I reflected on each individual transcript, adding additional field notes on points of interests, connections within the transcript, and comments that required follow-up questioning. In step 2, I imported the transcript into an IPA template with the headings: *Emergent Themes*, *Original Transcript*, and *Exploratory Comments* (Smith et al., 2009). Here, I conducted a line-by-line analysis, inputting descriptive and interpretive comments within the exploratory comments section of the template. Step 3 involved developing emergent themes to reduce the volume of detail and map out interrelationships and patterns within the data. After all exploratory comments were made, clear and concise statements about what the participant was experiencing were entered into the emergent themes column of the template. These statements were guided by the highlighted passages within the transcript and the exploratory comments made in conducting the line-by-line analysis. As per my preference, all statements were numbered so that I could return to the template to find supporting quotations exemplifying the most important points of each participant's accounts. In step 4, the emergent themes were transferred to a separate document to allow more statements to be viewed within a single page (see Appendix C). This separate document was then printed out, and connections were visually mapped out by hand (see Appendices D and E). It is important to note, that these connections were made while being aware of the transcript and exploratory comments within the IPA template. Once all emergent themes were clustered, I created and defined super-ordinate and sub-themes for each of the clusters. I then combed through the transcript and pulled passages that I thought highlighted the super-ordinate and sub-themes. Step 5 involved repeating steps one through four for each participant. In moving from participant to participant, I bracketed my ideas so as not to disrupt the idiographic commitment made, and to allow additional themes to emerge.

Step 6 involved the process of looking for patterns across cases, and identifying the most important themes and sub-themes of the collective group. This process was similar to step four. I compiled each individual participant super-ordinate and sub-themes into a single document, which I then printed and cut up. With the cut up participant themes, I manually manipulated and sorted them to determine super-ordinate and subthemes (see Appendix F).

**Trustworthiness**

According to Zitomer and Goodwin (2014), it is imperative that researchers familiarize themselves with the criteria for quality research as per the research approach utilized, as they fulfill "a means by which to demonstrate integrity, competence, and legitimacy of the research process and findings" (p. 194). The quality of the research for Studies 2 and 3 were demonstrated through four criteria: (1) sensitivity to context, (2) commitment and rigour, (3) transparency and coherence, and (4) impact and importance (Smith, et al., 2009; Yardley, 2000).

I demonstrated *sensitivity to context* through maintaining an awareness of the theoretical, philosophical, and methodological positions being utilized throughout the investigations (Yardley, 2000). This awareness included: spending time reading and reviewing the relevant literature on physical literacy, ecological systems theory, and interpretive phenomenological analysis; reflecting on the research process noting how my previous experiences and knowledge affected my thinking, and how my approach to the research was consistent; being conscious of the power dynamic between myself as the researcher and the participants; using purposeful sampling and providing thick description to highlight contextual meanings; and, being sensitive to the raw material of each participant thus adhering to the idiographic nature of IPA research (Smith et al., 2009, Yardley, 2000; Zitomer & Goodwin, 2014).

According to Yardly (2000), *commitment and rigour* involve an in-depth engagement with the topic, methodological competence and skill in data collection, and extensive depth and

breadth of analysis. Not only did I immerse myself into the literature on the phenomena of physical literacy and the conceptual and methodological frameworks utilized, but also as a researcher, I made efforts to actively attend to each participant ideographically throughout data collection, adding an element of care to the analysis. I engaged each participant both cautiously and enthusiastically, creating an atmosphere where participants felt comfortable and safe to share their personal experiences. I provided opportunities for participants to engage in additional dialogue, change, and/or expand upon the transcribed data and interpretations through member reflections at two distinct points of the research process: upon transcription of the face-to-face interview and upon completion of idiographic data analysis. All participants, for both Study 2 and 3 responded to the opportunity to reflect on the transcribed data and resulting interpretations. For the most part, participants for both studies simply provided me with notice that they read the transcript and that it reflected what they wanted to say in response to the questions. On several occasions, however, participants returned the transcripts elaborating on points (in particular, their description of what they understood physical literacy as, both in general and specifically for children labelled with ASD), tidying up language to add clarity to their comments, and removing phrases that they felt were unnecessary or did not accurately reflect what they wanted to say (the least of all the alterations made). No additional dialogue was developed through the alterations that were made. All of these changes were returned in the form of a Microsoft Word document highlighted via “Track Changes”, and were considered as the official document for the purpose of data analysis. Finally, to add to the credibility of the research, I maintained an ongoing commitment to comparing the transcribed data with both the reflexive field notes and my reflexive journal as I progressed through the process of analysis in both Studies 2 and 3 (Zitomer & Goodwin, 2014).

I demonstrated transparency and coherence through two means: (1) the clarity of how the research process was conducted and the final product written up (Smith et al., 2009), and; (2) the process of reflexivity (Yardley, 2000; Zitomer & Goodwin, 2014). In regards to clarity, I thoughtfully described, in detail, how participants were selected, how data was collected, and the process through which analysis was carried out. Additionally, I worked in co-operation with my supervisors to ensure that clear themes and arguments were established and supported, and that there was overall consistency regarding the conceptual, methodological, and paradigmatic frameworks that I had used within each manuscript (Smith et al, 2009; Yardley, 2000). Regarding reflexivity, I kept a reflexive journal to highlight thoughts and feelings that unfolded throughout the course of the research process (Morrow, 2005; Tracy, 2010).

Impact and importance refers to the significance and meaningfulness that the reader attributes to the research (Smith et al., 2009, Yardley, 2000; Zitomer & Goodwin, 2014). In other words, impact and importance is determined by what the reader considers as important and what they do with results of the study. My aim for Studies 2 and 3 was to provide a context-specific understanding of a particular phenomenon (i.e., physical literacy) thereby creating a context for deeper exploration and further application. Transferability of the findings from these two studies are dependent upon the connections that the reader makes with the method used, and their own personal experiences with the phenomenon. To optimize transferability, allowing the reader to determine whether the findings are applicable to them, I offered a detailed description of the study context.

**Ethical Considerations**

According to Zitomer and Goodwin (2014), qualitative research is considered to be more ethically complex than quantitative research given that both the participant and researcher play an integral role in the research process. As such, it is of importance to "consider the rightness

and wrongness of our actions as qualitative researchers in relation to the people whose lives we are studying" (Miles & Huberman, 1994, p. 288). Over the course of conducting Studies 2 and 3 of this dissertation, I took the following measures to ensure an ethical commitment to the research. These measures are described according to the ethical practices noted in Tracy (2010).

Regarding my commitment to procedural ethics (or "those ethical actions dictated as universally necessary", Tracy, 2010, p. 847) for Studies 2 and 3, I applied for Research Ethics Board approval via the University of Alberta's Research Ethics & Management Online (REMO) system. This included creating an application and addressing all potential ethical issues that could potentially arise over the course of the investigation. The ethics application for Study 2 was approved on June 14, 2017, while the ethics application for Study 3 was approved on September 7, 2016. Over the course of each research project, I returned to the ethics application on several occasions to ensure that I was adhering to the guidelines that were approved by the Research Ethics Board. In addition, I maintained a commitment to procedural ethics by providing information letters and consent forms (see Appendix G and H) to all participants from both investigations ahead of time. These letters and consent forms included details outlining the purpose, benefits, and potential risks associated with participation; how information would remain confidential and anonymous; and, how information would be disseminated to the public (i.e., journal publications and conference presentations). Finally, my commitment to procedural ethics was maintained through the omission of all identifying information from the data collected, and safeguarding this data from any undue exposure by keeping it safely stored on the university campus and on a password-protected website.

According to Tracy (2010), a situational ethic "assumes that each circumstance is different and that researchers must repeatedly reflect on, critique, and question their ethical

decisions" (p. 847). My commitment to situational ethics was reflected through two different acts: (1) by maintaining an idiographic commitment to each participant within each study, where the particularities of each individual were considered prior examining each group as a whole, and; (2) by actively engaging in the process of reflection throughout the entire research process. These reflections were captured through the field notes I kept through the course of data collection and analysis.

Relational ethics involve "an ethical self-consciousness in which researchers are mindful of their character, actions, and consequences on others" (Tracy, 2010, p. 847). My commitment to relational ethics was adhered to as I carefully reflected upon the interactions between the research participants, paying particular attention to the power dynamic created and ethic of care provided (i.e., mutual respect, dignity, and connectedness, Ellis, 2007), between myself (the researcher) and each participant. This commitment was also captured in through the reflexive field notes that I kept over the course of each individual research study.

Finally, I made every effort to maintain an ethical commitment beyond the data collection and analysis stages in both Study 2 and Study 3. Despite "researchers never having full control over how their work will read, be understood, and used" (Tracy, 2010, p. 847), I gave thoughtful consideration to how the results were presented, in order to maximize the value of each participant's experiences. Moreover, I demonstrated a commitment to maintaining exiting ethics through the language that was used in writing up each investigation; in particular, avoiding the use of ableist labelling, whereby individuals are compared against a socially constructed, normative standard (Campbell, 2001, 2009).

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# CHAPTER 4

## Study 2

## Understanding physical literacy: An interpretive phenomenological analysis of parents perspectives for children labelled with autism spectrum disorder (ASD)

Physical activity is a critical element for the overall healthy development of children labelled with autism spectrum disorder (ASD)[5] (Memari & Ghaheri, 2015). Physical activity has the potential to not only impact physical well-being, but also cognitive and social functioning, resulting in a holistic improvement to quality of life (Bremer, Crozier, & Lloyd, 2016; Lang et al., 2010; Sowa & Meulenbroek, 2012). Yet, despite these benefits children labelled with ASD experience considerable difficulty engaging in physical activity where social skills, communication, and motor abilities are essential for prolonged participation and engagement.

ASD is a developmental impairment represented through varying degrees of ability in areas such as communication and language, social interaction, and behaviour (Centers for Disease Control and Prevention, 2016). Currently, ASD has been largely positioned within a deficit-based framework, where varying degrees of ability are commonly perceived as deficient, dysfunctional, and/or problematic (Broderick & Ne'eman, 2008; Dinishak, 2016; Lester, Karim, & O'Reilly, 2014). As a result, negative perceptions of children labelled with ASD have emerged (Buchanan, Miedema, & Frey, 2017; Obrusnikova & Miccinello, 2012; Must, Phillips, Curtin, & Bandini, 2015), leading to research indicating that they have an increased susceptibility for physical activity decline (Bandini et al., 2013; Gregor et al., 2018, Must, et al., 2015; Pitetti, Rendoff, Grover, & Beets, 2007), and their ability to capitalize on the benefits associated with prolonged physical activity engagement may be compromised. This places children labelled with ASD at an increased risk of chronic disease and poorer overall quality of

[5] To align ASD to a social model of disability, where disability and impairment are not synonymous, and impairment does not automatically equate to nonnormative biological function, the phrase "labelled with ASD" was used. This replacement was thought to encompass the "social structures, attitudes and relations that disable classes of people, not on the impairments of individuals" (Peers, Spencer-Cavaliere, & Eales, 2014, p. 273).

life (Criado et al., 2017; Curtin, Jojic, & Bandini, 2014; MacDonald, Esposito, & Ulrich, 2011; Menear & Neumeier, 2015).

Over the past decade, interest in countering declining physical activity patterns and preventing associated health complications for all individuals, including children labelled with ASD, has gained considerable research attention (Frey, Stanish, & Temple, 2008; Srinivasan, Pescatello, & Bhat, 2014). It has been suggested that preventing the decline in physical activity may be an easier target than reversing already low levels of activity engagement (Pitetti et al., 2007). As a potential avenue of prevention, sport, recreation, and physical education curriculums have been targeted as agents in addressing the concerns of low activity levels and poor health in children through an emphasis on developing physical literacy (Higgs, 2010). Defined as "the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life" (Whitehead, 2017, n.p.), physical literacy is derived from the opportunities presented for capitalizing on one's unique embodied capability. The idea of a better life through physical literacy has excited many, who have adopted the concept to advance their interest in increasing levels of physical activity for all regardless of level of ability (Jurbala, 2015).

Enthusiasm for physical literacy in Canada has led to the creation of Canada's Physical Literacy Consensus Statement (Canadian Sport for Life, CS4L, 2015). Adopting Whitehead's (2017) definition, the statement clarifies the defining characteristics of physical literacy in order to provide direction for the development of physical literacy practice (Corbin, 2016). Within the statement, physical literacy includes four interconnected elements, representing four distinct domains of human development. These include motivation and confidence (affective domain), physical competence (physical/psychomotor domain), knowledge and understanding (cognitive

domain), and engagement in physical activities for life (behavioural domain). *Motivation and confidence* refers to the desire and enthusiasm to engage in physical activity and the self-assurance in adopting physical activity as a part of one's lifestyle. *Physical competence* refers to the ability to develop skills, and the capacity to use those skills in activities of different durations, intensities, and contexts. *Knowledge and understanding* includes the ability to identify the essential qualities of movement, understand the benefits of an activity, and appreciate the features of participating in various settings and environments. *Engagement in physical activities for life* refers to an individual taking personal responsibility for their physical literacy development, including freely choosing to participate in physical activity on a regular basis. All elements are considered as essential for physical literacy development.

Based on the claim that physical literacy is inclusive of all (Canadian Sport for Life, 2015), organizations (including many that provide services to children experiencing disability), have embraced this statement and use it as a foundation for their programs. However, the current operationalization of physical literacy in Canada according to this statement is considered by some to be exclusionary, ableistic, and representative of individuals void of disability (Goodwin, 2016). Ableism is defined as "a network of beliefs, processes and practices that produces a particular kind of self and body (the corporeal standard) that is projected as the perfect, species-typical and therefore essential and fully human" (Campbell, 2001, p. 44). Disability, then, is implied to be a diminished state of being human (Campbell, 2001, 2009). Canada's physical literacy practices encompass ableism given their lack of consideration for the individual capabilities that a person experiencing disability may possess, or the interdependence that these individuals may experience in their attempts to develop physical literacy. There is a preoccupation with performance-based environments, incorporating normative standards used

for comparison purposes (Longmuir et al., 2016; Tremblay & Lloyd, 2010), and practices have aligned the concept to a readiness model of motor development, suggesting that fundamental movement skill acquisition is a precursor to the engagement in a wider variety of activities (Francis et al., 2016; Higgs, 2010). This contradicts the idea that physical literacy is a journey that occurs in the context of one's own personal endowment (Whitehead, 2010), and portrays it as a "one-size fits all" concept, mechanizing it to fit within the dominant paradigm that has been adopted (Lloyd, 2016).

It may not be reasonable to assume that the physical literacy practices designed for individuals who experience typical developmental progressions will yield similar results for those experiencing disability. Because physical literacy is developed according to one's unique embodied potential (Jurbala, 2015, Vickerman & DePauw, 2010), the different life experiences encountered by those experiencing disability should be taken into consideration. Suggesting that a single vision, or model, of physical literacy is appropriate for every individual given the heterogeneity existing amongst individuals experiencing life under differing circumstances and with varying levels of support is perhaps naïve. Research that will enhance understanding of what physical literacy represents for different individuals is essential for fostering a concept that centres on the idea of using an individual's embodied potential to the best of their ability (Vickerman & DePauw, 2010).

**Conceptual Framework**

According to Pfieffer et al. (2017), a primary factor influencing participation in physical activity by children labelled with ASD is the fit between their individual characteristics and the surrounding environment. Relatedly, Jurbala (2015) has suggested that physical literacy cannot be understood by a simple summation of its static individual elements, but rather through the ongoing process of interactions between these elements existing as a product of one's

experiences with the physical world. In line with these assertions, Bronfenbrenner's (1979, 1992) ecological systems theory (EST) was selected as a framework to guide the research, including the creation of the research question, the creation of the interview guide, and as a context for data analysis and interpretation.

EST maintains that human development is dynamic and complex, and cannot be seen in isolation but must be viewed within the context of an individual's interaction with the surrounding environment; the environment being any event, or condition, that influences or is influenced by the developing person (Bronfenbrenner & Crouter, 1983; Friedman & Allen, 2011). EST is organized into five environmental levels that mediate organismic-environmental interaction: *microsystem*, *mesosystem*, *exosystem*, *macrosystem*, and *chronosystem*. Each individual system contains a set of influences that may either positively or negatively affect development. Influences range in proximity to the individual (i.e., the immediate family, extending distally to include broader social contexts and transitions over the lifespan), and changes or conflict in a single system has the potential to ripple throughout other systems (Paquette & Ryan, 2001). The *microsystem* involves the relationships between the individual and their immediate environment (e.g., parent, siblings, peers, teachers, etc.), and has the most immediate and impactful influence as a result of face-to-face interaction (Gabbard & Krebs, 2012; Huit, 2012). The *mesosystem* contains the interactions between an individual's microsystems (e.g., the child's family, school, and neighbourhood). Essentially, these interactions constitute the network of relationships that overlap across various settings (Beale Spencer, 2006). The *exosystem* "defines the larger social system in which the [individual] does not function directly" (Paquette & Ryan, 2001, n.p.). In other words, the exosystem involves links between a social setting that the individual does not possess an active role in and some

structure within an individual's microsystem (i.e., parents) (Berk, 2013). Examples of structures within the exosystem might include a parent's workplace or friends, the media outlets an individual is exposed to, or the community-based resources that can be accessed. The *macrosystem* can be thought of as a societal blueprint for a particular culture, subculture, or other broad context (Bronfenbrenner, 1992). It consists of the overarching pattern of characteristics embedded in each of the previous three systems, with particular reference to belief systems, societal values, cultural customs and principles, and lifestyle behaviours (Berk, 2013; Paquette & Ryan, 2001). Finally, the *chronosystem* "encompasses the dimension of time as it relates to an individual's environment" (Paquette & Ryan, 2001, n.p.). It is comprised of major life transitions and environmental events that transpire over the course of development, including major socio-historical events. Elements of this system can be either external to the individual, such as the untimely separation of parents or relocation to a new geographical location, or internal, such as the physiological changes that occur with aging (Paquette & Ryan, 2001).

According to EST, a child's development is affected by the roles parents play in the experiences of their children across environmental contexts (e.g., advocate, facilitator, teacher, participant, etc.); parents are an integral part of a child's immediate environment and play the most influential role in a child's overall development and well-being (Pfeiffer et al., 2017). Relatedly, it has been proposed that physical literacy is developed as a result of the efforts of all those who facilitate the physical activity experiences of children experiencing disability, including parents (Dudley, 2015; Termertzoglou, 2010). Parental support has been found to be one of the strongest correlates of participation as children experiencing disability are often dependent on parents for the planning and overall facilitation of their physical activity experiences (Beets, Cardinal, & Alderman, 2010; Martin & Choi, 2009; Siebert, et al., 2017).

Therefore, the purpose of this research was to explore how parents of children labelled with ASD understand physical literacy for their children. Specifically, we sought to understand parents' perceptions of physical literacy based upon their own, and their child's experiences, within programs emphasizing the concept for children experiencing disability.

## Method

The research approach used for this investigation was Interpretive Phenomenological Analysis (IPA) (Smith, Flowers, & Larkin, 2009). Researchers use IPA to explore and understand the lived experience of others, or how people make sense of their personal and social world (Shinebourne, 2011; Smith et al., 2009). Because the process of making sense of lived experience is interpretive, the researcher assumes a fundamental role in 'giving voice' to participants in regards to their experience (Larkin & Thompson, 2012; Reid, Flowers, & Larkin, 2005; Willig, 2008). IPA is grounded in phenomenology, hermeneutics and idiography (Smith et al., 2009). Phenomenology is concerned with attending to the way things appear to individuals in their experience. In other words, it aims to identify the essential components of a phenomenon or experience making them exclusive or distinctive from others (Pietkiewicz & Smith, 2014). Hermeneutics is the study of interpretation and meaning (Shinebourne, 2011). Essentially, the researcher attempts to understand what it is like to stand in the shoes of the participant and make meaning based upon this understanding. This process is also known as a double hermeneutic (Smith et al., 2009; Smith & Osborn, 2008). Idiography is an in-depth focus on the particular. Within IPA research, each participant, or case, undergoes extensive analysis to ensure a sense of value with respect to the participant's diverse and/or variable experience (Eatough & Smith, 2017), prior to moving onto a more general cross-case analysis aimed at uncovering convergence and divergence across cases (Smith et al., 2009). With the approval from the Institutional Review Board at a supporting institution, informed consent was obtained from all parents. Pseudonyms

were used for all parents to protect their identity and confidentiality.

