Development and Acquisition of Knowledge of Youth Sport Coaches in Disability Sport

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Abstract

The World Health Organization recently estimated that over one billion individuals have reported some kind of disability. Within this population, 180 to 220 million are youth, 80% of them living in developed countries (United Nations, 2016). Youth with physical disabilities are statistically less physically active than youth without an impairment, affecting their health and quality of life. Having youth with physical disabilities engaged in sport constitutes a way to increase their level of physical activity and improve their health. The acquisition of these benefits can be facilitated by the presence of trained and skilled coaches, particularly in youth (disability) sport. Currently, very limited information is known about the way youth disability sport coaches are trained. The purpose of the study was to gain an understanding of the learning experiences and acquisition of knowledge of youth sport coaches in disability sport. Five experienced youth disability sport coaches participated in individual interviews and the data were analyzed using a hierarchical content analysis. The inductive analysis revealed that all coaches had unique developmental pathways, yet none of them planned on coaching in youth disability sport. Furthermore, the majority of learning opportunities experienced were informal, particularly through mentoring, trial and error, use of technology or communication with parents or support staff. Additionally, these learning opportunities were influenced by several personal, environmental, and social factors that included their athletic experiences, the limited financial support from the governing bodies, and the presence of staff members. Finally, all the participants expressed the importance of developing their youth both on and off the field, including teaching valuable life skills. The findings of the current study provide preliminary empirical evidence for the learning experiences of youth disability sport coaches. The current findings are of interest to coaches in youth disability sport since most research in this area has focused on elite coaches. Moreover, these results raise awareness by providing direction and guidance on effective coaching practices in youth disability sport and ways of acquiring that information. In fact, having more skilled coaches would enhance the sport experience, and hopefully encourage more youth with physical disabilities to get involved in sport.

Résumé

L'Organisation Mondiale de la Santé a récemment estimée que plus d'un milliards d'individus ont déclarés avoir un handicap. Au sein de cette population, 180 à 220 millions sont des jeunes, dont 80% d'entre eux vivent dans des pays dits développés (United Nations, 2016). Les jeunes vivant avec un handicap physique sont statistiquement moins actif physiquement que les jeunes sans handicap, ce qui affecte leur santé et leur qualité de vie. Avoir des jeunes avec un handicap physique engagés dans le sport constitue une façon d'augmenter leurs niveaux d'activité physique et d'améliorer leurs santés. L'acquisition de ces bénéfices peut être facilitée par la présence d'un entraîneur qualifié et compétent, en particulier dans le sport (adapté) pour jeune. Actuellement, très peu d'informations sont connues sur la formation des entraîneurs de jeunes en sport adapté. L'objectif de cette étude était de comprendre l'apprentissage et l'acquisition de connaissances des entraîneurs de jeunes en sport adapté. Cinq entraîneurs expérimentés ont participés à des entretiens individuels et les données furent analysées via une analyse de contenue hiérarchique. L'analyse inductive a révélé que tous les entraîneurs ont eu des cheminements différents, bien qu'aucun d'entre eux n'avaient planifiés d'entraîner des jeunes en sport adaptés. De plus, la majorité de leurs opportunités d'apprentissage furent informels, en particulier à travers le mentorat, l'essai-erreur, l'utilisation de technologies ou à travers la communication avec les parents ou les membres du staff. En outre, ces opportunités d'apprentissages ont été influencées par plusieurs facteurs personnels, environnementaux et sociaux, incluant leurs expériences en tant qu'athlète, le manque de soutien financier des organismes en charge, ainsi que la présence d'un staff. Finalement, tous les participants ont exprimés l'importance de développer les jeunes, tant sur le terrain qu'en dehors, notamment via l'enseignement de leçons de vie. Les résultats de l'étude fournissent des preuves empiriques préliminaires sur l'apprentissage des entraîneurs de jeunes en sport adapté. Des résultats qui sont d'intérêts pour les entraîneurs de jeunes en sport adaptés du fait que la majorité des recherches précédentes se sont concentrées sur les entraîneurs en sport adapté de haut-niveau en sport. De plus, ces résultats peuvent permettre une prise de conscience en fournissant des conseils et des indications sur les pratiques efficaces en sport adapté pour jeune et sur les façons d'obtenir ces informations. De ce fait, avoir plus d'entraîneurs habiletés améliorerait l'expérience sportive des jeunes vivants avec un handicap, tout en espérant que cela encourage également plus de jeunes à s'impliquer dans le sport adapté.

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Table of Contents

Chapter 1

Introduction

Disability is a complicated, complex, multidimensional concept that is often difficult to define (Altman, 2014). According to the World Health Organization (2017), disability takes into account participation restrictions, activity limitations, and body functions or structures issues, known as impairments. The World Health Organization recently estimated that over one billion individuals have reported some kind of disability. Within this population, 180 to 220 million are youth, 80% of them living in developed countries (United Nations, 2016). For example, the United States, has over 5 million youth living with a disability, with nearly 1 million having a physical disability, while approximately 300,000 youth reported at least one physical disability in Canada (Brault, 2011; Employment and Social Development, Canada, 2006). Physical disabilities range from visual and hearing impairments to gross motor functioning (Longmuir & Bar-Or, 2000).