**Participants**

IPA requires the researcher to collect detailed, reflective, first-person accounts from research participants with similar characteristics (Larkin & Thompson, 2012; Palinkas, Horowitz, Green, Wisdom, & Hoagwood, 2015). Therefore, a purposeful, criterion-referenced sample (Patton, 2002) of participants was selected to participate in the study. Six parents, all of whom were mothers of children labelled with ASD, met the eligibility criteria and participated in the study. Eligibility criteria for these participants included: (1) having children with a label of ASD (as per parental report); (2) having children who are between the ages of 7 and 12 years, and; (3) having children who have been enrolled in community-based physical activity programs emphasizing the development of physical literacy within the previous 12 months prior to the commencement of the investigation. The age range of 7 to 12 years was selected because children labeled with autism spectrum disorder falling within this range are the most susceptible to activity decline (Bandini et al., 2013; Gregor et al., 2018, Must, et al., 2015; Pitetti et al., 2007), which may be further amplified as children enter into adolescence due to the increased demands and complexity of the activities they may be expected to engage in (Pan, 2009). Enrolment in a program emphasizing physical literacy development within a 12-month time period was selected as it was assumed that the instructors of the program would have had engaged in discussions with parents of children labelled with ASD on what physical literacy is and how the child would be developing it. Despite efforts to engage participants from multiple organizations within a large Canadian city, four participants were recruited from a single organization, while the remaining two were obtained via snowball sampling (Creswell, 2012).

The average age of the participants was 43 years old (range: 30 to 53 years), while the average age of their children was 8.2 years old (range: 7 to 10 years). Five of the six mothers

were married, and two had children in addition to their child labelled with ASD (one younger and one older). On average, children of the participants had participated in adapted physical activity programs for a period of 3.8 years (range: 1 to 8 years). Table 4.1 provides detailed descriptive and demographic information about each participant. Pseudonyms were assigned to the participants to protect their identities. In keeping with ethical principles, all information pertaining to the research study was disclosed to the participants.

**Data Collection**

Data were collected via face-to-face, audio-recorded, semi-structured interviews, and through field notes and reflexive journaling. An interview guide informed by the research focus and conceptual framework was used to encourage participants to express their feelings, knowledge and thoughts on physical literacy (see Appendix B). Two experts in qualitative research reviewed the interview guide to ensure consistency with respect to the conceptual and methodological framework that was chosen (Sparkes & Smith, 2014) and revisions were made based on their recommendations. Additionally, because the process of analysis was ongoing (i.e., data were analyzed as they were collected), revisions to the interview guide were ongoing to ensure the research question was being addressed.

Eight interviews took place across the six participants. Follow-up interviews were required for the first two participants, and took place six and twelve weeks after their initial interviews. Initial interviews focused on achieving general perspectives on physical activity for children labelled with ASD, general understandings of physical literacy, and understandings of physical literacy specifically for children labelled with ASD. Follow-up interviews for the first two participants were required to clarify information that was provided in their intial interview. Initial interviews lasted an average of 62 minutes (range: 50 to 80 minutes), with follow-up interviews lasting approximately 15 minutes. Following the transcription of interviews, an

opportunity for participants to engage in a dialogue with the research team regarding the transcripts, change, or add to the data collected was provided through the use of member reflections (Smith & McGannon, 2017; Tracy, 2010).

Field notes were taken during and following interviews (both initial and follow-up). Field note taking is considered as an essential component of interpretive research as it allows the researcher to conceptually return to the interview setting during analysis (An & Goodwin, 2007; Mayan, 2009), and ensures reflexivity (Larkin & Thompson, 2012; Walker, Read, & Priest, 2013). Notes taken during the interviews consisted of brief comments and thoughts that the interviewer was attracted to in the moment, while notes taken following the interviews contained more elaboration including comments about what participants discussed, thoughts about the conversation and the role of the research in the interpretive process, and considerations of potential emerging themes. Reflexive journaling also took place in order to ensure the researcher's positionality, and the power dynamics between the participants and the researcher (Merriam et al., 2001), were taken into consideration over all aspects of the research process.

**Data Analysis**

Data analysis involved an inductive, line-by-line analysis of the interview data using Smith et al.'s (2009) six-step framework as a guide. This framework includes: (1) reading and re-reading each transcript; (2) initial noting of points of interest, identifying particular issues within each transcript; (3) developing emergent themes to map out interrelationships and patterns within the data; (4) searching for connections across emergent themes capturing the most interesting points of participant's accounts; (5) moving to the next case, bracketing ideas as to not disrupt the idiographic commitment made; and (6) looking for patterns across cases, identifying the most important themes and sub-themes of the collective group. Field notes and the researcher's reflexive journal were examined as a supplement to the interview data, allowing for a conceptual

return to the interview setting during analysis (An & Goodwin, 2007; Mayan, 2009). The conceptual framework of EST (Bronfenbrenner, 1979, 1992) was drawn upon to bring a deeper understanding of the meanings held by each participant, and the collective group. Similar to the transcribed data, member reflections of idiographic themes were conducted in order to ensure the accuracy of interpretations. After consulting with each individual participant regarding these themes, patterns were sought across participants. Recurring themes were shared with and discussed among the authorship team until agreement was reached. The agreed-upon themes were summarized and presented as results.

**Trustworthiness**

The quality of the research was addressed according to four criteria: (1) sensitivity to context, (2) commitment and rigor, (3) transparency and coherence, and (4) impact and importance (Smith et al., 2009; Yardley, 2000). *Sensitivity to context* was achieved by demonstrating a theoretical, philosophical, and methodological awareness of the research process, including the relevant literature on physical literacy, and previous work using EST as a conceptual framework and IPA as a research method. Sensitivity to context was also demonstrated through ongoing researcher reflection, consideration of the power dynamic between the researchers and participants, the use of purposeful sampling, highlighting contextual meanings through thick description, and being sensitive to the raw material of each participant thus adhering to the idiographic nature of IPA research (Smith et al, 2009, Yardley, 2000; Zitomer & Goodwin, 2014). *Commitment and rigor* were established by developing thorough data collection and analysis strategies, by providing participants the opportunity to reflect on their interview transcripts and resultant idiographic thematic trends, and by comparing participant themes against the reflective interview notes, thus adding a level of credibility to the research (Zitomer & Goodwin, 2014). *Transparency and coherence* were achieved by providing

a detailed account of the research process and methodology, and disclosing all information to participants regarding their involvement in the study. Theory was used throughout the research process (e.g., formulation of tools for data collection, analysis and interpretation, and discussion context) further strengthening the cohesiveness and consistency of the study. *Impact and importance* are determined by what the reader considers as important and what they do with results of the study. By offering a detailed description of the research process, readers can decide whether the findings are pertinent to them.

## Results

Three themes and their subsequent subthemes represented the meaning and understanding that parents of children labelled with ASD have in regards to the concept of physical literacy (see Table 4.2).

### It's Different for My Kid

The theme of 'it's different for my kid' highlights physical literacy is understood differently relative to the dominant conceptualization of the concept (i.e., Canada's Physical Literacy Consensus Statement [Canadian Sport for Life, 2015]), and from one person to the next. Within this theme, three subthemes emerged from the data: (a) a consensus … not exactly, (b) hidden labour, and (c) flexibility over focus.

**A consensus … not exactly.** This subtheme illustrated that parents' understandings of physical literacy with respect to their children: (1) did not completely align with the dominant conceptualization of the concept (see Canadian Sport for Life, 2015), and (2) differed from one parent to the next. For instance, parents referred to only two of the four developmental domains comprising the dominant conceptualization of physical literacy: the physical domain and the affective domain. Moreover, parents' description of these domains differed. Most evident, parents' understandings pertained to their child's physical development. Here, understandings

were influenced by the unique set of interactions each parent was a part of. Shirley, acknowledging that her exposure to physical literacy is relatively limited and has only come from the literature posted through an online support group, equated physical literacy to one's level of physical awareness, or "knowing where their body is in space." Based upon the information that has been acquired from her[6] son's physical activity instructors, Theresa's understandings of physical literacy and its development are indicative of satisfying particular criteria, stating that "it's like being able to move and perform movements more accurately." Moreover, her understanding was framed from a normative perspective based on how skills develop in comparison to one's peers. Susan, with her background in rehabilitative medicine, also stated that her understanding was limited. Yet, she assumed that physical literacy was associated with physical development purely because of the word 'physical'. Maya, deriving understanding from a flyer that was provided in one of her son's physical activity programs emphasizing physical literacy development, associated physical literacy with motor skill development. Suggesting that skills serve as the building blocks leading to one's "ability to perform a physical task," several fundamental movement skills such as "hitting, his kicking, his throwing … and other physical elements that would build up to a specific activity" were highlighted. Donna, who self-identifies as autistic and has post-secondary training in physical fitness, expressed physical literacy as a developmental standard unique to each individual:

> "My understanding of it is basically the ability to move through the movements at the level that you should be able to move through the movements at. It's like being able to perform physical activity in a way that it is appropriate to where you should be able to perform physical activity."

[6] As a result of parents self-identifying as a particular gender (see Appendix A, p. 236), gender-specific language was used to highlight participant comments.

Despite her involvement in various programs emphasizing physical literacy development, Monica's understanding did not include reference to any sort of specific activity or sport. Instead, her understanding was derived from the interactions with her son who had limited movement abilities, and was dependent on others. Here the understanding expressed aligned more with the notions of embodiment and connectedness with one's surroundings, rather than facilitating development leading to the ability to engage in subsequent activity:

> "… it's just any movement … physical movement that connects a person to either a specific activity, or umm … or the earth. I mean to me, and of course, this is all shaped based on my son, umm … crawling through the grass and him being able to feel the grass underneath his hands, and what that feels like and what it is. And maybe, feeling moist dirt … that's all providing him experience and like connectedness to his surroundings."

Parents also referred to the affective domain, though less prominently than the physical domain when expressing their understanding of physical literacy. Specifically, several parents alluded to motivation and confidence. However, similar to understandings of the physical domain, perceptions lacked uniformity across the group. Shirley's understandings of physical literacy according to the affective domain were expressed through describing her son's taekwondo experiences. Here, Shirley suggested that confidence to continuously perform activities beyond the physical activity setting was dependent on the successes endured in the original environment. If her son felt successful, he would internalize that success, inspiring performance beyond the taekwondo setting:

> " … when he first learned how to do a really good roundhouse kick, oh yeah, he had to come home and show me that roundhouse kick around the house several times … he was very proud of himself, and I think he felt umm … well confident and you know mature."

Susan also included understandings reflective of the affective domain, suggesting that her son was intrinsically motivated to engage in and maintain participation. Specifically, Susan alluded

to how perceiving the environment, including the activities and individuals situated within it, as fun and enjoyable held motivational qualities for her son's participation: "… if he doesn't like to do it, he's not going to bother to learn to do it at all." Monica highlighted a different intrinsic motivator suggesting that curiosity was a predominant factor in motivating their son, stating: "He's just kind of by nature, a curious little guy. So he always kind of wants to be in the middle of things." In addition to intrinsic motivators, Theresa also stated that extrinsic motivators were something used to entice engagement in activities where practice is required (i.e., bike riding). Essentially, a system of rewards was used as initiative to begin an activity and incentive to maintain involvement in that activity:

> " … if he does have a little bit of an initiative it is easier. But it is tough to get him going, but we just keep trying, you know … providing initiative with either ice cream or video games or letters, or whatever kind of break he wants to do."

Collectively, words such as difference, individualized, and spectrum were commonly referred to when parents were asked about how physical literacy is understood for their child. Susan highlighted this heterogeneity in stating, "For one child one thing may be important, but for another child with autism it might be totally different … each kid will kind of have their own thing".

**Hidden labour.** Although parents felt that physical literacy development was important for their children, they collectively understood this was something that they were responsible for. As such, parents' felt that they were constantly engaged in a negotiation between the needs of their children and the expectations and demands of the physical activity environment. With parents shouldering a significant portion of this responsibility, the child's responsibility or initiative for their own engagement was considered to be minimal. Maya, while more than

willing to go the extra mile, expressed how much extra work it is to work with others supposedly responsible for creating successful developmental opportunities for her child:

> "… we (the parents) are responsible for getting him (her son) engaged…I don't get to just sign him up for something and show up the first day. It's, I call ahead of time, I see if I can come down to take pictures of where it is at so I can make a social story so he knows where he is going to be."

Stating that "parents have to take ownership", Donna believed that if parents do not put the time and effort into ensuring child's success, nobody else would. As such, Donna believed that movement is truly "driven by the parents." Noting her previous experiences, Shirley indicated that such responsibility involves parents being "creative and innovative"; a role that Susan believed to be quite extensive, and even managerial, due to having to assume responsibilities above and beyond those of simply being a parent, including mentoring others on how best to facilitate her son's activity experiences:

> "I have to support it at home so that he can practice it, I almost have to manage him, I have to get him to the right programs at the right times, I have to be able to break down where he's at for these people trying to work with him so that they know how to work with him…it's a huge role."

Participants also indicated that their role is not strictly proactive, often involving active participation on their part. To allow the physical activity instructors to teach and to minimize disturbances, Monica remained in the activity environment alongside their son while he participated, doing what was needed to ensure others were not bothered: "I'm right there with him… if he starts to get fussy, I just start to dance, and he gets happy." Perhaps not as active, Theresa also mentioned that she has had to participate, or at the very minimum remain in the physical activity environment, in order to both motivate her son and ensure that his behaviour corresponded to program guidelines: "I'm always there. I've participated through taekwondo,

and I was you know white suit too, so I've always participated. Even in his dance class. I wasn't dancing with them, but I was with them."

**Flexibility over focus.** Due to the diversity of individuals (e.g., abilities, interests and needs) and how they interact with surrounding environments, participants collectively believed that the opportunity for physical literacy development was increased through programs that were increasingly flexible and individualized, rather than those employing a one-size-fits-all approach to instruction. Moreover, participants believed that the program did not need to be formally identified as focusing on the development of 'physical literacy', for physical literacy to be developed. Essentially, it was more important to attend to the needs of the child than adhere rigidly to the planned activities and structure. Highlighting this, Susan noted that approaches to programming that were more individualized were of the utmost importance. Specifically, those that considered her son's strengths and gradually increased task complexity were valued:

> "… sometimes we need to start small and we need to build on the strengths, and we need to do repetition with him … He will be able to do this, we just need to simplify it and then gradually make it harder and harder … make it simple at first, to not frustrate the kids, and then make it more complicated."

Approaching the topic in a different direction, Maya declared her displeasure for generalized programming, suggesting that these types of approaches devalue what her son can do thus leaving him with a negative experience. Such approaches were thought to single him out as different rather than include him within the larger group, leaving him deflated and reducing the likelihood of him wanting to return to that particular program:

> "I think the older he gets the more negative it does get for him with physical activity as far as working with other people in a physical activity sense … the older he gets and the more his gap grows especially in the ability to keep up."

Shirley emphasized the idea of flexibility through her comments on programs catering to the interests of children. Here, it was mentioned that outside-the-box thinking on behalf of instructors, and a willingness to accept input from other sources (i.e., parents) facilitated a move beyond generalized forms of physical activity presentation, creating a learning climate that is increasingly comfortable and motivating:

> "One example would be, um, second term last year, the student who worked with him focused the games around an interest in chemistry … because he has a very strong interest in chemistry and this student was well versed in chemistry so she was able to do that, um, to engage him in activities that might have been outside of his comfort zone."

Attention to interests was also thought to also contribute to enjoyment and fun, fuelling a willingness to return to the activity environment. According to Donna, "Physical activity first and foremost should be enjoyable. Because if it is not, it won't be sustained." In support of this, Monica believed that moving beyond a rigidly structured program and providing opportunities for fun was necessary early on in life because fun is what kids are interested in having. Once interested, children would be increasingly willing to come back to the physical activity environment, and development would eventually take shape. Both Donna and Theresa indicated that activity variation and exposure to new things was a major contributor to ensuring enjoyment and excitement.

In comparing two different dance programs her son attended, Maya indicated the importance of flexibility with respect to how information is presented. Particularly, it was indicated that instructors willing to adapt their approach and engage in alternative forms of instruction had the greatest potential to create a learning climate that was supportive, accepting of difference, and successful in comparison to instructors who simply used normative means of instructional delivery and were rigid in their teaching approach:

> " … to compare, we had him in typical dance classes which didn't go very well at all because like I said the teacher stood at the front, screamed out the directions in very concrete kind of terms and he couldn't keep up. But the other dance class they used more, like, how do we move our bodies really fast or really slow? We did mirroring, so me and my husband would do moves, and (my son) would copy them and then we made up a dance in the end but it was very much supported, um, in a way that he could learn."

Theresa, on the other hand, expressed frustration with programs emphasizing generalized forms of practice (i.e., instruction, types of activities, etc.), as she believed her son "can do a lot of things, but not those things."; essentially, what a one-size-fits all approach does is accentuate and puts on display what cannot be done, rather than highlighting what can be. Summarized succinctly by Donna, "children who are disabled clearly cannot do physical activity the same way."

Program flexibility with respect to the creation of meaningful environmental contexts was also considered as important for children labelled with ASD. Here, flexibility was referred to in terms of a willingness to seek out additional information that would contribute to a meaningful experience and incorporate it into programming, rather than simply following a prescribed set of activities. Donna alluded to how creating meaning involves accommodating for difference instead of presenting activities according to a one-size-fits-all approach:

> "… when we're looking at physical literacy, are we providing a context that makes sense to them? What can they do in an environment that is accommodated, versus what can they do in other settings … two very different things, right?"

Monica, too, felt that accommodating for individual needs contributed to the creation of meaningful experiences. In reference to the trampoline parks she frequents, Monica noted how the accommodations made through the positive support of others within the community is valued and is even considered to be a necessity for her son' physical literacy development: "…they're

(the staff) really great with him, even from the beginning. Cause there is the area where all the kids are jumping, but they let us go to this kind of quieter area." Maya directed her attention to the physical context where physical literacy development is shaped. She felt that increased amounts of traffic and activity within an environment negatively impacted her son's ability to engage in physical activities. For her son, environments that were increasingly complex and active presented as overwhelming to the point where he was unable to be successful, while those more suited to his needs were optimal:

> " … a lot of the times it is the busyness of it all like when we were in soccer there's eight different teams playing on four fields and kids are everywhere and that is hard for him to navigate so usually finding programs that are smaller, quieter, less busy, less hectic. That works."

**Experiences of Exclusion**

This theme provides insight into parents' understandings of physical literacy as not easily accessible for everyone. Specifically, parents believed that despite claims of inclusivity, programs emphasized practices that were not necessarily characteristic of a welcoming attitude towards including children experiencing disability. Two subthemes emerged from the data: (a) a false sense of inclusion and support, and (c) a lack of reciprocal communication.

**A false sense of inclusion and support.** Parents indicated that opportunities for their children to develop their physical literacy, those that truly embrace the idea of inclusiveness, are few and far between. For example, parents felt that program instructors often looked at their children differently compared to others, emphasizing the label of ASD. As such, expectations did not reflect each child's true level of ability, and the level of support in certain programs was called into question. Referring to a dance program that she simply inquired about, Maya voiced that limited support exists and passive aggressiveness often occurs prior to programs beginning: "… it's like when you just call and say my child has autism and they're automatically like 'you

know I don't think this is a good fit for him.'" Essentially, the child is excluded based purely on the label of ASD. For some, the lack of support is perceived throughout programming. Susan described an instance of her son's involvement in a swimming program where the instructors basically dismissed him from instruction as he was thought not to be worth the effort:

> "… he's at a certain level, and I want them to teach those aspects of that level, and they're not. They're like 'oh … whatever he wants to do', and I'm like "NO, he's here to learn A-B-C-D now". That was fine when he was just getting used to the water, but now it's not … now he's here for these certain things."

Again, expectations were minimal, if any at all, based on their son's difference in ability level and a label of ASD. Recalling a frustrating experience in her son's equine program, Monica also raised doubt in regards to the level of support provided by the instructor. Specifically, she outlined how the normative expectations of the instructor led to the belittlement of her son's efforts, even in spite of a program that was feasible to her son's ability level, and designed to celebrate individual milestones:

> "The only kind of negative has been from a teacher or a leader of the group…I'll just give you an example… [name] also participates in horseback riding a little bit. And it's a great program, and he gets to experience the outdoors, and the feeling on a horse, all of that. And you know they have little goals that they want them to meet. And so, when they go outside, there's this really overhung tree, and the goal is that they want the child to look up and touch a leaf. Well, [name], for the entire season never looked up. And finally, at the last class, he looks up and he touches the leaf, and rather than just giving him that praise she said, "[Name], finally you've noticed something." I thought, well great … thanks for that… she pissed me off. I just thought, you know, how about we just celebrate him and what he did, rather she just focused on "all year you've been a bad boy … you didn't, you know, meet the expectations"."

Questionable attitudes and an overall false sense of support were also perceived when the initial welcoming attitudes of those within the activity environment depreciated to negativity as desired outcomes were not being achieved. In other words, inclusion was advocated for, however

only if the aesthetic of programs was not disrupted and normative expectations can be fulfilled. Theresa referred to her son's participation in a dance program where inclusivity was endorsed in practice, but when it came to the big show, other ideas prevailed:

> "He was in jazz ballet and he loved it. But I could see a lot of kids were like…because he wasn't doing it the right way, or you know...the motor planning was off. But he had a great time … he really, really loved it. But, as it got more serious as they got older, they were like "This is not going to work out for our show", or "Our recital is not perfect" …so, everyone says that they want to be supportive until their ballet recital isn't perfect."

Similarly, Maya questioned the support of parents in more structured sport programs stating that: "other parents don't want your child to be in the program because they might take their child down or their child's team might not win." These attitudes were expressed as a substantial barrier to future engagement in such activities.

**A lack of reciprocal communication.** The second subtheme to the larger theme of 'experiences of exclusion' was the lack of reciprocal communication believed to transpire between instructors and parents. This was highlighted through parental comments related to instructors' reluctance, and even rigidity, to incorporate parental recommendations into their instructional practice, thus reflecting a position of exclusion and authority. Describing her son's equine program, Monica highlighted her disappointment and frustration with the instructor not being receptive to her comments. The instructor's lack of regard for her insight and knowledge created a perception of expertism, and that external input was neither required nor welcomed:

> "… you know one thing I have learned is that every parent to a typical developing child or to a non-typically developing child, you are your child's best expert. You know your kid better than anyone else I believe, and she [the instructor] never was very receptive to any suggestions or observations that I would make. Cause then, the volunteers would always hold my son's back. And when [name] feels something against him, his natural response is to push back. So he would lay back on the horse, and the instructor would get frustrated by him laying backwards on the horse … If people would just stop touching his back, he won't do that."

A lack of reciprocal communication was also represented through the lack of knowledge transferred from instructors facilitating physical literacy development for children labelled with ASD, and who have a working knowledge of the concept, to those without such knowledge (e.g., parents). As a result, parents possessed ambiguous feelings about the inclusivity of physical literacy for their children, and their ability to support its development. Despite her son being actively involved in programs emphasizing physical literacy development, and having several conversations with instructors, Shirley was quite surprised to hear herself state: "It's actually not a concept that I have heard a whole lot about … I don't have anyone in my own personal life that talks to me about physical literacy."

Parents expressed that information on physical literacy and its development for children labelled with ASD was a necessity given that they are the ones who spend the most time with their children. However, Donna conveyed displeasure in that this information has yet to be translated into strategies that can be put into practice by individuals who are primarily responsible for fostering a child's development. As such, the concept is portrayed as one that is exclusive to a select group of individuals:

> "No one is actually translating that information to the people who can make a difference. It has to translate and trickle down to me. We are talking academic to academic, we are talking professional to professional, teachers to teachers…sometimes professionals to teachers, and sometimes academics to teachers, which is great, but is that information making its way to parents…NO!"

Increasing an awareness of physical literacy and its finer points was also considered as important to provide piece of mind to parents currently encouraging physical activity for their children, and to enhance future opportunities for development. According to Maya:

> "It would be beneficial for somebody to maybe point out what I was already doing was that? Right? So, that I could identify it more. Because I

> think even now talking to you I might even be more aware of it in the future. So to have that conversation would be great, because once a parent is made aware of it they may try encourage it more."

**Value Without Question**

Despite varying perspectives on how physical literacy is interpreted and understood, and the off-putting experiences parents have endured as a result of programs that claimed inclusiveness, all parents believed that physical literacy development held value for their children labelled with ASD for a number of reasons. For example, participants expressed value in physical literacy development for their child because it has implications for the family unit as a whole. Shirley indicated that her son's development of physical literacy provided "a positive bonding experience", allowing for collective participation in activity by all family members. Donna echoed this sentiment, directing attention to how her son's physical literacy development contributes to her family's ability to play together and enjoy each other more. Essentially, she stated that as he develops, more opportunities are created to experience new activity as a family:

> "We play a lot. We play a lot, and I wish I could explain to people how that has been the key to our relationship as a family unit. Like it's…physical activity is fun, right? It's really fun to do, so we do it together all the time…it's the most valuable time we spend as a family."

Susan placed value on physical literacy development for her son as a means to improving the collective engagement in her preferred activities. As such, there exists a reciprocal benefit to her son's physical literacy development. Specifically, she illustrated that enjoyment was heightened simply knowing that her son could participate alongside her and her husband in the activities they do as parents. She stated: "… it (physical activity) is part of our life. It's like that's just what we do, so we obviously wanted to incorporate having our children doing the same thing that we do as parents." Monica valued her son's physical literacy development because it

allowed her to discover new and interesting things about her son. She expressed, “learning how he expresses his likes and his dislikes enables me to get to know him even better”.

Parents also valued physical literacy development because it opened up additional opportunities for their children to engage alongside peers of similar age. Theresa mentioned that such development adds to her son’s comfort level, providing him with a level of “self-esteem” that contributes to his confidence to engage with friends. Maya noted that her son’s development allowed him to “ride a bike to school with his friends.”

Finally, parents valued physical literacy development because it fulfills physiological and psychological needs, benefiting overall well-being. Donna expressed that, “the running and the jumping was serving some sort of parasympathetic purpose just because when we took that element away, we noticed major changes both physiologically and in his demeanour”. Additionally, she added that such development contributed to her son’s overall health given that he has selective eating habits, which consist of foods that are unhealthy:

> “What I found is his body composition it’s been a saving grace…because his diet is terrible. If he was not so physically active, we would have a major calorie intake problem because the foods that chooses are so unhealthy. So that seems to also allow us to keep things in-check, hoping to curb off that terrifying 33% obesity rate that autistic people deal with.”

Monica added that physical literacy development assisted her son in establishing deeper connections to his surrounding world; essentially, providing him with new embodied experiences:

> “ … it’s not just the actual physical activity itself – it’s all those other little steps and things that he touches, sees, smells … those are all learning opportunities for him … so I guess it’s just learning about kind of the whole world around him, and what these things all are.”

Finally, Maya valued physical literacy development as a need suggesting that it prepares her son for what is to come in the future when his family circumstances change. She expressed,

"the value for him is that he is learning these things (skills) and hopefully going to … we're setting him up to be doing this (engaging in physical activity) when we're not there."

## Discussion

The purpose of this investigation was to explore how parents of children labelled with ASD understand physical literacy for their children. Findings illustrated that parents' understandings of physical literacy for their children varied, both in comparison to dominant conceptualizations of physical literacy and from person to person. Findings also demonstrated that although parents value physical literacy for their children, their experiences depict the current application and operationalization of physical literacy as exclusionary. Finally, parents' believed that physical activity programs do not require an emphasis on 'physical literacy' development. Instead, all opportunities to be physically active, those that address the child's needs, abilities, and interests, are more important in facilitating the physical literacy development in their children. Understandings of physical literacy for children labelled with ASD were constructed through engaging in different levels of, and negotiating the interactions between the various environmental systems. These included: parental involvement and the support of others within the physical activity environment (*microsystem*), parental interactions with physical activity facilitators or instructors (*mesosystem*), information acquired through parents' social network (*exosystem*), and the barriers that parents have encountered in attempting to facilitate experiences for their children (*macrosystem*).

The current findings provide some support for the philosophical ideas underscoring physical literacy. Whitehead's (2010, 2013) philosophy that physical literacy is unique to each and every individual is supported through the understandings and values that parents have of physical literacy for their children. Moreover, Almond and Whitehead's (2012) idea of "pedagogical sensitivity" with respect to practices catering to individualized needs is consistent

with findings associated with parents' suggestions for flexibility regarding approaches to physical literacy development. However, the current findings more readily highlight the differences between physical literacy as it is currently conceptualized and operationalized inside and outside of the context of disability. For example, parents' understandings of physical literacy reflect only two (i.e., physical and affective) of the four foundational elements as defined within the Canada's Physical Literacy Consensus Statement (Canadian Sport for Life, 2015), and include a social component that is absent within the consensus. Furthermore, interpretations of these elements indicate that physical literacy is understood according to the needs, abilities, and interests of particular individuals rather than to a single conceptualization.

Disregard or perhaps a lack of parental awareness, for the remaining two elements (e.g. cognitive and behavioural) also indicates difference between parental understanding of physical literacy for their children and the dominant conceptualization of the concept. Understanding lacking in these elements aligns with previous research in the area of adapted physical activity. Regarding the cognitive element, research has indicated that understanding and awareness of physical activity and its associated features can prove difficult for children experiencing disability (Smith, 2004; Smith & Green, 2004). As for the behavioural element, findings of the current illustrate that parents assume the majority of the responsibility for their child's engagement in physical activity, and thus their physical literacy development. These results support literature describing the hidden parental labour practices in physical activity for individuals experiencing disability (Hodge & Runswick-Cole, 2013; Goodwin, 2017). They are those extra efforts (i.e., preparing the child for participation, locating appropriate services, organizing supports, educating physical activity staff, etc.) required for individuals experience disability to participate in physical activity (Goodwin, 2017). Findings also support previous

research on parental influence on physical activity for children experiencing disability (Beets, et al., 2010; Martin & Choi, 2009; Siebert, et al., 2017), where parental support of their child's engagement of physical activity is an essential element of the child's ongoing participation. This reliance on parents to facilitate and support physical activity experiences of their children is indicative of difference between how physical literacy is currently conceptualized relative to how the concept is understood for children labelled with ASD. As a result of these differences, we can begin to question if current understandings of physical literacy are as inclusive as they claim to be.

Parents' understandings of physical literacy as not accessible or inclusive to their children provide support to Goodwin's (2016) claim that exclusion is the product of the discrepancies between how the physical literacy is conceptualized and the practices that facilitate its development. The findings of this study highlight these discrepancies with parents encountering more non-adapted approaches to programming in the programs they enrol their children into. Programs that are not modified according to the unique capabilities of children reflect the dominant conceptualized vision of physical literacy development where comparison is made to generalized and normative ability, thus reinforcing the notion of ableness. Moreover, these approaches incorporate activities focused on performance (Coates, 2011), which exclude individuals with embodiment not representative of such ability, and often lead to further marginalization in the process (Goodwin & Peers, 2011; Spencer-Cavaliere, Thai, & Kingsley, 2017). As a result, physical literacy development for children labelled with ASD may be challenging as a result of having to overcome structural programming barriers.

Parents' experiences of encountering negative attitudes in the physical activity environment also contributed to the idea of physical literacy as inaccessible. Negative attitudes in

the form of instructors perceiving children as different or problematic, as well as those who rigidly approached instruction without a willingness to accept parents' recommendations, were illustrated. While not specific to programs emphasizing physical literacy development, these findings support previous research in adapted physical activity that suggest negative attitudes can hinder engagement in physical activity pursuits (Ayvazoglu, Kozub, Butera, & Murray, 2015; Obrusnikova & Cavalier, 2011; Obrusnikova & Miccinello, 2012). Moreover, parents' encounters with negative attitudes within the activity environment based on a child's ability and/or label reflect a level of ableism, placing certain abilities over others (Campbell, 2009; Hodge & Runswick-Cole, 2013). Parents' experiences of conversations, or a lack thereof, with instructors on the topic of their child's physical literacy development also contributed to the perceived notion of physical literacy being an exclusive concept. Findings illustrated this exclusion through parents' limited descriptions and awareness of physical literacy.

Despite the rapid adoption of physical literacy into practice (Corbin, 2016), empirical research on the concept has been predominantly devoted to assessment and measurement (Dudley, Kriellaars, & Cairney, 2016; Longmuir et al., 2015; Sum et al., 2016). Research dedicated to understanding the meanings behind physical literacy according to varying perspectives has yet to be considered. Findings from this study provide rationale for evaluating our current practices and determining if they truly align with the physical literacy philosophy that has been adopted.

**Limitations**

There were two main limitations to this study. First, the sample was limited to mothers whose children were labelled with ASD and between the ages of 7 and 12 years. Although the experiences from the current participants should not be undervalued, further research with fathers of children labelled with ASD may contribute to deeper understanding of parents'

perspectives. Additionally, given that physical literacy is thought to be a lifelong pursuit, expanding this sample to include parents of children who are both younger and older may offer some additional insight into how physical literacy is experienced at various stages of the lifespan. Second, despite knowledge of programs emphasizing physical literacy development in other Canadian cities, the current study's recruitment efforts were constrained to parents whose children took part in programs from a single Canadian city. As such, the findings may not be representative of parents whose children participate in programs in different geographical locations.

**Conclusion**

This study explored the meaning and understandings of physical literacy according to the perspectives of parents of children labelled with ASD. Findings suggest that despite participating in programs emphasizing physical literacy, parents held varying understandings of what physical literacy represents in comparison to its dominant conceptualization, and from one person to the next. Additionally, parents believed that individualized opportunities for activity engagement contributed more to their child's physical literacy development than current practices emphasizing physical literacy, which were not considered inclusive of their children as a result of the previous experiences they encountered. These findings, not only suggest that physical literacy has a long way to go to being recognized as inclusive of children labelled with ASD, but also reveal the ableism underlying current physical literacy practice. The discrepancies that exist between how physical literacy is understood and how it exists in practice highlight the need to further evaluate the approaches taken to facilitate the development of physical literacy for children experiencing disability, and specifically those labelled with ASD.

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Table 4.1 – Descriptive and demographic representation of Study 2 participants

| Name | Gender (M/F) | Age (years) | Marital Status | Age of Child Labelled with ASD (years) | Other Children in Home | Years of Participation in APA Programs |
|---|---|---|---|---|---|---|
| **Shirley** | F | 53 | Married | 10 | No | 3 |
| **Susan** | F | 46 | Married | 10 | Yes (1, 12 years) | 8 |
| **Monica** | F | 46 | Single | 7 | No | 3 |
| **Maya** | F | 30 | Married | 7 | No | 4.5 |
| **Donna** | F | 36 | Married | 7 | Yes (1, 4.5 years) | 3 |
| **Theresa** | F | 47 | Common-Law | 8 | No | 1 |

Table 4.2. Table of Results – Study 2

| **Superordinate Theme** | **Subtheme** |
|---|---|
| 1. It's Different for my Kid | a. A consensus … not exactly<br>b. Hidden labour<br>c. Flexibility over focus |
| 2. Experiences of Exclusion | a. A false sense of inclusion and support<br>b. A lack of reciprocal communication |
| 3. Value without Question | |

# CHAPTER 5

## Study 3

## Exploring the unknown: Understandings of physical literacy for children labelled with autism spectrum disorder (ASD) according to community-based adapted physical activity practitioners

Over the past decade, physical literacy has been increasingly promoted within the fields of physical activity, education, sport and recreation. Defined as "the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life" (Whitehead, 2017, n.p.), physical literacy is derived from the opportunities presented for capitalizing on one's unique embodied capability (Whitehead, 2013). When exercised, this capability leads to the nurturing of a positive attitude toward one's movement potential and further motivation to interact with the surrounding environment. As more interaction takes place, there is increased opportunity to establish competence, and subsequently, more motivation to continue engagement; the cycle between motivation, interaction with the surrounding environment, and competence development is continuous (Whitehead, 2010, 2013). The possibility of improved health and wellbeing through the development of physical literacy has excited many, including practitioners and policy makers, who have rapidly grasped onto this concept to advance their interest in increasing levels of physical activity for all despite level of ability (Corbin, 2016; Jurbala, 2015).

Enthusiasm for physical literacy in Canada has led to the creation of Canada's Physical Literacy Consensus Statement (Canadian Sport for Life, CS4L, 2015). Adopting Whitehead's philosophy, the statement serves as a model that clarifies the defining characteristics of physical literacy and how physical literacy is developed (Corbin, 2016). Here, physical literacy is characterized by four essential elements: (1) motivation and confidence (affective developmental domain); (2) physical competence (physical developmental domain); (3) knowledge and understanding (cognitive developmental domain), and; (4) engagement in physical activities for life (behavioural developmental domain). Based on the claim that physical literacy is important for everyone (i.e., is inclusive of all) (CS4L, 2015), several organizations (including many that

provide services to children experiencing disability) have adopted this statement and use it as a foundation for their programs. However, this consensus is the result of a collaborative process among organizations that are not specifically representative of children experiencing disability (see CS4L [2015] for a list of contributors). In other words, programs emphasizing physical literacy development for children experiencing disability are based upon an ableistic structure reflective of the general population and normalized patterns of development (Goodwin, 2016), and thus the creation of meaningful connections to purposeful physical pursuits and the motivation to engage in future physical activities may be compromised for them.

Vickerman and DePauw (2010) indicate that individuals experiencing disability possess a wide range of personal and specific needs, interests, and capabilities that have enormous complexity and diversity. Therefore, it is reasonable to assume that physical literacy for those experiencing disability may have a different meaning, comprising different components, or develop through a different process than those who do not experience disability. It is not reasonable, on the other hand, to discuss and promote a concept emphasizing individual expression and based upon one's unique embodied potential (Vickerman & DePauw, 2010; Whitehead, 2013, 2010), while not considering or accommodating the different life experiences and involvement potentials of those experiencing disability. Does physical literacy mean something different for individuals experiencing disability? Is physical literacy developed differently for these individuals? If so, should planning and programming not reflect this? These questions have not yet been investigated through research, reflecting a lack of understanding about the degree to which the current conceptualization and implementation of physical literacy is relevant for, or reflective of, children experiencing disability. Answers to these questions are essential for fostering the operationalization of this concept that centres on the idea of an

individual using their embodied potential to the best of their ability. The overall purpose of this investigation was to explore the meaning and general understandings of physical literacy, as it is understood within the context of disability. Specifically, the research was designed to investigate the meaning and understandings of physical literacy as perceived by individuals who facilitate physical activity experiences for children with a label of ASD outside the educational context.

**Autism Spectrum Disorder**

Although physical literacy is considered to be inclusive of all, this study focuses on children labelled with autism spectrum disorder (ASD)[7]. ASD is a developmental impairment characterized by varying degrees of impairment in communication and language, social interaction, and behaviour (Centers for Disease Control and Prevention, 2016). According to Autism Speaks Canada (2016), ASD is the fastest growing and most commonly identified developmental impairment in Canada with an approximate prevalence rate of 1 in 68 people (Christensen et al., 2016). This rate equates to almost 2% of the national population (Centers for Disease Control and Prevention, 2016), and is thought to have increased by 10 to 17 percent annually in recent years (Autism Speaks Canada, 2016).

Children labelled with ASD represent a distinct population in comparison to children labelled with other developmental disorders given the observable differences in social and behavioural functioning, and their predisposition to motor difficulties (Green, et al., 2009; Must, Phillips, Curtin, & Bandini, 2015; Pan & Frey, 2006). These variations may bring about programmatic and environmental challenges (Curtin, Jojic, & Bandini, 2014; Pfieffer et al., 2017), resulting in fewer quality opportunities for activity engagement and feelings of

[7] To align ASD to a social model of disability, where disability and impairment are not synonymous, and impairment does not automatically equate to nonnormative biological function, the phrase "labelled with ASD" was used. This replacement was thought to encompass the "social structures, attitudes and relations that disable classes of people, not on the impairments of individuals" (Peers, Spencer-Cavaliere, & Eales, 2014, p. 273).

inadequacy within the activity setting (Healy, Msetfi, & Gallagher, 2013; Must et al., 2015; Obrusnikova & Cavalier, 2011). This may hinder the attainment of health benefits associated with regular engagement in physical activity and the overall development of physical literacy.

Because physical literacy develops both within and outside of the context of the education system (Dudley, 2015; McKee, Breslin, Haughey, & Donnelly, 2013; Temertzoglou, 2010) to gain a full understanding of physical literacy for children labelled with ASD, it is necessary to consider the perspectives of key individuals involved in facilitating their physical activity in a variety of contexts. This includes individuals who provide opportunities to be physically active in extra-curricular programs outside of schools. The provision of physical activity opportunities for children labelled with ASD may require additional supports, such as specific teaching and communication strategies and activity modifications that may include alterations to the environment, method of instruction, and the task itself (Menear & Neumeier, 2015; Reid, 2003; Yanardag, Yilmaz, & Aras, 2010). Most general physical activity specialists do not believe that they possess a knowledge base conducive to making these adjustments (Block & Obrusnikova, 2007; Rimmer & Rowland, 2008), and as a result fewer opportunities to participate in physical activity are afforded to children labelled with ASD (Pan & Frey, 2006). This may ultimately affect the perception of accessibility that a child has of physical activity, which can result in their decreased participation.

Adapted physical activity practitioners are thought to possess an understanding of the modifications required to create contexts appropriate to the needs of children experiencing disability. Through these contexts, the creation of opportunities for meaningful participation is increased, thus enhancing the potential for physical literacy development. Therefore, adapted physical activity practitioners were targeted for this investigation.

**Conceptual Framework**

Jurbala (2015) suggests that physical literacy cannot be understood by a simple summation of its static individual elements (i.e., motivation, confidence, physical competence, knowledge and understanding), but rather through the ongoing process of interactions between these elements existing as a product of one's experiences with the physical world. A theoretical framework specific to the study of interactions was used to provide methodological foundation for this investigation. Specifically, this framework served to guide the creation of the research question, the creation of the interview guide, and as a context for data analysis and interpretation.

Bronfenbrenner's (1979, 1992) ecological systems theory (EST) was used to investigate the meaning of physical literacy from the perspectives of adapted physical activity practitioners of children labelled with ASD. EST is a view of human development based upon the dynamic interplay between the organism and their environment (Gabbard & Krebs, 2012), and is organized into five environmental levels that mediate organismic-environmental interaction: *microsystem*, *mesosystem*, *exosystem*, *macrosystem*, and *chronosystem*. Each individual system contains a set of influences that may either positively or negatively affect development. The *microsystem* involves the relationships between the individual and their immediate environment (e.g., parent, siblings, peers, teachers, etc.), and has the most immediate and impactful influence as a result of face-to-face interaction (Gabbard & Krebs, 2012; Huit, 2012). The *mesosystem* contains the interactions between an individual's microsystems (e.g., the child's family, school, and neighbourhood). The *exosystem* involves links between a social setting that the individual does not possess an active role in and some structure within an individual's microsystem (i.e., parents) (Berk, 2013). Examples of structures within the exosystem might include a parent's workplace or friends, the media outlets an individual is exposed to, or the community-based resources that can be accessed. The *macrosystem* can be thought of as a societal blueprint for a

particular culture, subculture, or other broad context (Bronfenbrenner, 1992). Finally, the *chronosystem* "encompasses the dimension of time as it relates to an individual's environment" (Paquette & Ryan, 2001, n.p.). It is comprised of major life transitions and environmental events that transpire over the course of development, including major socio-historical events. EST was chosen as a framework for this investigation because environmental influences, both proximal (i.e., physical environment, attitudes, means of support) and distal (i.e., society and culture) can play a role in a child's development of physical literacy, as well as impact the roles that are assumed by individuals who facilitate opportunities to engage in physical activity development.

## Method

In order to explore the meaning and understandings that adapted physical activity practitioners ascribe to the concept of physical literacy for children labelled with ASD, the research approach of interpretative phenomenological analysis (IPA) was utilized. According to Smith, Flowers, and Larkin (2009), IPA is "concerned with understanding personal lived experience and thus with exploring persons' relatedness to, or involvement in, a particular event or process [phenomenon]" (p. 40). IPA is informed by three key positions: phenomenology, hermeneutics, and idiography (Smith et al., 2009). Phenomenology is concerned with attending to the way things appear to individuals in their experience. It aims at identifying the essential components of a phenomena or experience that makes them exclusive or distinctive from others (Pietkiewicz & Smith, 2014). Hermeneutics is the study of interpretation and meaning (Shinebourne, 2011). Essentially, the researcher attempts to understand the meaning that the participant has made of their experience, and makes meaning based upon this understanding. Finally, idiography includes detail, analysis and development of understanding of the particular (Smith et al., 2009). Within IPA research, each participant undergoes extensive analysis so as to ensure a sense of value with respect to his or her diverse and/or variable experience (Eatough &

Smith, 2017), prior to moving onto a more general cross-case analysis for convergence and divergence across cases (Smith et al., 2009). This type of method was considered appropriate given the purpose was to examine how the participants understand the concept of physical literacy. With the approval from the Institutional Review Board at a supporting institution, informed consent was obtained from all participants. Pseudonyms were used to protect their identity and confidentiality.

**Study Context**

The participants for this study were recruited from a not-for-profit, disability-specific, community-based physical activity and fitness centre located within a large Canadian University. Several programs are offered at this centre, including one that is designed to support children between the ages of 4 and 19 years who have been labelled with developmental disabilities. Focusing on the development of skills and knowledge towards health and wellness, while facilitating autonomy and independence in a fun and social environment, this program emphasizes physical literacy development according to the first three stages (Active Start, FUNdamentals, and Learning to Train) of the Long-Term Athlete Development Model (LTAD) developed by Canadian Sport for Life (CS4L, 2016). These stages stress fundamental movement and skill acquisition according to normative data based on the general population of typically developing children. To date, Canadian Sport for Life serves as the dominant paradigm from which programs in physical education and sport are developed in Canada, and is considered to be one of the largest contributors to Canada's Physical Literacy Consensus Statement (CS4L, 2015).

**Participants**

Purposeful, criterion-referenced sampling was utilized for this study enabling the selection of "information-rich" (Patton, 2002, p. 242) research participants, and permitting effective, in-depth exploration and understanding of a central phenomenon (Creswell, 2012).

Smith and colleagues (2009) suggest that this procedure ensures a desired level of homogeneity essential for determining meaningfulness with respect to the research question. Despite efforts to recruit participants from multiple programs within a relatively large Canadian city, all participants (two male and four female) were practitioners from a single program at a single location (see Study Context for description of program). Participants were practitioners who: (1) provided community-based adapted physical activity instruction to individuals labelled with ASD between the ages of 7 and 12 years over the past 24 months; (2) had held the role of instructor/physical activity leader for a period of 6 months or greater; and (3) possessed some knowledge of the concept of physical literacy based on their involvement in programs emphasizing physical literacy development. The age range of 7 to 12 years was selected because children labelled with ASD falling within this range are the most susceptible to activity decline (Bandini et al., 2013; Gregor et al., 2018, Must, et al., 2015; Pitetti, Rendoff, Grover, & Beets, 2007). In targeting this age range, it was believed that the perspectives acquired might provide insight into how programming can be formatted to better meet the needs of the children, setting them up for success later in life. Instruction over the past 24 months was chosen because it was believed to be a timeframe that practitioners could accurately recall and reflect on experiences instructing children labelled with autism spectrum disorder; instruction beyond the 24-month window was considered to be too far removed for the purpose of the investigation. The second criterion, that of 6 consecutive months as an instructor/physical activity leader, was chosen as it was considered as a sufficient amount of time to become accustomed to a program and its participants, thus allowing for the articulation of a point of view on instructing children labelled with autism spectrum disorder. The final criterion was based on the assumption that practitioners who had instructed within a program framed upon physical literacy development would be able

to articulate perspectives on the concept of physical literacy. The average age of the participant group was 27 years (range: 22 to 35 years), while the average number of years spent at the organization was 3.9 years (range: .5 to 6.5 years). Four participants were employees of the organization, while the remaining two were volunteer-instructors. Four out of the six participants possessed other professional experience working with children labelled with ASD (e.g., respite care worker, educational assistant, Special Olympics coach, etc.). Pseudonyms were assigned to the participants to protect their identities. Table 5.1 provides detailed descriptive and demographic information about each participant.

**Data Collection**

Data were collected through three means: face-to-face, audio-recorded, semi-structured interviews, reflective field notes, and reflexive journaling. The semi-structured interviews followed an interview guide (see Appendix J) that was informed by the research focus and conceptual framework, and developed to ensure that the same basic lines of inquiry were pursued across participants (Patton, 2002). Experts in qualitative research reviewed the interview guide (Sparkes & Smith, 2014) to ensure the conceptual and methodological framework was represented, and that the questions provided data contributing to fulfilling the research objectives. Revisions to the original interview guide were made based on the recommendations of the qualitative research experts. Additionally, because the process of analysis was ongoing (i.e., data were analyzed as they were collected), revisions to the interview guide were ongoing to ensure the research question was being addressed.

A total of 13 interviews took place across the six participants. The first three participants participated in an initial interview, and two follow-up interviews. The fourth participant participated in an initial interview, and a single follow-up interview. The final two participants participated in a single interview. Follow-up interviews were conducted between one and ten

months after the initial interviews took place. Initial interviews focused on acquiring general perspectives on physical activity for children labelled with ASD, general understandings of physical literacy, and understandings of physical literacy specifically for children labelled with ASD. The first set of follow-up interviews for participants one through three focused on clarifying information from previous interviews. The second set of follow-up interviews for participants one through four included additional questions derived from information provided by the final two participants. Essentially, the researchers were curious to know if similar experiences existed on behalf of all participants involved in the study, thus an additional follow-up interview with the first four participants was held. Initial interviews lasted between 50 and 75 minutes (on average 59 minutes), with follow-up interviews lasting between 10 and 45 minutes (on average 20 minutes). Following transcription of interviews, an opportunity was provided for member reflections (Smith & McGannon, 2017; Tracy 2010). Specifically, participants were sent a copy of their transcript(s) to review via email, and asked to verify, change, or add to the transcript(s) so as to highlight their experiences in response to the questions.

Following each interview, reflective field notes were recorded. These notes included the interviewer's reflections on what participants discussed, thoughts about the conversation, and considerations of potential emerging themes. Reflective field note taking is thought to allow the researcher to conceptually return to the interview setting during analysis (An & Goodwin, 2007), and ensures reflexivity (Walker, Read, & Priest, 2013). Reflexivity is the process of critical scrutiny on the "factors influencing the researcher's construction of knowledge" (Guillemin & Gillam, 2004, p. 275), including themselves and their personal principles that could affect data collection and interpretation. Reflexive journaling took place in order to ensure the researcher's

positionality, and the power dynamics between the participants and the researcher (Merriam et al., 2001), were taken into consideration over all aspects of the research process.

**Data Analysis**

Aligning with and informed by the methodological framework for the study (e.g., IPA), data analysis involved an inductive, line-by-line analysis of the interview data using Smith et al.'s (2009) six-step framework as a guide. This framework included: (1) reading and re-reading the transcripts to ensure the participant is the focus of analysis; (2) initial noting of points of interest ensuring identification of particular issues within the transcript; (3) developing emergent themes to reduce the volume of detail and map out interrelationships and patterns within the data; (4) searching for connections across emergent themes producing a structure that captures the most interesting points of participant's accounts; (5) before moving to the next case, bracketing ideas as to not disrupt the idiographic commitment made thus allowing for additional themes to emerge; and (6) looking for patterns across cases, identifying the most important themes and sub-themes of the collective group. As the researcher plays an integral role in data analysis within IPA, reflective field notes the researcher's reflexive journal were compared to each participant's interview data independently, as to help shape idiographic themes. Similar to the interview transcripts, member reflections of the interpreted themes were conducted via email to provide an opportunity for the participants to add and/or change information, or to engage in discussion regarding the interpretations. Once participants were satisfied with interpretations, patterns were sought across participants. Recurring themes were shared with and discussed among the authorship team until agreement was reached. The agreed-upon themes were summarized and presented as results.

**Trustworthiness**

The quality of the research was demonstrated through four criteria: (1) sensitivity to context, (2) commitment and rigor, (3) transparency and coherence, and (4) impact and importance (Smith, et al., 2009; Yardley, 2000). These criteria fulfill "a means by which to demonstrate integrity, competence, and legitimacy of the research process and findings" (Zitomer & Goodwin, 2014, p. 194).

Sensitivity to context was provided through demonstrating a theoretical, philosophical, and methodological awareness of the research process (Yardley, 2000). This awareness included sensitivity to relevant literature and previous work using similar theoretical and philosophical structures, an awareness of the balance of power existing through the investigative process, the use of purposeful sampling, provision of thick description to highlight contextual meanings, and sensitivity to the raw material thus adhering to the idiographic commitment made to each participant (Smith et al, 2009, Yardley, 2000; Zitomer & Goodwin, 2014). Commitment and rigor were demonstrated through the incorporation of member reflections. Member reflections included the provision of opportunity for the participants to ask questions, and/or add or change information. These occurred at two distinct points of the research process: upon transcription of the face-to-face interview and upon completion of idiographic data analysis. Transparency and coherence was demonstrated through the process of reflexivity (Yardley, 2000; Zitomer & Goodwin, 2014). Thick description and a reflexive journal were used to highlight thoughts and feelings that unfolded throughout the course of the research process (Morrow, 2005; Tracy, 2010). Transparency was also established through the aforementioned process of triangulation (Reid, Flowers, & Larkin, 2005). Coherence was provided through ensuring theoretical assumptions were adhered to throughout the research process (Smith et al, 2009; Yardley, 2000). Impact and importance are determined by what the reader considers as important and what they

do with results of the study. The study in question aimed to understand of a particular phenomenon (i.e., physical literacy), thereby creating a context for deeper exploration and further application.

## Results

As Bronfenbrenner's (1979, 1992) EST highlights the dynamism and complexity of human development as a function of interactions between an organism and its environment, it was continually returned to as a context from which to interpret and analyze the data. From the data, two themes and several subthemes emerged and represented the understanding that community-based adapted physical activity practitioners have in regards to physical literacy for children labelled with ASD (See Table 5.2). Participants' words are used to exemplify themes and subthemes, and capture the essence of practitioners' experiences.

### Reflections of a Dominant Paradigm

The first theme of 'reflections of a dominant paradigm' signifies that physical literacy, as conceptualized within Canada's dominant, sport-based paradigm, served as the foundation of understanding for community-based, adapted physical activity practitioners. Within this theme, two subthemes emerged from the data: (a) an inherited understanding, and (b) emphasis on the 'physical'.

**An inherited understanding.** This subtheme highlighted that practitioners' understandings of physical literacy are indicative of the particular perspectives that they have been exposed to, primarily by individuals in positions of authority who either study, research, or employ it in their practice themselves. Specifically, understandings were formulated as a result of educational experiences and mandatory organizational training (exosystem and macrosystem effects). Samantha, an employee of the program stated, "I first learned about the concept though my university schooling". Rachel, a volunteer practitioner with an undergraduate degree in

physical education provided a similar response suggesting, “I think it’s talked about quite often in adapted courses in university, so I came across it quite often there.” Andrea, both an employee and a volunteer, indicated that she[8] has encountered the term often throughout her physical education experiences, so much so that it has become a standard term of use. This continued exposure to the concept, and its varying interpretations of it, has shaped her understanding of physical literacy:

> “I think that although it is a pretty standard term and, you know my classes and things like that, I have heard different educators use and define it in different ways. I’ve heard it being explained as, more so, just the understanding of physical concepts and the overall embodiment of physical activity regardless of what that looks like … I think that’s probably where I’ve learned a lot of what I believe to be physical literacy.”

Knowledge of physical literacy was also derived from attending conferences where experts in the field of physical education, recreation and sport passed down their interpretations of the concept. Beth, a relatively new employee acquired an exposure to the concept through a practical training session. She expressed that she “first heard about it though Motivate Canada, a 3-day training conference session. Here, [name] and [name] came in and taught us about physical literacy and specifically about the PLAY tool physical literacy assessment for youth.” Patrick, a long-term employee, thought it was difficult to pinpoint where he had encountered the term, given that he was an avid reader of journal articles where physical literacy was a topic of discussion and had attended “several conferences where physical literacy has been a major theme.”

Organizational training was the second way that knowledge and understanding of physical literacy were acquired. Martin, a volunteer practitioner for over four years, indicated

[8] As a result of parents self-identifying as a particular gender (see Appendix B, p. 237), gender-specific language was used to highlight participant comments.

that his knowledge of physical literacy is fairly one-dimensional as he has not encountered it beyond the organization he volunteers in. As such, his understanding has been derived from a single source: via the supervisory team in the organization he volunteered in. He voiced, "… we usually get it taught to us in the orientations for the programs that I participate in." Samantha, a supervisor within the organization, confirmed that all employees and volunteers are trained similarly, according to what has been adopted by the organization as a whole. She indicated that the training serves the purpose of reinforcing the organization's commitment to the development of children labelled with ASD:

> "A lot of our training when we do train our students and volunteers, or even if I do the fundamental movement skills, like the NCCP-FMS course, we talk a lot about physical literacy and the importance of it and why we, we're working towards it. Because it helps towards like life long skills and being active for life and things like that."

Patrick elaborated on this program, describing how his own knowledge and understanding of physical literacy for children labelled with ASD was enhanced, and how he was better prepared on how to engage in practice through his involvement with the organization's training protocols:

> "The NCCP-FMS course summarizes the CS4L model and talks about active start, fundamentals, learn to train, etcetera but mainly focuses on the fundamentals stage. The course breaks down different movement skills like running, jumping, throwing and hopping. This course also gave me a better understanding of assessing movement skills and the three stages of maturity."

He further stated this course is fundamental to their organization as a whole, providing an essential element of consistency from program leader to practitioner.

**Emphasis on the 'physical'.** Although practitioners recognized that four developmental domains exist with respect to conceptualizations of physical literacy, and ultimately play a role in its development, the physical domain was most evident in participant responses when asked to describe it. Particularly, participants described physical literacy through motor skill acquisition

and the improvement of overall movement ability; characteristics emphasized through the dominant, sport-based paradigms in Canada (macrosystem). Patrick reiterated a position held by Canadian Sport for Life that directly compares motor skills to the foundations of literacy, stating these skills were foundational, serving as the basis for future engagement in physical activity:

> "Physical literacy is like learning how to read and write where you first learn the alphabet - the A, B and C's. With physical literacy, your ABC's are learning basic movement skills like running, jumping, hopping and skipping….So physical literacy is working on those building blocks, starting off with balance and coordination then you have your running, jumping, skipping, then more complex combination of skills that lead to different activity modes such as completing an obstacle course or participating in general sport which could lead to more competent sport specific skills. These skills support a range of physical movement from recreational capabilities to becoming an athlete."

Likewise, other practitioners deemed skill acquisition to have important foundational qualities. Beth suggested that skills provided increased opportunity to "know how to move, or do different movements in order to play almost any game or sport, in any environment." Elaborating further, she emphasized how by simply encouraging skill development above all else, children would be better prepared to participate in physical activity beyond the physical activity setting she was a direct part of:

> "We want them to be able to more easily know how to run, walk, skip, oh my gosh, all of the different physical literacy tools and like especially the fundamental movement skills so that if they you know work on stair climbing or running or jumping in our centre then that translates to like the home and the gym."

Similar to the others, Martin claimed that motor skill acquisition fostered a sense of independence and self-sufficiency providing "… the ability to self guide your physical activity". Moreover, he claimed that it was, first and foremost, a precursor to "participation in more advanced activities." Rachel, similar to Patrick, repeated the stand of the dominant paradigm and declared that movement skills serve as "the basis for informing physical literacy", thereby

providing the framework for participation "in what society offers for programming." In other words, motor skill acquisition was emphasized because it was considered to be the element of physical literacy that would make the most difference beyond the environment she was a part of. Finally, in reference to how movement skills often lead into more complicated sport skills, Samantha described how physical literacy was something to be acquired through an expanded skill set, leading to the ability to engage in more complex activities. She stated: "each small skill step taken is a step towards being physically literate."

An emphasis on the 'physical' was also demonstrated through the considerable value practitioners placed on assessing skills. Patrick indicated that assessment was valuable as it provided him with an initial indication of how competent children were with respect to their motor skills, and thus a frame of reference from which to begin teaching. Additionally, he suggested that assessment, "provides a measure of progress, or more specifically, a measure of change." Likewise, Beth suggested that assessment is used "to see where an individual is at and mark them accordingly to each skill". Martin valued skill assessment as a means of "understanding what encompasses the comprehensive ability" of each individual within the physical activity environment. As such, assessment provided critical information as to how and when skill development required adaptation.

**… But We Have to Adapt**

The second theme of '… but we have to adapt' illustrates that approaches to physical literacy development for children labelled with ASD are best described through an ongoing negotiation between the various systems that the practitioners are a part of and are influence by; specifically, the dominant sport-based paradigm (exosystem and macrosystem effects), and their own pedagogical approach to instruction dictated through best practices emphasized within the field of adapted physical activity (microsystem and mesosystem effects). Within this theme,

three subthemes emerged from the data: (a) considering difference, (b) environmental impact, and (c) just a piece of the puzzle.

**Consideration of differences.** Within this subtheme, practitioners collectively indicated that the best way to facilitate physical literacy development in children labelled with ASD was to consider the differences that make each child unique, both physically and programmatically (microsystem). Such differences were noted in program leaders' discussions of proficiency of motor skills and movement abilities. Here, it was thought that proficiency is specific to the capabilities of each individual. Perceiving proficiency to be something that is individualized, Rachel and Andrea shared an identical remark stating, "I think that physical competency looks so different for everyone". Similarly, Patrick remarked that competency is dependent on one's embodied capability: "It [motor skill proficiency] is unique to everyone, 100%. Everyone is going to have a different ability level when it comes to a certain movement or skill when using their body in time and space." In an extension of Patrick's perspective, Samantha suggested that, "to everybody, proficiency could be in different areas". In other words, all children may demonstrate a level of proficiency, however that proficiency is reflective of what each child finds interesting and how they engage in those particular things. Martin, too, held a similar view claiming that physical literacy development is "kind of person dependent". This claim was outlined succinctly in Beth's comment on proficiency reflecting a sliding scale:

> "It's a spectrum. To one person it might mean that they can complete a triathalon. To another person it might be that they can just get by in gym class and not feel like they are being pointed out or singled out for not being good at that particular game or something."

Accompanying considerations of ability were considerations of individualized need. This was highlighted through practitioners' willingness to adapt and adjust the physical activity environment as necessary. For example, in describing program structure for children labelled

with ASD, Samantha indicated that there is no definitive recipe that can be followed. Instead, she suggested that programs emphasizing physical literacy development require a level of design that satisfies the individualized needs of participants:

> Depending on where they lay on the spectrum, it (the physical activity program) will have a combination of sports skills, so maybe a little more regimented, lots of repetition but then also a little bit of time for free play or the ability to stimulate if they need to … to run away and go get hugged by a parent or something like that…"

Additionally, drawing attention to the differences in the way children learn, Martin noted the importance of altering how information is presented to participants. Specifically, he highlighted that for some, simplifying activities was a necessity as a means to having participants engage in more complex tasks:

> "I think that you can break it down a little bit for them and maybe that's something that benefits them. Maybe it's not. Maybe someone you can simplify to the absolutely basics and then they're not being overwhelmed with information, and that helps you to develop something specific and then you slowly integrate more and more leading to learning the that thing in its entirety."

Patrick and Samantha also thought that it was important to attend to the differences in the way participants learn, accentuating that the appropriate use of verbal, physical, and visual cues are key to having successful physical activity sessions.

Andrea mentioned that deviating from what was planned and being sensitive to participant needs is often necessary within the physical activity environment. Here she felt that instead of overwhelming a child further by forcing them to engage in an activity when they really did not want to, it might be better to focus on what they would be willing to do instead. Essentially, taking some form of engagement in physical activity over no engagement at all. Using a particular example, she illustrated:

> "I had a kid who was really dysregulated all day and I was getting to the point where I thought, 'I've tried all of my measures' but we just sat there and passed the ball back and forth. Did nothing of what I planned to do but at least he was still doing some type of physical, you know, activity."

Beth also drew attention to deviating from planned activities in order to prevent larger problems from arising. She stated that, "… if I see a kid getting really frustrated with a skill or something I'll just say, 'you know what, let's just play a game and then we'll go back to it'." Here, attending to the differences in how activities challenge children was thought to encourage prolonged engagement, and ultimately allow for a return to the planned activity once the frustration was alleviated.

Patrick emphasized taking an approach based upon being aware of how participants felt as they entered the physical activity environment. Specifically, he stressed that the physiological state a child is in when entering the physical activity environment is not always consistent, and being sensitive to this was a necessary pedagogical consideration for establishing a positive learning environment:

> "There are days when kids come in exhausted. And you know what? You just slow things down. You do what you can. Take longer rests for example. I think a critical piece for myself working with children especially with autism is that awareness. How are we doing today, right in this immediate instance? Because every day will present different challenges with different things that set them off."

Slowing things down and taking regular breaks was also a means by which Rachel demonstrated her flexibility within the physical activity environment.

Finally, attending to children's interests was a means by which practitioners were flexible. This was thought to be necessary as to provide experiences that children perceive positively, thus are increasingly willing to return to in the future. As highlighted in an example

provided by Beth, incorporating interests adds an element of enjoyment, ultimately increasing the meaningfulness that is attached to a particular experience:

> "Using a baseball example, it is one thing to just hit a ball and then run around the bases, but that's pretty boring for a kid who's not really interested in sports. But if you make it exciting for them by bringing in extra visuals and noises and things that they enjoy, just making any game more enjoyable and more individualistic, that's going to make them want to come back."

**Environmental impact.** Practitioners emphasized that the surrounding environment that children are in direct contact with (microsystem) plays a pivotal role in how physical literacy is developed in children labelled with ASD. Environments that accommodated participant need were perceived positively and were considered increasingly conducive to subsequent bouts of physical activity engagement, promoting the development of physical literacy. However, environments that did not address participant needs were perceived negatively, resulting in a lack of participant engagement. In discussing the physical environment, practitioners believed that an environment sensitive to the sensory needs of children labelled with ASD elicited more positive outcome. Both Beth and Samantha specifically highlighted the impact of manipulating characteristics such as noise, people, and colour in order to establish a level of comfort required by children labelled with ASD. Comfort, according to these two practitioners, leads to a child's willingness to remain within the environment, thus maximizing the opportunity for engagement. Patrick indicated these sentiments in a slightly different way indicating that being sensitive to the sensory needs of children provides "a sense of overall security", and therefore a learning climate that is welcoming to children and ultimately "appropriate for fostering physical literacy".

Beyond discussions of the physical environment, practitioners also believed that the attitudes of individuals in the activity setting had a profound impact on physical literacy development. Specifically, it was thought that attitudes reflective of a welcoming and supportive

learning climate were the most favourable to physical literacy development, and that such a learning climate should be fostered for children labelled with ASD. Samantha indicated that attitudes of "acceptance of diversity and inclusion, allowing children with autism the opportunity to come into the physical activity setting without judgment" had a positive impact, fostering the best possible experiences and the motivation to want to return to the activity setting. According to Andrea, these types of positive experiences lent themselves to the idea that the learning environment was both safe and secure, allowing for the child to feel like physical activity is something that is accessible for them regardless of what it looks like.

The provision of opportunities without restrictions, ones that children consider enjoyable, was also thought to be representative of a supportive learning climate. As expressed by Rachel, physical activity opportunities should not resemble the idea of working, because "if kids feel like it is work, it's going to be viewed as negative." According to her, increasing the negative perceptions around an activity would only contribute to a child not wanting to return to that activity, and this type of effect is the furthest from what an instructor should be aiming to accomplish. Essentially, she believed that we should be striving to allow kids the freedom to play and have fun, without having to worry about completing a task or accomplishing a goal. It is this fun that will stimulate a return to the environment, and ultimately prolonged engagement in physical activity. Agreeing with Rachel, Beth indicated that, "… one negative experience in physical activity can carry forth over a lifetime", thus a major objective of hers was to provide opportunities that coupled "having fun whilst learning".

Reflecting upon her personal experiences in the adapted physical activity context, Samantha indicated that such opportunities are best offered through the act of play as children are allowed to "experiment and try things out without someone telling them what's right or

wrong", thus eliminating the pressures of having to fulfill a criterion indicative of success. According to Beth and Andrea, play-based experiences possess an element of freedom, thus nurturing feelings of happiness and fun. These feelings, as suggested by Patrick, were thought to lead to an increased willingness to engage in the future:

> "If you're having a good time, you'll be more likely to want to repeat that motion and do it again. Or participate more readily. So the notion of fun helps to incorporate a more positive and supportive environment and that feeling of enjoyment. And tying those emotional feelings to the movement or to being physically active will hopefully make the participant want to continue being physically active."

These feelings were also thought to contribute to a child's sense of confidence and, as Andrea mentioned, the "understanding of what it means to be physically active."

**Just a piece of the puzzle.** Recognizing that physical literacy development occurs through a dynamic and collaborative process, practitioners indicated that others' perspectives were important to consider when creating an environment specific to the needs of each child (mesosystem). For example, program leaders believed that the development of physical literacy is fostered through ongoing collaboration and conversation with parents. According to Andrea, having these conversations is important as parents are thought to be their child's biggest advocate. Discussions with parents were also thought to be an opportunity to exchange information allowing for increased individualization and improved overall quality of the physical activity experiences being provided. Describing her previous interactions with parents, Beth indicated that parents often provide information from previous experiences, such as the use of specific instructional strategies. These strategies helped both stimulate practitioner ideas in working with a particular child, but also helped with maintaining a level of consistency across environmental contexts (i.e., the home and physical activity environment) and between facilitators (i.e., parents and practitioners):

> A few parents have suggestions like ‘maybe you can try this, it has worked in the past’ and we say ‘great! We will try that’ and like visual schedules sometimes parents really recommend we do that because they rely on one at home. We say ‘okay we will for sure use a visual schedule then’.”

Rachel indicated that parents are key informants regarding their child’s strengths, interests, and motivations, and such elements were thought to contribute to a positive physical activity environment. Elaborating further, she suggested that conversations with parents helped to uncover specific behavioural strategies used to maintain a child’s state of regulation, thus providing her with more time to focus on the physical activity as opposed to managing behaviour. This was illustrated through her use of an example:

> “I had one kid that came when I was volunteering and so I had gone and talked to mom and she said often her little boy needs pressure when he’s overwhelmed or he’s upset or – and so we got started and we had a few sessions to get to know each other and after a while if we were doing a task that might be more challenging for him, he would just come and sit on my lap which meant he needed a squeeze.

Patrick also expressed benefit in gathering information from parents, as he believed such information helps “to plan sessions for success based on individual goals and abilities”. Moreover, he claimed that such information provides a starting point from which to build rapport with the participant, allowing him to not only tailor the program to individual needs, but also alter his own pedagogical approach and style as to support the child in the best way possible:

> “In general, building rapport has become a big part in having success with participants. Getting to know who they are and building that relationship I find is huge to working with these kids. With new participants there definitely is a series of steps that I go through in order to get started on the right track. It didn’t take long time to realize that I could not just start a session by reading instructions off of a lesson plan with new participants. I needed to get to know them, develop strategies based on their needs, and build trust…this way I can have more success earlier in programs with new kids.”

In addition to the contributions of parents, practitioners believed that children should be afforded opportunity to provide input into their own physical activity experiences. Patrick thought it was important to include children in actual conversations as much as possible, but recognized the difficulties that come with speaking to children labelled with ASD stating, "… looking at the ASD population I have worked with, it is sometimes very difficult to get feedback from them because of the communication limitations and cognitive ability." Addressing this concern, Andrea and Beth thought that providing children with choices was an optimal way to work around variations in communicative ability, get them involved in the learning process, and empower them as to nurture the sense of meaningfulness of their engagement in activity. The provision of choice was also noted as having benefit to practitioners by affording them with a sense of direction in creating future opportunities for children that have increase relevance and importance. The results of providing choice were illustrated through an example that Beth provided:

> "… the parents really wanted him to work on body awareness and they thought yoga was a great way to do it but he hated it. It came to the fact that as soon as the word 'yoga' or anything like that was mentioned he just started screaming he was like, 'No! I don't want to do this!' So we just started playing a different game and rolling a dice and every time, whatever number came up, he had to come up with a movement to do that many times. So it was kind of like same thing – body awareness but without the kill buzzword of yoga. So it was just finding different ways to do the skill."

Finally, practitioners emphasized that physical literacy development is not isolated to a single location, but takes place continuously across contexts. Therefore, input and support from those within the community were considered necessary to reinforce the overall and holistic development of physical literacy. Rachel indicated that engaging in discussions with community members within sport, recreation and physical activity was "interesting" as it exposed her to new

considerations regarding her own instructional approaches. Specifically, these conversations provided her with an opportunity to reflect on her own practice, further allowing her to determine how her current approaches could accommodate a smoother, more continuous transition across contexts for children labelled with ASD. Additionally, Patrick expressed that the input of professionals such as physiotherapists and occupational therapists is beneficial in helping to "identify and meet the particular motor needs" of children labelled with ASD, thus providing programs with a sense of direction. Addressing the continuity of physical literacy development a different way, Martin suggested that there is need for support beyond the physical activity setting given the limited amount of time that children actually spend in this environment:

> "…being able to have more than just the hour that I spend with an individual, and having someone who is knowledgeable about providing meaningful experiences is always a positive thing when it comes to working on physical literacy…physical literacy is something that needs to be constantly and consistently reinforced."

Likewise, Samantha articulated that community support was essential for the continuous development of physical literacy, for without it, long-term engagement in physical activity may be compromised. Expressing subtle feelings of bitterness, she conveyed that the current system of services for children labelled with ASD is inadequate as there simply is a lack of options once they reach a certain age: "… it's really difficult once they leave our program. Once they age out, if we don't have something set up in the community or there are no community-based programs, there is nowhere they can go."

## Discussion

The purpose of this study was to explore the meaning and general understandings of physical literacy as perceived by individuals who facilitate physical activity experiences for children with a label of ASD outside of the time they spend in schools. Examination of participant (i.e., community-based adapted physical activity practitioners) accounts against the

conceptual framework of EST (Bronfenbrenner, 1979, 1992) revealed that understandings of physical literacy and its development were constructed through engagement at various levels of environmental interaction, both distal and proximal to practitioners. For example, distal interactions in the form of influences from supposed dominant authorities on physical literacy in Canada, organizational policies on physical literacy development, and previous educational exposure to physical literacy shaped practitioner understanding. Additionally, proximal interactions from collaborative parties who have a vested interest in physical literacy development for children experiencing disability (e.g., parents, therapists, etc.), in addition to children themselves, also contributed to practitioner understanding of physical literacy. These interactions provide support to Jurbala's (2015) claim that physical literacy is a concept that is understood through the ongoing process of interactions between the individual and their experiences with the physical world surrounding them.

Grounded in IPA, the findings of this investigation contribute to illustrating that practitioners' understandings of physical literacy resemble conceptualizations similar to the Canadian Physical Literacy Consensus Statement, and specifically the first three stages of the Canadian Sport for Life's Long-Term Athlete Model, a seven-stage developmental framework considered to be the framework for a healthy nation (Corbin, 2016; Spengler & Cohen, 2015). As per this model, understandings were highly focused on the physical domain of development, and specifically on the normative development of fundamental movement skills. Moreover, understandings reflected the assumption that skill mastery was the foundation that lifelong physical literacy is built upon. These understandings of physical literacy were consistent with the general body of literature on physical literacy and its development. For example, findings support Hyndman and Pill's (2017) textual analysis of the physical literacy, and the notion that

the physical domain is most prominently referred to when conceptualizing or operationalizing the concept. Additionally, understandings of skills as a foundation for participation in a wider variety of activities across varying environmental contexts are consistent with previous literature aligning physical literacy with teaching a prescribed set of fundamental movement skills (Francis, Johnson, Lloyd, Robinson, & Sheehan, 2011; Higgs, 2010). Finally, the emphasis on skill assessment supports previous research aimed at evaluating physical literacy from a normative perspective (Francis et al., 2016; Longmuir et al., 2015; Robinson & Randall, 2017).

However, findings also illuminated practitioners' need to adapt activities or modify the physical activity environment in order to accommodate the varying abilities and interests of children labelled with ASD, thus facilitating their physical literacy development. The identification of practices such as individualization, flexibility of approach, environmental modification, and collaboration indicate that, despite being understood according to conceptualizations of Canada's dominant paradigm of sport, the practices needed to encourage its development for children labelled with ASD differ from those without this label. These practices have been positively documented within the adapted physical activity literature as a means to creating meaningful experiences (Arbuckle, 2010; Menear & Neumeier, 2015; Pope, Breslin, Getchell, & Liu, 2012; Yanardag, Yilmaz, & Aras, 2010). Additionally, these practices have been recommended as strategies to facilitate individualized physical literacy development based on the abilities, needs, and strengths of the child (Dudley, 2015; Temertzoglou, 2010).

Understandings reflecting the perspectives of the dominant, sport-based paradigm coupled with ongoing adaptation and modification of elements of a child's surrounding environment indicate that a substantial struggle exists among community-based adapted physical activity practitioners attempting to facilitate the development of physical literacy for individuals

labelled with ASD. Based on the findings, it appears that practitioners are pulled in multiple directions and asked to perform a balancing act between what is advocated and what is necessary. On one hand, practitioners are attempting to satisfy the recommendations and guidelines proposed by a national authority on sport and physical activity (one that has been adopted and endorsed by the organization they are an employee of), yet on the other, they are endeavouring to fulfil a commitment to providing a positive, individualized experience to children labelled with ASD. An impossible task to some extent; one that seems to raise the question of whether a one-size-fits-all, normative model of physical literacy development that does not account for variations in ability is the best framework to be used in programs for children labelled with ASD. Surely, with its continued use, the ableism underscoring current conceptualizations of physical literacy will be reinforced and the philosophical underpinning of a unique embodied capability ignored. It is recommended that exploration of physical literacy within the context of adapted physical activity is, is continued as to allow the discovery of means to facilitating an active lifestyle for individuals experiencing disability, and children labelled with ASD specifically.

**Limitations**

Despite the richness of the data and the strength of the findings, there were three main limitations to this study. First, although it cannot be guaranteed that additional participants would have enhanced the richness of the data, the participant sample was on the low side of the range necessary for IPA research (Smith et al., 2009). Second, recruitment efforts were contained to practitioners from one organization in a single Canadian city. As such, the findings are representative of practitioners from that organization. However, the point of qualitative research is not to generalize, but to explore “particularities of locally defined knowledge.” (Chenail, Duffy, George, & Wulff, 2011, p. 272). Third, of the six participants, the primary researcher held

pre-existing relationships with four of the participants prior to data collection. Therefore, the information that was shared may have been affected as a result of these relationships. However, action was taken to ensure the participants were aware of the circumstances surrounding their participation, and that they were free to express their knowledge and opinions physical literacy without judgment.

**Conclusion**

Within this study, the researchers attempted to explore the meanings and understandings of physical literacy for children labelled with ASD from the perspective of community-based adapted physical activity practitioners. Study findings illustrate that practitioners' understandings are influenced from a variety of sources, illuminating practitioners' struggles to subscribe to a dominant paradigm operating according to a one-size-fits-all, normative model of physical literacy development, while simultaneously facilitating individualized physical activity experiences for children labelled with ASD. These findings expose the potential problems (e.g., ableism) that can occur as a result of adopting models of physical literacy development based on normative developmental patterns, and also highlight the uniqueness of physical literacy development for children with ASD. This research provides a valuable starting point for understanding physical literacy and what is needed to promote its development within the context of disability.

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Table 5.1 – Descriptive and demographic representation of Study 3 participants

| Name | Gender (M/F) | Age (years) | Employee/Volunteer/Other (E/V/O) | Years with Organization | Other Professional Experience Working with Children Labelled with ASD |
|---|---|---|---|---|---|
| **Samantha** | F | 31 | E | 6+ | No |
| **Beth** | F | 26 | E | < 1 | Yes |
| **Patrick** | M | 35 | E | 6 | No |
| **Martin** | M | 22 | V | 3+ | Yes |
| **Rachel** | F | 24 | V/O* | 4 | Yes |
| **Andrea** | F | 24 | E/V | 3 | Yes |

* Other indicates time spent at the organization as a practicum student for an advanced level, Adapted Physical Activity university course.

Table 5.2. Table of Results – Study 3

| **Superordinate Theme** | **Subtheme** |
|---|---|
| 1. Reflections of a Dominant Paradigm | a. An inherited understanding<br>b. Emphasis on the 'physical' |
| 2. … But We Have to Adapt | a. Consideration of differences<br>b. Environmental impact<br>c. Just a piece of the puzzle |

# CHAPTER 6

## General Discussion

The purpose of this dissertation was to explore the meaning and understandings of physical literacy within the contexts of impairment and disability according to the perspectives of those who support the involvement of individuals experiencing disability in physical activity. Three studies were conducted. Findings from the investigations comprising the dissertation provide insight into how physical literacy is perceived and understood for children labelled with ASD, and into the degree to which current conceptualizations of the concept and its developmental practices are inclusive of these children.

Using Arksey and O'Malley's (2005) scoping review framework, Study 1 provided an illustration of what is known (and not know) about the inclusiveness of physical literacy for individuals experiencing disability. Results indicated that discussions on the topic of physical literacy for individuals experiencing disability are limited in number, narrow in scope, highly conceptual, and lacking in regards to the perspectives of individuals experiencing disability and those who support them. The results also emphasized physical literacy as a means to fix problems occurring as a result of disability, reflective of a medical model approach to disability (Withers, 2012). The findings revealed several gaps yet to be explored within the literature.

Study 2 was aimed at exploring understandings of physical literacy according to the perspectives of parents of children labelled with ASD. Using interpretive phenomenological analysis (IPA; Smith, Flowers, & Larkin, 2009), the findings showed that despite participating in programs emphasizing physical literacy, parents' understandings of what physical literacy represents were different in comparison to current conceptualizations of the concept, and from one person to the next. Parents understood physical literacy development for their children as a challenge, and they felt that their children were excluded given their experiences facilitating activity opportunities for their children. The findings are also indicative of physical literacy not

being viewed as an inclusive of children labelled with ASD, thus illuminating the ableism within current physical literacy understandings and practice. Moreover, discrepancies between how physical literacy is understood and how it is experienced highlight the need to further explore the approaches taken to facilitate the development of physical literacy for children experiencing disability, and specifically those labelled with ASD.

The objective of Study 3 was to explore the understandings of physical literacy for children labelled with ASD according to the perspectives of community-based adapted physical activity practitioners. Findings revealed that practitioner understandings of physical literacy are heavily influenced by the dominant paradigms of sport and physical education. Additionally, through their adherence to best practices in adapted physical activity, practitioners believed that physical literacy cannot be developed through the use of a one-size-fits-all philosophy. These findings align with physical literacy literature beyond the context of disability (Hyndman & Pill, 2017; Lloyd, 2016), and support the philosophical underpinnings of physical literacy according to Whitehead (2010, 2013). The results also suggest that practitioners' understandings are influenced from a variety of sources, illuminating practitioners' struggles to subscribe to a dominant paradigm operating according to a one-size-fits-all, normative model of physical literacy development, while simultaneously facilitating individualized physical activity experiences for children labelled with ASD.

Together, the three studies of this dissertation add information pertaining to disability and inclusivity to the steadily growing body of knowledge on physical literacy. Moreover, the research contributes new perspectives on physical literacy and its development that were previously unexplored; namely, the voices of parents and community-based adapted physical activity practitioners. Overall, the collective findings of this research suggest that current

physical literacy practices that have been employed for children experiencing disability, and specifically for those labelled with ASD, include those grounded in ableism. These practices neglect the individualization underscoring physical literacy development, thus challenging the claim that it can be fostered in everyone. Additionally, the collective findings of this research indicate that physical literacy development is different for children labelled with ASD, and programs specifically designed to foster physical literacy development are not necessary for children labelled with ASD. Rather, any opportunity to be active has potential to contribute to a child's physical literacy journey. Finally, the findings reveal that a contradiction exists between how parents and practitioners perceive physical literacy and facilitate its development for children labelled with ASD. This contradiction was highlighted through parents' feelings of exclusion and practitioners' beliefs of collaboration with respect to the child's physical literacy development.

**Strengths of the Dissertation**

Despite the limitations to the research (as discussed in Chapters 4 and 5), the strengths of the dissertation as a whole are worth mentioning. Adherence to a single conceptual framework (i.e., Bronfenbrenner's [1979, 1992] ecological systems theory) throughout the dissertation, one that aligns with the phenomenon under investigation (see Jurbala, 2015), can be considered an overall strength of the dissertation because it provides a clear and consistent indication of how understandings of physical literacy are impacted, thus affecting its development. For example, Study 1 exposed an overall lack of discussion on physical literacy as a concept inclusive of individuals experiencing disability (*macrosytem*), and gaps in the literature pertaining to physical literacy development across environmental contexts (*mesosystem*) including those closest to the individual (*microsystem*). Similarly, Studies 2 and 3 not only revealed the different understandings of physical literacy of those closest to a child (*microsystem*), but also how these

understandings are impacted by the relationships of those in close proximity to the child (*mesosystem*), and the perspectives collectively accepted and endorsed by society as a whole (*exosystem, macrosystem*).

A second strength can be attributed to the methods selected to answer the overarching research question. Study 1 used a scoping review given the limited empirical research and heterogeneous nature of the available literature on the topic of physical literacy. Scoping reviews are considered best for such research and are considered to be comparable to systematic reviews as systematic reviews as they both employ rigorous and transparent methods to comprehensively identify and analyze all the relevant literature pertaining to a research question (Peters, Godfrey, & Khalil, 2015; Pham et al., 2014). Moreover, through the use of IPA in Study 2 and Study 3, participant experiences from within the context of disability contribute to the authenticity of the research findings, further strengthening conclusions. These insider perspectives are thought to be essential in providing a context-specific understanding of a particular topic (Goodwin & Rossow-Kimball, 2012; Spencer-Cavaliere & Watkinson, 2010).

A final strength is that the research provides empirical evidence to the body of literature that is largely conceptual and theoretical (Edwards et al., 2016; Lundvall, 2015). The current findings provide added depth to a topic that is relatively young in comparison to other areas of physical activity research (Longmuir & Tremblay, 2016).

**Implications for Practice**

A number of implications for practice arose from the dissertation, particularly from Studies 2 and 3. In Study 2, the findings suggest that substantial efforts are needed for physical literacy to be considered as a concept inclusive of everyone. One way to potentially facilitate this inclusion would be to include parents as a larger part of the conversation when developing programs for children diagnosed with ASD. To date, there is substantial research that supports

such parental involvement (An & Hodge, 2013; Martin & Choi, 2009; Siebert et al., 2017). Parents are considered to be relative experts on their children, possessing a great deal of information regarding their child's abilities, interests, strengths and needs (An & Goodwin, 2007; Schleien, Miller, Walton, & Pruett, 2014). Therefore, it seems logical to create opportunities for parents to provide input into developing meaning with respect to their child's physical activity participation. Additionally, the creation of a collaborative partnership between parents and practitioners can lead to better continuity and consistency in providing children diagnosed with ASD opportunities for physical literacy development. Not only does the instructor receive valuable information from the parent to assist their efforts within the physical activity setting, but also the parent develops an awareness of tools to facilitate physical activity experiences beyond the activity environment

As a result of the findings from Study 3, being mindful of the ableistic assumptions that have been integrated into practice is an important consideration for the development of physical activity programs focused on inclusivity and the creation of meaning according to the child. This acknowledgement is also an important step in maintaining one's ethical commitment within the context of adapted physical activity (Goodwin & Howe, 2016; Goodwin & Rossow-Kimball, 2012). As such, an important implication for practice includes practitioners' consistent and critical engagement in self-reflection. Here, practitioners are encouraged to unpack their own understandings, assumptions, and practices in an effort to increase the awareness of what is more or less appropriate within the context of adapted physical activity. Accompanying the element of self-reflection, another implication for practice includes practitioners' willingness to engage with the 'counterstories' existing within adapted physical activity context. According to Clapton (2003), "counterstories are real lived and relational experiences with, and of, people with

disability" (p. 545). This engagement is thought to invite new interpretations and conclusions, and thus alternatives to traditional practices of adaptation in the physical activity environment (Goodwin & Howe, 2016). Moreover, fundamental to professional practice is the development of a knowledge landscape "sensitive to ethical reflection" (Goodwin & Rossow-Kimball, 2012, p. 305).

Findings from Studies 2 and 3, as well as previous research (Gregor et al., 2018; Odom, Hume, Boyd, & Stabel, 2012), suggest that there is substantial value in individualizing the activity experiences for children diagnosed with ASD. Therefore, a final implication for practice is to improve the inclusiveness of physical literacy by having both parents and practitioners make a conscious effort to attend to the heterogeneity that makes every individual unique. Incorporating child preferences and interests, providing opportunities for choice-making, and maintaining a sensory-friendly environment (Arnell, Jerlinder, Lunqvist, 2018; Stanish et al., 2015) are strategies that could be easily adopted to individualize a program, increase the potential for developing meaning, and provide motivation for continued participation. Finally, engaging in personal reflexivity to be aware of the practices one engages in to encourage child participation, is a way of ensuring an environment that places emphasis on the child is created.

**Suggestions for Future Research**

To date, the research on physical literacy for individuals experiencing disability, and for those labelled with ASD in particular, is scarce. As a result of this absence, research emphasizing physical literacy and its development for individuals experiencing disability, including individuals labelled with ASD, can be considered beneficial for advancing knowledge surrounding the concept, and supporting claims of inclusiveness. Three specific suggestions are outlined below.

A natural extension of the current studies, and a next step to understanding physical literacy for children experiencing disability, is to initiate conversations and explore the perspectives of the children themselves with the hope of uncovering their understandings and motivations of participating in physical activity and their own physical literacy development. Gaining this insider perspective may shed insight into what types of programs and practices are best suited to meet the needs of individuals experiencing disability, and which ones they would frequent most often. Additionally, research emphasizing the perspectives of children experiencing disability would maintain a commitment to ethical practice in adapted physical activity, whereby the voices of the participants are highly valued (Goodwin & Rossow-Kimball, 2012; Spencer-Cavaliere & Watkinson, 2010).

The second suggestion for future research is the exploration of new approaches used to facilitate physical literacy development in children experiencing disability, specifically for individuals labelled with ASD. Based on available literature, physical literacy for all is built upon frameworks adopted from the dominant paradigms of sport and physical education. These frameworks do not take into account the heterogeneity of interests, abilities, and needs that children experiencing disability possess, and therefore may be perceived as something unlikely or doubtful for individuals experiencing disability (Goodwin, 2016). In response to this argument, perhaps it is necessary to explore physical literacy development ecologically, whereby opportunities for development are fostered via the creation of environments (physical and social) that encourage the freedom to move and interact with surroundings in a way that is comfortable and motivating to the individual. In other words, fostering physical literacy through the active exploration of a physical activity environment instead of the top-down instructional approach of skill development to levels of proficiency. This exploratory approach opens doors for further

exploration of environmental considerations that may serve to optimize physical literacy development in multiple contexts (e.g., home, school, and community).

The final suggestion for future research is to extend the current research to explore how understandings of physical literacy may change over time. Studies 2 and 3 explored understandings of physical literacy for children of a specified age range (e.g., childhood), and as a result did not uncover any particular *"chronosystem"* (Bronfenbrenner, 1992) effects impacting physical literacy development. The chronosystem is the fifth and most distal level of Bronfenbrenner's (1992) ecological systems theory, including major life transitions and environmental events that transpire over the course of development. Because physical literacy is developed over the course of one's lifespan (Canadian Sport for Life, 2015; Whitehead, 2010, 2013), it has the potential to develop or change based on one's shifting abilities, interests, and needs. Exploration of understandings focusing on different age groups (e.g., adolescence, young adulthood, older adults, etc.) may provide insight into optimizing opportunities for physical literacy development for individuals experiencing disability over the various lifespan stages one passes through.

**Final Thoughts**

The messages deriving from this research are threefold. First, the research within this dissertation indicates that physical literacy programming based upon the dominant paradigm is not optimal for many children labelled with ASD, but rather requires adaptation and flexibility to address their unique ability levels and interests. Although it is recognized that common abilities and interests do exist between children labelled with ASD, by basing programming for these children without accounting for their heterogeneity, we are not optimizing physical activity experiences, and physical literacy development is not being facilitated to the level that it could be. Second, the research indicates that any opportunity to be active contributes to one's physical

literacy journey. Therefore, programs should perhaps worry less about promoting the development of physical literacy, and more about creating opportunities for enjoyable physical activity experiences that promote a desire to return to those experiences. In my opinion, if we focus on the latter, the physical literacy development will take care of itself. Yet, if these types of opportunities are minimized (i.e., those that meet the interests and needs of children experiencing disability) then we are essentially restricting development even before we begin. Third, if we truly value physical literacy as an inclusive concept, then we have a responsibility as a society to figure out how to best develop it in everyone. Personally, I feel that this can be addressed by encouraging transparent and reciprocal communication across varying sectors of society (i.e., academia, education, practice, home, etc.), and conveying messages that everyone has a role in facilitating opportunities for physical literacy development. For too long, we have been operating in silos where academics speak to academics, practitioners speak to practitioners, and so on. As such, the impression that has been created is that physical literacy can only be developed a certain and specific way, and in specific locations. Perhaps it is time to begin breaking these boundaries, engaging with one and other more collaboratively, translating information so that it can be better incorporated into practice by those who interact regularly with children, and tackling the development of physical literacy in children and others as a collective.

The current research addresses a relatively unexplored phenomenon in an underrepresented group of people. This dissertation provides insight into what physical literacy represents within the context of disability; what it means, and how it is understood according to individuals facilitating physical activity experiences for children labelled with ASD (i.e., adapted physical activity practitioners and parents). Although this adds an element of depth to the

physical literacy literature, there is still much to learn about physical literacy and its development for individuals experiencing disability.

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# APPENDICES

## Appendix A: Demographic Form – Study 2

Demographic Information Form

***Instructions:*** Please provide a response for each of the following questions:

1. What is your name? _____

2. What is you sex?

**Female ○ Male ○ Other ○**

3. What is your age? _____

**What is your marital status? _____**

**How many children do you have? _____**

**What are the ages of these children?**

_____

_____

_____

_____

**What is the age of your child with Autism Spectrum Disorder (ASD)?**

_____

**Enrolment in physical activity program(s) (child with ASD).**

○ Currently Enrolled ○ Previously Enrolled

For how long has your child with ASD participated in this/these program(s) for?

_____

**If Previously Enrolled**, for how long has it been since the child has been enrolled in a physical activity program? _____

**8. Would you be open to a follow-up interview if necessary?** Yes ○ No ○

**If yes, can you please provide your email address and telephone number?**

Email address: _____

Telephone number: _____

# Appendix B: Demographic Form – Study 3

Demographic Information Form

***Instructions:*** Please provide a response for each of the following questions:

1. What is your name? _____

2. What is you sex?

   **Female** ○ **Male** ○ **Other** ○

3. What is your age? _____

4. Where are you currently employed/do you currently volunteer/have been employed/volunteered?

   Location 1 (name removed) ○

   Location 2 (name removed) ○

   Location 3 (name removed) ○

5. What is/are/has been/have been your role(s) at the aforementioned location?

   Employee (i.e., Consultant, Team Lead, Etc ○ Volunteer ○ Other ○

   If other, describe: _____

   _____

**6. How long have you been employed/volunteered at this location? _____**

**7. How long have you worked with children/adolescents with ASD specifically at this location?**

   _____

**8. Do you have any other professional experience working with children with disabilities, and ASD specifically?**

   Yes ○ No ○

   If other, describe: _____

   _____

**9. Would you be open to a follow-up interview if necessary?** Yes ○ No ○
**If yes, can you please provide your email address and telephone number?**

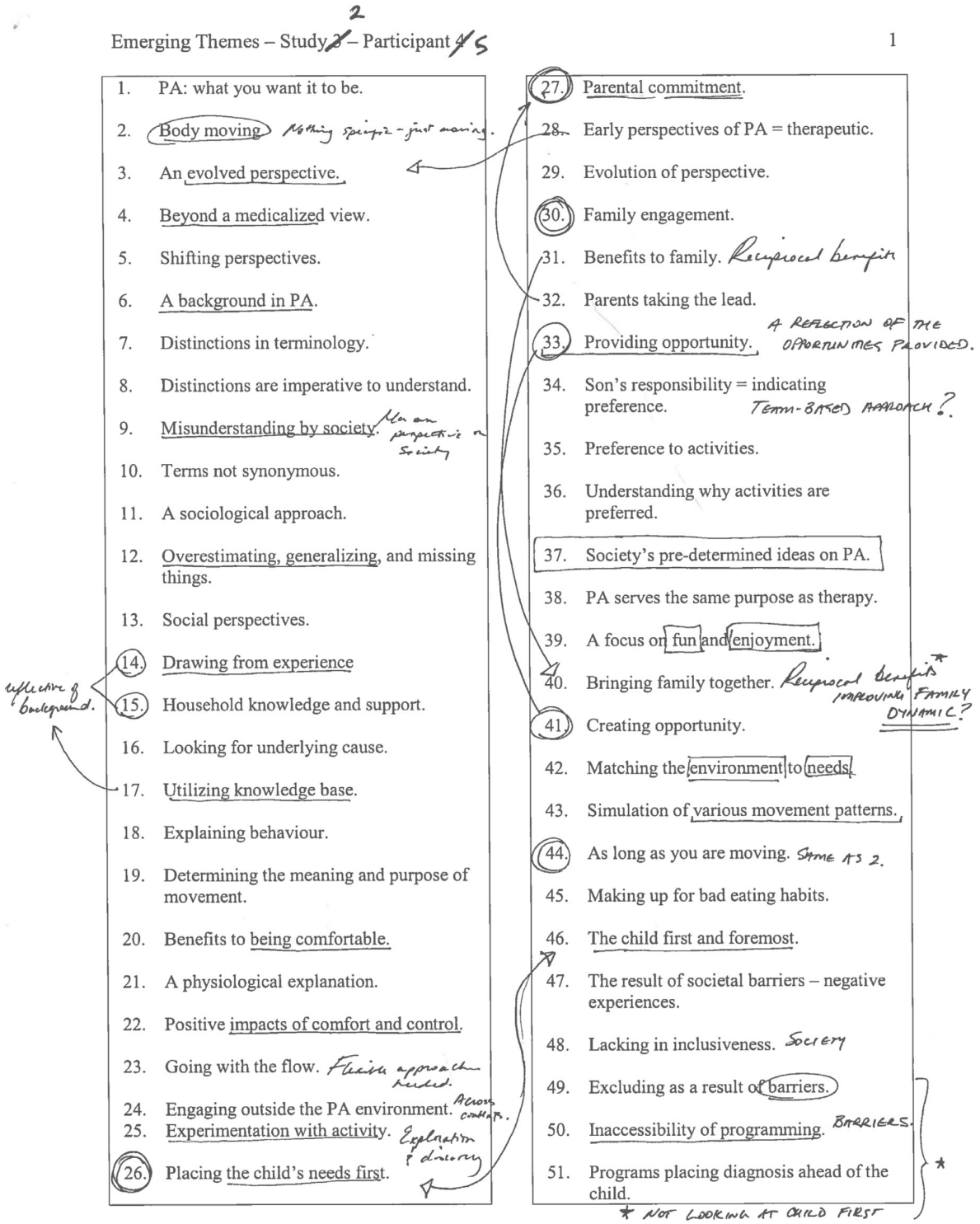
   Email address: _____

   Telephone number: _____

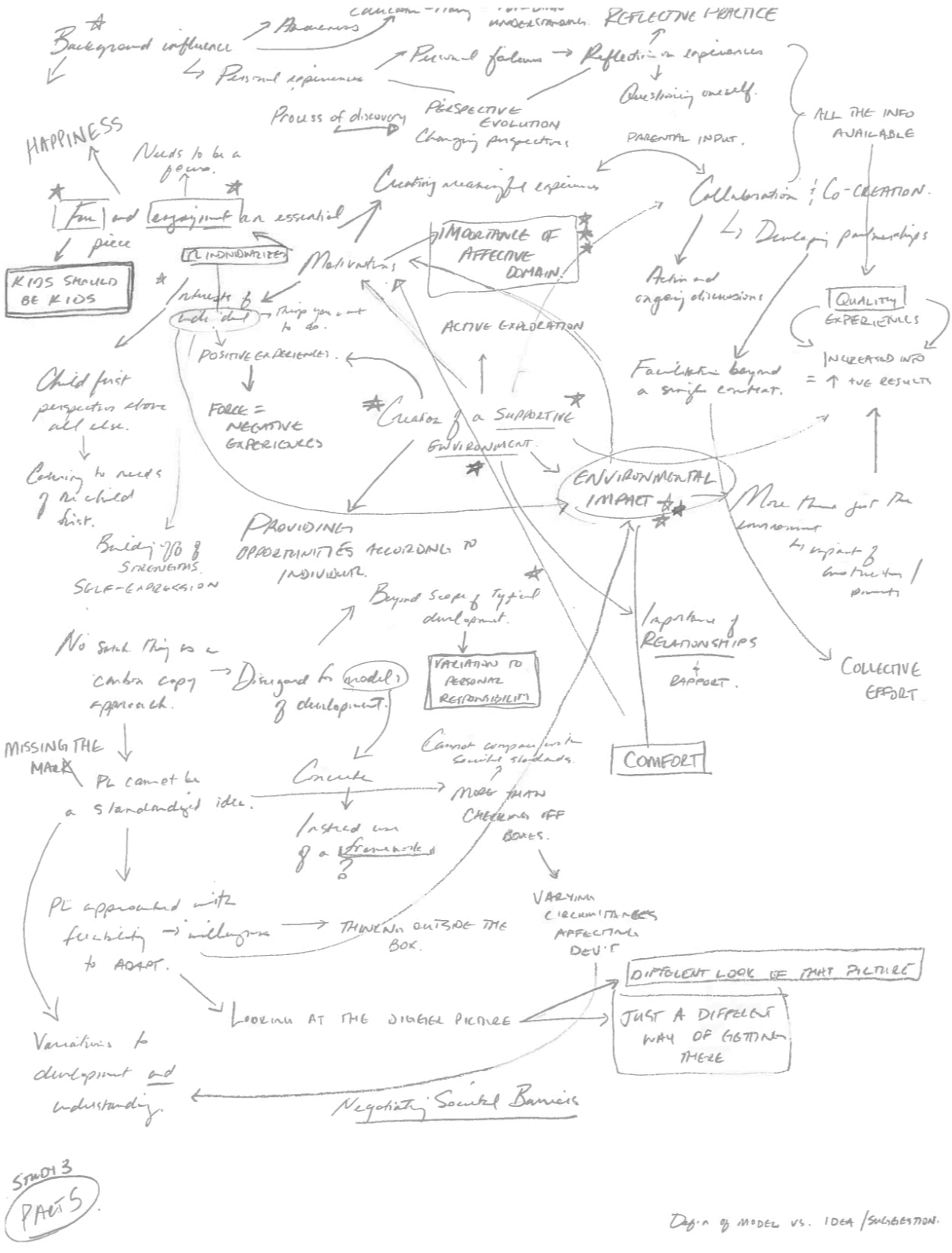
## Appendix C: Separate Document for Emerging Themes – Transferred from IPA Template

1. PA: what you want it to be.
2. Body moving.
3. An evolved perspective.
4. Beyond a medicalized view.
5. Shifting perspectives.
6. A background in PA.
7. Distinctions in terminology.
8. Distinctions are imperative to understand.
9. Misunderstanding by society.
10. Terms not synonymous.
11. A sociological approach.
12. Overestimating, generalizing, and missing things.
13. Social perspectives.
14. Drawing from experience
15. Household knowledge and support.
16. Looking for underlying cause.
17. Utilizing knowledge base.
18. Explaining behaviour.
19. Determining the meaning and purpose of movement.
20. Benefits to being comfortable.
21. A physiological explanation.
22. Positive impacts of comfort and control.
23. Going with the flow.
24. Engaging outside the PA environment.
25. Experimentation with activity.
26. Placing the child's needs first.
27. Parental commitment.
28. Early perspectives of PA = therapeutic.
29. Evolution of perspective.
30. Family engagement.
31. Benefits to family.
32. Parents taking the lead.
33. Providing opportunity.
34. Son's responsibility = indicating preference.
35. Preference to activities.
36. Understanding why activities are preferred.
37. Society's pre-determined ideas on PA.
38. PA serves the same purpose as therapy.
39. A focus on fun and enjoyment.
40. Bringing family together.
41. Creating opportunity.
42. Matching the environment to needs.
43. Simulation of various movement patterns.
44. As long as you are moving.
45. Making up for bad eating habits.
46. The child first and foremost.
47. The result of societal barriers – negative experiences.
48. Lacking in inclusiveness.
49. Excluding as a result of barriers.
50. Inaccessibility of programming.
51. Programs placing diagnosis ahead of the child.

## Appendix D: Mapping of Emergent Themes – Example of Column Format


Emerging Themes – Study 2 – Participant 5
1
1. PA: what you want it to be.
2. Body moving
3. An evolved perspective.
4. Beyond a medicalized view.
5. Shifting perspectives.
6. A background in PA.
7. Distinctions in terminology.
8. Distinctions are imperative to understand.
9. Misunderstanding by society.
10. Terms not synonymous.
11. A sociological approach.
12. Overestimating, generalizing, and missing things.
13. Social perspectives.
14. Drawing from experience
15. Household knowledge and support.
16. Looking for underlying cause.
17. Utilizing knowledge base.
18. Explaining behaviour.
19. Determining the meaning and purpose of movement.
20. Benefits to being comfortable.
21. A physiological explanation.
22. Positive impacts of comfort and control.
23. Going with the flow.
24. Engaging outside the PA environment.
25. Experimentation with activity.
26. Placing the child's needs first.
27. Parental commitment.
28. Early perspectives of PA = therapeutic.
29. Evolution of perspective.
30. Family engagement.
31. Benefits to family.
32. Parents taking the lead.
33. Providing opportunity.
34. Son's responsibility = indicating preference.
35. Preference to activities.
36. Understanding why activities are preferred.
37. Society's pre-determined ideas on PA.
38. PA serves the same purpose as therapy.
39. A focus on fun and enjoyment.
40. Bringing family together.
41. Creating opportunity.
42. Matching the environment to needs.
43. Simulation of various movement patterns.
44. As long as you are moving.
45. Making up for bad eating habits.
46. The child first and foremost.
47. The result of societal barriers – negative experiences.
48. Lacking in inclusiveness.
49. Excluding as a result of barriers.
50. Inaccessibility of programming.
51. Programs placing diagnosis ahead of the child.
Nothing specific - just moving.
Reciprocal benefit
A REFLECTION OF THE OPPORTUNITIES PROVIDED.
TEAM-BASED APPROACH?
Reciprocal benefits IMPROVING FAMILY DYNAMIC?
SAME AS 2.
Society
BARRIERS.
* NOT LOOKING AT CHILD FIRST

## Appendix E: Mapping of Emergent Themes – Example of Visual Map


Background influence
Awareness
Personal experiences
Personal failures
REFLECTIVE PRACTICE
Reflection on experiences
Questioning oneself
Process of discovery
PERSPECTIVE EVOLUTION
Changing perspectives
ALL THE INFO AVAILABLE
HAPPINESS
Needs to be a focus.
Fun and engagement an essential piece
PARENTAL INPUT.
Creating meaningful experiences
Collaboration / Co-CREATION.
Developing partnerships
PL INDIVIDUALIZES
Motivation
IMPORTANCE OF AFFECTIVE DOMAIN.
KIDS SHOULD BE KIDS
Interests & Individual things you want to do.
Active and engaging discussions
QUALITY EXPERIENCES
ACTIVE EXPLORATION
POSITIVE EXPERIENCES.
Facilitation beyond a single contact.
INCREATED INFO = ↑ tve RESULTS
Child first perspective above all else.
FORCE = NEGATIVE EXPERIENCES
Creation of a SUPPORTIVE ENVIRONMENT.
Catering to needs of the child first.
ENVIRONMENTAL IMPACT
More than just the environment
Inclusion & construction / planning
Building on strengths. SELF-EXPRESSION
PROVIDING OPPORTUNITIES ACCORDING TO INDIVIDUAL.
Beyond scope of typical development.
No such thing as a cookie cutter approach.
Disregard for model of development.
VARIATION TO PERSONAL RESPONSIBILITY
importance of RELATIONSHIPS & RAPPORT.
COLLECTIVE EFFORT
MISSING THE MARK
PL cannot be a standardized idea.
Concrete
Cannot compartmentalize specific standards.
COMFORT
MORE THAN CHECKING OFF BOXES.
Instead use of a framework
PL approached with flexibility → willingness → THINKING OUTSIDE THE BOX.
VARYING CIRCUMSTANCES AFFECTING DEV'T
DIFFERENT LOOK TO THAT PICTURE
LOOKING AT THE BIGGER PICTURE
JUST A DIFFERENT WAY OF GETTING THERE
Variations to development and understanding.
Negotiating Societal Barriers
STUDY 3
PART 5.
Dep'n of MODEL vs. IDEA / SUGGESTION.

# Appendix F: Example of Manual Manipulation of Idiographic Themes

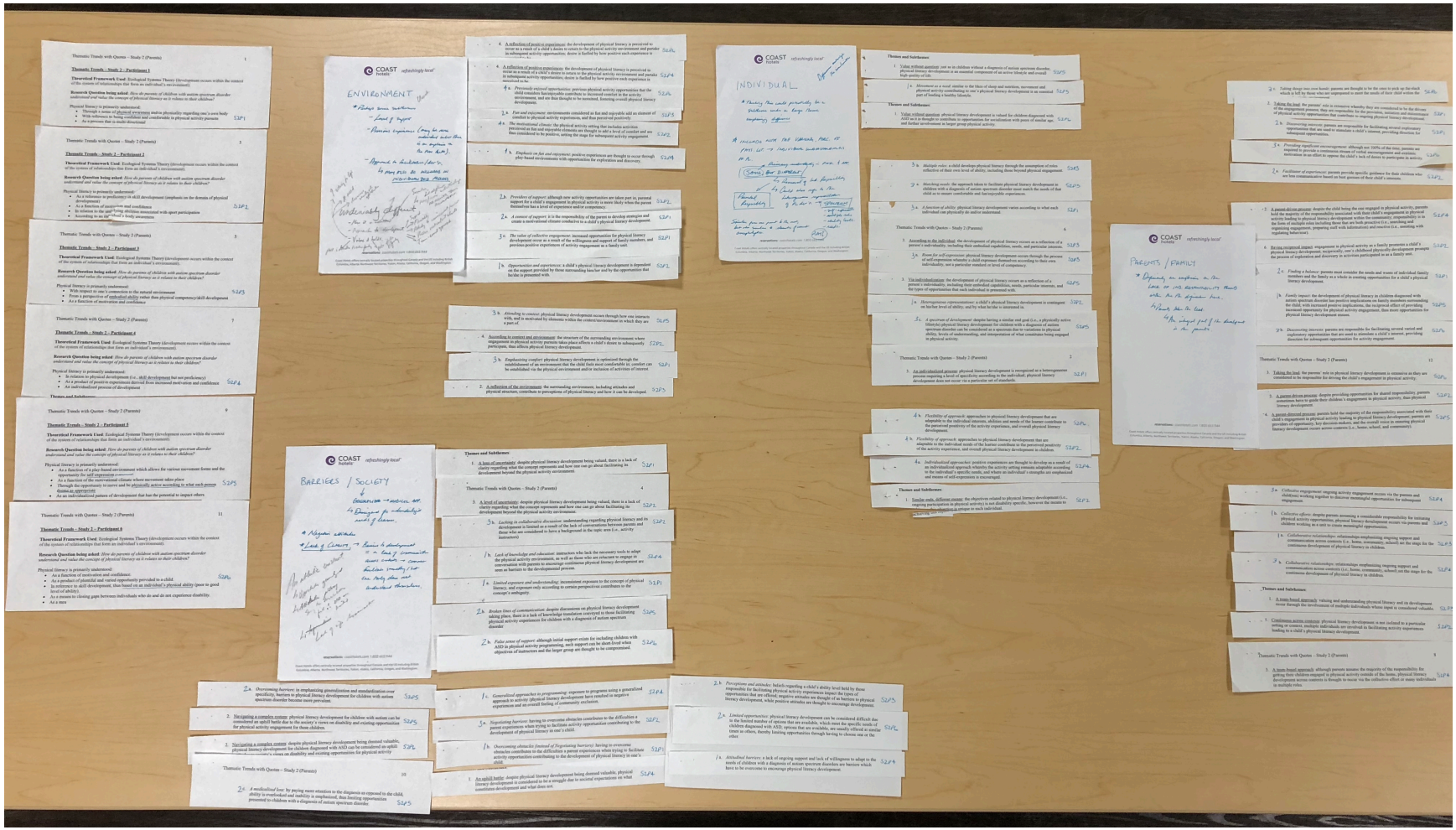



Plate 3.1 – Manual manipulation of idiographic themes for Study 2

# Appendix G: Information Letters and Consent Forms – Study 2

**INITIAL CONTACT EMAIL – AGENCY**

Dear _____:

My name is Kyle Pushkarenko and I am a PhD student at the University of Alberta. I am conducting a research project as part of my doctoral program under the guidance of my supervisor Dr. Janice Causgrove Dunn. I will be the primary investigator for this research and would like to request your help in identifying potential participants for this investigation. Particularly, I would like for you to pass along the attached information sheet outlining the particulars of the investigation to parents whose children are labelled with autism spectrum disorder and are actively participated in, or have formerly participated in physical activity programs emphasizing physical literacy within (or possibly outside) your agency/organization over the last twelve months. Should they consider participating, they can then contact me to set up a time to discuss the particulars of the study. Individuals within the Adapted Physical Activity program at the University of Alberta have recommended your agency as a potential fit for this study.

The overall purpose of this research is to explore the meaning of the concept of physical literacy, as it is understood within the context of impairment and disability. More specifically, the research will explore the meaning and understandings of physical literacy for children with autism spectrum disorder held by parents who provide opportunities for and facilitate the physical activity experiences of these children, outside the context of education. Specifically, the research question is: *How do parents of children with autism spectrum disorder understand the concept of physical literacy as it relates to their children?*

Participation in the study will involve parents being interviewed from between 60 and 90 minutes. Each interview will be audio-recorded. Interviews will take place at the convenience of the parents. The interview will consist of questions surrounding each parent's role in providing physical activity opportunities for their child, the possible approach(es) they take to providing such opportunities, and the meaning that they attach to the concept of physical literacy for their children labelled with autism spectrum disorders. With the input acquired from such questioning, we hope to achieve a greater understanding of the meaning of physical literacy for these children held by those who are closest to them and who have an interest in their overall health and well-being.

The information gathered during this study will remain confidential in a secure location on the University of Alberta premises during this project. Only my supervisor and myself will have access to the study data and information. Finally, should you wish to receive a copy of a report of the research findings, you are welcome to contact me using the contact information below.

If you are willing to assist, or should you have any questions, please reply to myself at kyle.pushkarenko@ualberta.ca or (780) 999-6939, or my supervisor Dr. Janice Causgrove Dunn at janice.causgrovedunn@ualberta.ca or (780) 492-0580. Should it be necessary, I am available to discuss over the phone or meet with you in person to further

explain the project in greater detail and answer any questions that you may have as you consider this request. A Research Ethics Board at the University of Alberta has reviewed the plan for this study for its adherence to ethical guidelines. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Thank you for your consideration.

Yours Truly,

Kyle Pushkarenko
PhD Candidate, Faculty of Physical Education and Recreation
University of Alberta

# STUDY INFORMATION SHEET

**Study Title:** Physical literacy for Children Labelled with Autism Spectrum Disorder: Exploring Perceptions of Parents to Establish Continuity and Consistency of Practice

**Primary Research Investigator:**
Kyle Pushkarenko
3-149, University Hall
Van Vliet Complex
University of Alberta
Edmonton, AB, T6G 2H9
kyle.pushkarenko@ualberta.ca
780-999-6939

**Supervisor:**
Janice Causgrove Dunn
3-115, University Hall
Van Vliet Complex
University of Alberta
Edmonton, AB, T6G 2H9
janice.causgrovedunn@ualberta.ca
780-492-0580

## Background and Purpose

It has been suggested that everyone can develop physical literacy, no matter what their age or ability level. The development of physical literacy in children is believed to be influenced by attitudes of key people in their lives, such as parents, teachers, and others who provide programs or services for them. The positive attitudes of these individuals may improve children's experiences and enhance the potential for physical literacy to develop. The purpose of this study is to explore the meaning of physical literacy for children with impairment and disability. Specifically, the overall goal is to understand physical literacy for children with autism spectrum disorder from the perspectives of parents.

## Study Participation

You are being asked to participate in this study because your son or daughter is participating, or has participated in the past, in a physical activity program emphasizing physical literacy for children experiencing disability.

Your participation will involve a face-to-face interview with the Primary Research Investigator that will be tape-recorded. During the interview you will be asked questions about your thoughts, feelings, and knowledge about physical literacy in general and for your child with autism perspective disorder. If any information you provide needs to be clarified or explained further, you may also be asked to participate in a second interview. Interviews will take no more than 60-90 minutes of your time.

## Benefits and Risks

There are no direct benefits to your participation in this study. However, the indirect benefits of participation include the opportunity to discuss and share your thoughts, feelings, views, and understandings about developing physical literacy in children with autism spectrum disorder.

There are no known or anticipated risks associated with participating in this study.

## Voluntary Participation

Your participation in this study is your choice, and you may choose to stop participating at any time during the study. You will have the opportunity to read the transcript from your interview (once it has been typed out) and to remove or modify the information you provide. However once you have reviewed and confirmed your interview transcript with the research team, your information can no longer be removed. You can still discontinue participation, but the information you provided up to that point can no longer be removed from the analysis.

If you do consent to participate in the study, you are not obliged to answer any questions that you do not wish to answer.

**Confidentiality & Anonymity**

The information gathered during this study will remain confidential and in a secure location on the University of Alberta premises during this project and for 5 years afterwards, at which time it will be destroyed. All of the interview transcripts will be stored under lock and key, and audio recordings on a password-protected computer. Only my supervisor and I will have access to the information. There will not be any identifying information on the interview transcripts. Your names (yours and your child's) and any other identifying details will never be revealed in any publication of the results of this study.

**Publication**

Research results from this study, including information you provide in interviews, may be used in academic papers, policy papers or news articles. Additionally, this information may be presented at conferences in the field of physical activity, adapted physical activity, physical education, and/or disability, and may appear our website. There are no foreseeable secondary uses of the data.

**Further Information**

You are welcome to ask any questions before or during the interview, or you may contact me or my supervisor using the information provided above at the top of this letter. A Research Ethics Board at the University of Alberta has reviewed the plan for this study for its adherence to ethical guidelines. For questions about participant rights and ethical conduct of research, please contact the Research Ethics Office at (780) 492-2615.

# RESEARCH STUDY CONSENT FORM

**Study Title:** Physical literacy for Children Labelled with Autism Spectrum Disorder: Exploring Perceptions of Parents to Establish Continuity and Consistency of Practice

**Primary Research Investigator:**
Kyle Pushkarenko
3-149, University Hall
Van Vliet Complex
University of Alberta
Edmonton, AB, T6G 2H9
kyle.pushkarenko@ualberta.ca
780-999-6939

**Supervisor:**
Janice Causgrove Dunn
3-115, University Hall
Van Vliet Complex
University of Alberta
Edmonton, AB, T6G 2H9
janice.causgrovedunn@ualberta.ca
780-492-0580

Research Participant's name: _____

Thank you for agreeing to be interviewed as part of this research project. You have been asked to participate in this study because your son or daughter is currently participating, or has previous participated in a physical activity program emphasizing physical literacy development for children experiencing disability.

University of Alberta ethical procedures for academic research involving interviews require that participants agree to being interviewed and how the information contained in their interview will be used. This consent form is necessary for us to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Would you therefore please read the accompanying STUDY INFORMATION SHEET and then sign this form to certify that you approve the following:

- The interview will be recorded and a transcript will be produced.
- The transcript will be sent to you and you will be given the opportunity to remove or modify any information on the transcript.
- If information you provided requires clarification or elaboration, a follow-up interview may be requested.
- Access to the interview transcripts will be limited to the Primary Research Investigator and Supervisor (noted above). Paper copies of transcripts will be kept under lock and key, while digital recordings will be kept on a password-protected computer, at the University of Alberta.
- Any summary interview content or direct quotations from interviews that are included in an academic publication or other outlet will be anonymized so that you cannot be identified.
- Care will be taken to ensure that other information gathered during the interviews that could identify you is not revealed
- Hard copies of data and digital recordings of interviews will be kept for a period of 5 years after the study is completed and then destroyed (hard copies will be shredded, and digital recordings permanently deleted).

- Any variation of the conditions above will only occur with your explicit approval

By signing this form I agree that:

1. I am voluntarily taking part in this project. I understand that I don't have to take part, and I can stop the interviews at any time;
2. I can change or remove information from my interview transcript, however once the modified transcript is returned to the researchers, it cannot be removed from analysis;
3. The interview transcripts or extracts from the interviews may be used/published as described in the accompanying STUDY INFORMATION SHEET;
4. I do not expect to receive any benefit or payment for my participation;
5. I have been able to ask questions and I understand that I am free to contact the researcher with any questions I may have in the future.

_____

**Printed Name**

_____ _____

**Participant's Signature** **Date**

_____ _____

**Researcher's Signature** **Date**

# Appendix H: Information and Consent Forms – Study 3

**INITIAL CONTACT EMAIL – AGENCY**

Dear _____:

My name is Kyle Pushkarenko and I am a PhD student at the University of Alberta. I am conducting a research project as part of my doctoral program under the guidance of my supervisor Dr. Janice Causgrove Dunn. I will be the primary investigator for this research and would like to request your help in identifying potential participants for this investigation. Particularly, I would like for you to pass along the attached information sheet outlining the particulars of the investigation to the physical activity instructors working within your agency/organization. Should they consider participating, they can then contact me to set up a time to discuss the particulars of the study. Individuals within the Adapted Physical Activity program at the University of Alberta have recommended your agency as a potential fit for this study.

The overall purpose of my research is to explore the meaning of the concept of "physical literacy" as it is understood in the context of impairment and disability. Specifically, I am investigating the concept's meaning according to adapted physical activity specialists facilitating physical activity experiences for children with autism spectrum disorder in the community. The instructors within your agency are being recruited as they currently hold, or have previously held, the role of instructor/physical activity leader in community-based activity programs for children and adolescents, including those with autism spectrum disorders.

Participation in the study will involve the instructors being interviewed from between 60 and 90 minutes, potentially on multiple occasions, and undergoing a 30-60-minute observation. Each interview will be audio-recorded. Interviews will take place at the convenience of the instructors and will not take away from the time that they are committed to work. The interview will consist of questions surrounding each instructor's role as a physical activity program leader, the approach they take to constructing a successful physical activity environment, and the meaning that they attach to the concept of physical literacy for those with autism spectrum disorders. With the input acquired from such questioning, we hope to achieve a greater understanding of the meaning of physical literacy for children with autism spectrum disorders. Observations of physical activity program leaders will commence once the face-to-face interviews have been completed. These observations will take place within the physical activity environment where participants are actively engaged in facilitating physical activity experiences.

The information gathered during this study will remain confidential in a secure location on the University of Alberta premises during this project. Only my supervisor and myself will have access to the study data and information. Finally, should you wish to receive a copy of a report of the research findings, you are welcome to contact me using the contact information below.

If you are willing to assist, or should you have any questions, please reply to myself at kyle.pushkarenko@ualberta.ca or (780) 999-6939, or my supervisor Dr. Janice Causgrove Dunn at janice.causgrovedunn@ualberta.ca or (780) 492-0580. Should it be necessary, I am available to discuss over the phone or meet with you in person to further explain the project in greater detail and answer any questions that you may have as you consider this request. A Research

Ethics Board at the University of Alberta has reviewed the plan for this study for its adherence to ethical guidelines. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Thank you for your consideration.

Yours Truly,

Kyle Pushkarenko
PhD Student, Faculty of Physical Education and Recreation
University of Alberta

**INFORMATION LETTER and CONSENT FORM**

**Study Title: Exploring Physical Literacy for Individuals with Autism Spectrum Disorder: Interpretations of Community Physical Activity Program Leaders**

**Research Investigator:**
KYLE PUSHKARENKO
3-149, UNIVERSITY HALL
VAN VLIET COMPLEX
University of Alberta
Edmonton, AB, T6G 2R3
kyle.pushkarenko@ualberta.ca
780-999-6939

**Supervisor:**
Janice Causgrove Dunn
3-115, UNIVERSITY HALL
VAN VLIET COMPLEX
University of Alberta
Edmonton, AB, T6G 2R3
janice.causgrovedunn@ualberta.ca
780-492-0580

## Background

My name is Kyle Pushkarenko and I am a PhD student at the University of Alberta. I am conducting a research project as part of my doctoral program under the guidance of my supervisor Dr. Janice Causgrove Dunn. I will be the primary investigator for this research and would like to invite you to participate in this project. You are being asked to participate in this study because you currently hold, or have previously held, the role of instructor/physical activity leader in community-based activity programs for children and adolescents, including those with autism spectrum disorders. Individuals within the Adapted Physical Activity program at the University of Alberta have recommended your program for this study. The results of this study will be published in the form of my doctoral dissertation and may be published in a professional journal or presented at a professional conference.

## Purpose

The overall purpose of my research is to explore the meaning of the concept of "physical literacy" as it is understood in the context of impairment and disability. Specifically, I am investigating the concept's meaning according to physical activity specialists who have experience facilitating physical activity experiences for children with autism spectrum disorder in the community.

## Benefits

There are no direct benefits to your participation in this study. However, the indirect benefit of participation in this study include the opportunity to discuss feelings, perceptions, and concerns related to the experience of providing physical activity opportunities for individuals with autism spectrum disorder. With such input, we hope to achieve a greater understanding of the meaning of physical literacy for children with autism spectrum disorders. This understanding has the potential to impact physical activity programming and engagement, and therefore the health and well-being of these individuals across the lifespan. The information that you provide can contribute to designing meaningful and purposeful activity experiences and engagement, thus promoting enjoyment and motivation for individuals with autism spectrum disorders to

pursue future physical activity opportunities. With increased opportunity, the prospect of capitalizing on the benefits of prolonged physical activity including reductions in secondary health complications, increased opportunities for socialization, enhanced self-confidence, and improvements in behaviour, is greater.

## Risk

There is no anticipated risk to your participation within the study. However, there may be risks to your participation that are not known. If we learn anything during the research that may affect your willingness to continue being in the study, we will tell you right away.

## Voluntary Participation

Your participation is your choice. You may choose to withdraw at any time during the data collection phase of the study. Moreover, an opportunity will be provided to withdraw or modify data from the study during the data collection phase of the study (i.e., review of interview transcripts). However, once you have reviewed and confirmed your interview transcript with the research team, data withdrawal is no longer possible. (i.e., you can still discontinue participation, but your data cannot be withdrawn from the analysis). If you do consent to participate in the study, you are not obliged to answer all of the questions in the interview.

## Confidentiality & Anonymity

The information gathered during this study will remain confidential in a secure location on the University of Alberta premises during this project. Only my supervisor and myself will have access to the study data and information. There will not be any identifying information on the interview transcripts or fieldnotes; they will be coded and the key to the code will be kept locked away. Your names and any other identifying details will never be revealed in any publication of the results of this study. Following the completion of the study, hardcopies of the data will be kept in a secure place for a minimum of 5 years; digital audio recordings will be password protected and similarly stored. After 5 years, hard copies of transcripts will be shredded, and digital files deleted. Should you wish to receive a copy of a report of the research findings, you are welcome to contact me using the contact information above.

## Further Information

You are welcome to ask any questions that occur to you during the course of the interview. If you have further questions once the interview is completed, you are encouraged to contact myself or my supervisor using the contact information given above. A Research Ethics Board at the University of Alberta has reviewed the plan for this study for its adherence to ethical guidelines. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Consent Statement

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I have been told whom to contact. I agree to participate in the research study described above and will receive a copy of this consent form. I will receive a copy of this consent form after I sign it.

| | |
|---|---|
| _____ | _____ |
| Participant's Name (printed) and Signature | Date |
| _____ | _____ |
| Name (printed) and Signature of Person Obtaining Consent | Date |

Dear Parents/Guardians,

My name is Kyle Pushkarenko and I am a PhD student at the University of Alberta. I am conducting a research project as part of my doctoral program under the guidance of my supervisor Dr. Janice Causgrove Dunn. The overall purpose of my research is to explore the meaning of the concept of "physical literacy" as it is understood in the context of impairment and disability. Specifically, I am investigating the concept's meaning according to physical activity specialists who have experience facilitating physical activity experiences for children with autism spectrum disorder in the community. The title of my research is: ***Exploring Physical Literacy for Individuals with Autism Spectrum Disorder: Interpretations of Community Physical Activity Program Leaders***

As part of my research, I will be conducting observations (complete with descriptive and reflective documentation) of the physical activity specialists that work with your child(ren). Specifically, I will be looking at how these specialists interact with the children they provide programming to, and the activities that they use to promote the idea of physical literacy in these children. ***Your child(ren) are not the focus of the research***, yet due to their presence within the activity environment, it is my obligation to inform you of my actions. There is no anticipated risk to your child's participation within the study. However, should I learn of anything during the research that may affect your child, the observation will cease, and you will be informed immediately. Additionally, if you have concerns or do not feel comfortable with such observations, and would prefer not to have your child(ren) be involved, I will seek out alternative times (which do not involve your child) to conduct this portion of the research.

You are welcome to ask any questions that occur to you during the course of the research project. If you have questions, please contact myself or my supervisor using the contact information given below. A Research Ethics Board at the University of Alberta has reviewed the plan for this research for its adherence to ethical guidelines. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

**Regards,**
Kyle Pushkarenko, Research Investigator
Faculty of Physical Education and Recreation
University of Alberta

**Research Investigator:**
KYLE PUSHKARENKO
3-149, UNIVERSITY HALL
VAN VLIET COMPLEX
University of Alberta
Edmonton, AB, T6G 2R3
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**Supervisor:**
Janice Causgrove Dunn
3-115, UNIVERSITY HALL
VAN VLIET COMPLEX
University of Alberta
Edmonton, AB, T6G 2R3
janice.causgrovedunn@ualberta.ca
780-492-0580

# Appendix I: Interview Guide – Study 2

**Interview Guide – Study 2**

First off, I would just like to thank you for your participation in this study. You are being asked to participate in this study because your son or daughter has been labelled with autism spectrum disorder and is currently participating, or has previous participated in a physical activity program emphasizing physical literacy development for children experiencing disability.

The overall purpose of this research is to explore the meaning of the concept of physical literacy, as it is understood within the context of impairment and disability. More specifically, the research will explore the meaning and understandings of physical literacy for children with autism spectrum disorder held by parents who provide opportunities for and facilitate the physical activity experiences of these children, outside the context of education.

The research question being addressed is: *How do parents of children with autism spectrum disorder understand the concept of physical literacy as it relates to their children?*

Your participation is your choice. You may choose to withdraw at any time during the data collection phase of the study. Moreover, an opportunity will be provided to withdraw or modify data from the study during the data collection phase of the study (i.e., review of interview transcripts). However, once you have reviewed and confirmed your interview transcript with the research team, data withdrawal is no longer possible. (i.e., you can still discontinue participation, but your data cannot be withdrawn from the analysis). If you do consent to participate in the study, you are not obliged to answer all of the questions in the interview.

The information gathered during this study will remain confidential in a secure location on the University of Alberta premises during this project. Only my supervisor and myself will have access to the study data and information. There will not be any identifying information on the interview transcripts or generated interpretations; they will be coded and the key to the code will be kept locked away. Your names and any other identifying details will never be revealed in any publication of the results of this study.

You are welcome to ask any questions that occur to you during the course of the interview. Do you still feel like doing the interview?

Cluster 1: Rapport Building Questions

1. What meaning does physical activity have for you and your family?

    a. How did you come to this understanding? Can you describe a particular example that has shaped this understanding?

2. Tell me about a physical activity experience that you/your family have/has had with your child. Describe a specific event that has impacted you, either positively or negatively?

    a. What did you do during that physical activity session?

   b. How did you engage with your child during this experience?

   c. How did you feel before, during, after this experience?
      i. How do you believe these feeling might change if the context is different (i.e., different environments, more or less family members, etc.)?

   d. How do you think your child felt before, during, after physical activity?

3. How often do you participate in physical activity with your child?

   a. How often would you like to participate in physical activity with your child?
      i. What sorts of means do you feel might be necessary to facilitate this engagement?

4. How would you describe the role that physical activity plays in your child's life?

   a. What do you hope your child gains from their physical activity experiences?
      i. Can you describe a specific event that has shaped these views?

   b. What kinds of goals or outcomes are you hoping to achieve for your child?
      i. How would you feel if these outcomes were not achieved?
      ii. In your opinion, how do think your child would feel if they did not achieve these outcomes?

   c. In your opinion, what constitutes success for you child a physical activity setting?

5. What do you feel your role is facilitating your child's physical activity experiences?

   a. To what extent do you wish this role to be any different?

   b. What do you feel your child's role should be?

6. How would you describe the communication lines between yourself and the instructors that facilitate the physical activity experiences for your child?

   a. What do you feel is necessary for teachers to know in facilitating an appropriate physical activity experience for your son?
      i. How do you relay this information to physical activity instructors as to provide your son with the best possible physical activity experience?

   b. To what extent do you believe that it is important that instructors who facilitate activity programs for your son, relay information that could be utilized by yourself, outside the activity environment?
      i. What has shaped this perception?

7. How often do you engage in conversation with the instructors of your son's physical activity programs regarding your son's physical activity experiences?

    c. Is this something that you would like to do more or less often?
    d. What do you feel are the results of these conversations?

Cluster 2: Physical Literacy Specific Questions

8. How familiar are you with the term physical literacy?

    a. Where did you first hear about the term?

    b. How often do you come across it?

9. Tell me a little bit about the term physical literacy.
    a. What does physical literacy mean to you? Or, if you could describe physical literacy to me, what would your say?
        i. How did you come to this understanding?

    b. What sorts of activities do you engage in to facilitate physical literacy?
        i. Why are these activities of particular importance?

    c. What sorts of activities do you feel are ***most beneficial*** for developing a child's physical literacy?

10. To what extent do the instructors talk to you about physical literacy? What do they say?

    e. To what extent do you wish for this topic to be brought up more or less often?

    f. To what extent do you feel that it is necessary for the teachers of physical activity programs facilitating physical literacy development to communicate to you what is being done, as well as the goals and objectives that are being worked on within activity programs that your son is in?

Cluster 3: Physical Literacy and ASD Specific Questions

11. In what ways does the term physical literacy have relevance for children with autism spectrum disorders in general?

12. How has your understanding of physical literacy allowed you the opportunity to provide physical activities to your child fostering his/her physical literacy development?

    a. How did this make you feel?

    b. In what ways do you feel has this impacted you/your family, positively or negatively?

i. With respect to activity time, duration, and frequency?
ii. Other factors (i.e., family cohesiveness, stress levels, etc.)?

13. What value does the term of physical literacy have for your child?

14. In your opinion, what is ***the best way*** to foster physical literacy for children with autism spectrum disorder?
    iii. For your child?

15. How do things like knowledge and understanding, or motivation and confidence fit in with your understanding of physical literacy?

How do you view these components in reference to the short- and long-term goals that you set and attempt to achieve for children/adolescents with autism spectrum disorder?

# Appendix J: Interview Guide – Study 3

## Interview Guide – Study 3

First off, I would just like to thank you for your participation in this study. You are being asked to participate because you currently hold, or have previously held, the role of instructor/physical activity leader in community-based activity programs for children and adolescents with autism spectrum disorders.

The overall purpose of my research is to explore the meaning of the concept of "physical literacy" as it is understood in the context of impairment and disability. Specifically, I am investigating the concept's meaning according to adapted physical activity specialists facilitating physical activity experiences for children with autism spectrum disorder in the community. The research question being addressed is: *How do community-based adapted physical activity program leaders understand the meaning of physical literacy for children with autism spectrum disorder?*

There is no anticipated risk to your participation within the study. Additionally, your participation is your choice. You may choose to withdraw at any time during the data collection phase of the study. Moreover, an opportunity will be provided to withdraw or modify data from the study during the data collection phase of the study (i.e., review of interview transcripts). However, once you have reviewed and confirmed your interview transcript with the research team, data withdrawal is no longer possible. (i.e., you can still discontinue participation, but your data cannot be withdrawn from the analysis). I would like to remind you that you are not obliged to answer all of the questions in the interview.

The information gathered during this study will remain confidential in a secure location on the University of Alberta premises during this project. Only myself, my supervisor, and my research assistant will have access to the study data (i.e., the transcript) and interpreted information. There will not be any identifying information on the interview transcripts or generated interpretations; they will be coded and the key to the code will be kept locked away. Your names and any other identifying details will never be revealed in any publication of the results of this study.

You are welcome to ask any questions that occur to you during the course of the interview. Do you still feel like doing the interview?

### Cluster 1: Rapport Building Questions

1. How did you become interested in working with children with disabilities in a physical activity setting?

2. I would like you to think of a particular teaching experience that you have had with a child with autism spectrum disorder within a physical activity setting. Tell me a story about this experience.

    a. What did you do during that physical activity session?
    b. How did you engage with the learner(s)/participant(s)?
        i. What was your perception of the learner's receptivity to this engagement?

c. How did you feel during the experience?
d. How did you feel once the activity, or your time with the child, was over?
e. How do you think the learner felt once the activity was completed?

3. What do you feel your role as a physical activity facilitator is when working with children with autism spectrum disorder?

    a. In your opinion, does this role change over time?
        i. How does the context affect the role you assume as a physical activity facilitator? For example, if you are working one-on-one with a child versus a group of children?
        ii. If different, what do you ***wish*** your role to be?
    b. What do you feel your participants' role should be in any of these cases (i.e., one-on-one interaction vs. within a group)?

4. What kinds of goals or outcomes are you hoping to achieve with these children?

    a. How are these goals affected, for example, the longer you spend with a particular individual or group?
    b. How would you feel if these outcomes were not achieved?
    c. In your opinion, what constitutes short-term and long-term success in the setting you are a part of?
        i. How do you feel the context affects success?

**Cluster 2: Physical Literacy Specific Questions**

5. How familiar are you with the term physical literacy?

    a. Where did you first hear about the term?
    b. When working with children experiencing disability and in a physical activity environment, how often do you come across it? Daily, weekly, etc.?

6. Tell me a little bit about the term physical literacy.

    a. What does physical literacy mean to you? Or, if you could describe physical literacy to me, what would your say?
    b. How did you come to this understanding?
    c. What sorts of activities do you engage in, or have you engaged in, to facilitate physical literacy?
        i. Why are these activities of particular importance?
    d. What sorts of activities do you feel are ***most beneficial*** for developing a child's physical literacy?

7. What do you feel your role is in educating others on the concept of physical literacy?
    a. In comparison to another with an interest in a child's development (e.g., parents)?

b. How do you feel when physical literacy is something that you've been striving to develop, yet it may not be supported outside the activity setting?

**Cluster 3: Physical Literacy and ASD Specific Questions**

8. In what ways does the term physical literacy have relevance for children with autism spectrum disorders?

9. How does your understanding of physical literacy align with the needs of the children with autism spectrum disorder that you teach?

    a. Thinking back, describe a specific instance that this alignment was or was not reflected?
        i. How did this make you feel?
    b. To what extent has this instance shaped your understanding of physical literacy for children with autism spectrum disorder?

10. What value does the term of physical literacy have for these children?

11. In your opinion, what is ***the best way*** to foster physical literacy for children with autism spectrum disorder?

    a. How do you address/have you addressed the unique needs that children with autism spectrum disorder can sometimes possess?
    b. Can you describe an instance that has helped shape this perspective?

12. How do you feel your understanding/ideas surrounding physical literacy align with others who work with children with autism spectrum disorder (e.g., other physical activity facilitators)?

    a. How do you feel about this alignment?

13. How do things like knowledge and understanding, or motivation and confidence fit in with your understanding of physical literacy?

    a. How do you view these components in reference to the short- and long-term goals that you set and attempt to achieve?

14. According to the Canadian Census on Physical Literacy, physical literacy is defined as "The motivation, confidence, physical competence, knowledge and understanding, to value and take responsibility for engagement in physical activities for life".

    a. What are your biggest takeaways from this definition? What do you value most in this definition?
    b. In your opinion, is there anything that holds more or less emphasis with regards to children experiencing impairment, or ASD specifically?

        i. What influences your thoughts on this?
    c. What are your thoughts on using this single definition for everyone, despite ability level given the heterogeneity that exists from person to person?
    d. To what extent do you believe that this definition can be employed into programming, knowing that everyone is unique with respect to the combination of strengths, weaknesses, and interests that the hold?
    e. In your opinion, can physical literacy mean different things to different people yet still be considered as physical literacy? Explain.

15. What would you include in an ideal physical literacy program for children with ASD? Essentially, describe your ideal physical literacy program for individuals with ASD.
    a. What would you include with respect to activities, end goals, objectives, etc.?
        i. On what do you base these decisions?
    b. Is this a program that could be used for others experiencing disability? Explain.

16. Is there anything else that you would like to add or share?