Youth with physical disabilities are statistically less physically active than youth without an impairment, affecting their health and quality of life (Bult, Verschuren, Jongmans, Linderman, & Ketelaar, 2011; Coster & Khetani, 2008; Goodwin, 2016). Having youth with physical disabilities engaged in sport constitutes a way to increase their level of physical activity and improve their health (Giacobbi, Stancil, Hardin, & Bryant, 2008). Sport has been associated with the establishment of physical activity habits and long-term benefits for both non-disabled and disabled youth (Malone, Barfield, & Brasher, 2012; Zick, Smith, Brown, Fan, & Kowaleski-Jones, 2007). The benefits from sport participation range from physiological to psychosocial benefits (Malone et al., 2012; Martin, 2013). The acquisition of these benefits can be facilitated by the presence of trained and skilled coaches, particularly in youth (disability) sport (Falcão,

Bloom, & Gilbert, 2012; Goodwin, Lieberman, Johnston, & Leo, 2011; Rimmer & Rowland, 2008; Smith, Smoll, & Cumming, 2007).

Coaches significantly impact the development of their athletes, both on and off the field (Côté, Young, North, & Duffy, 2007). As a result, research has examined the learning pathways of coaches (Gilbert, Côté, & Mallet, 2006; Schinke, Bloom, & Salmela, 1995), and particularly both their formal/nonformal and informal learning opportunities (Lara-Bercial & Mallett, 2016). Formal learning opportunities include large scale coach education programs where coaches are passive observers and receive knowledge from a more experienced coach/tutor (Mallett, Trudel, Lyle, & Rynne, 2009). Nonformal learning opportunities are similar to formal learning opportunities but happen outside of the educational system such as workshops or seminars (Mallett et al., 2009). On the other hand, informal learning opportunities involve coaches as active learners who construct their knowledge from their lived experiences (Mallet et al., 2009). Youth sport coaches often rely more on formal learning opportunities as a way of acquiring coaching knowledge and skills (Lemyre, Trudel, & Durand-Bush, 2007).

In a Canadian study, 36 youth coaches from three different sports were recruited to learn about their acquisition of knowledge (Lemyre et al., 2007). Findings suggested that youth coaches mainly used formal learning opportunities to acquire knowledge and develop their coaching skills. These formal learning opportunities such as large scale coach education programs taught youth sport coaches specific knowledge that they needed to master in order to become efficient coaches, increasing their confidence to coach young athletes (Lemyre et al., 2007; Mallett et al., 2009). For these reasons, youth coaches are encouraged to follow coach-education programs especially early in their career or if they have a limited athletic experience as it gives them the foundation skills to coach their sport (Lemyre et al., 2007). Youth coaches, however, also use other resources such as books or the internet to expand their knowledge

(Wright, Trudel, & Culver 2007). Contrary to formal learning opportunities, the use of such resources can be misleading in youth coaches' acquisition of knowledge since they are not experienced enough to distinguish the information that can contribute to their learning process (Lemyre et al., 2007).

More recently, research started looking at the learning experiences of elite disability sport coaches (Cregan, Bloom, & Reid, 2007; Douglas, Falcão, & Bloom, 2018; Fairhurst, Bloom, & Harvey, 2017). Fairhurst and colleagues (2017) interviewed six Canadian Paralympic coaches to learn about formal and non-formal learning opportunities specific to disability sport. Results from their study were consistent with previous research and suggested that elite disability coaches have only few disability specific formal and nonformal learning opportunities at their disposal (Fairhurst et al., 2017; McMaster, Culver, & Werthner, 2012). As a result, elite disability coaches rely on informal learning opportunities to acquire their knowledge (Fairhurst et al, 2017; Tawse, Bloom, Sabiston, & Reid, 2012). Informal learning opportunities include trial and error, reflections, or mentoring (Cregan et al., 2007; Fairhurst et al., 2017; Hanrahan, 2007; Taylor, Werthner, Culver, & Callary, 2015). Through trial and error, elite disability coaches are encouraged to brainstorm innovative practices before applying them and making adjustments if required (Hanrahan, 2007). Furthermore, researchers have identified the importance of reflection for elite disability coaches before, during, and after practices as way to further hone their coaching skills (Taylor et al., 2015). Finally, seeking a knowledgeable mentor has been suggested as a critical element in the development of elite disability coaches' knowledge and skills (Fairhurst et al., 2017). Despite all of these, there is limited information on the learning pathways and acquisition of knowledge of youth coaches in disability sport. Given the absence of youth disability coaching specific knowledge, and the importance to facilitate the access of children and

adolescent with disabilities to sports, there is a need to better understand the learning process, their needs, and their difficulties as youth disability sport coaches.

Purpose of the Study

The purpose of the study was to gain an understanding of the learning experiences and acquisition of knowledge of youth sport coaches in disability sport and how it affected their coaching practices. The purpose was guided by the following research questions:

1. How did coaches in this context initially get involved in disability sport? Was it a conscious choice or was it by chance?

2. How did these coaches develop their coaching knowledge? Why did the coaches specifically access these learning opportunities?

3. What barriers and facilitators to the acquisition of knowledge did these coaches face?

4. What are some of the qualities required to be an effective coach in youth disability sport?

Significance of the Study

An increased interest for disability sport has emerged in the last five to ten years, as evidenced by the higher visibility of Paralympic athletes and coaches (Legg & Steadward, 2011). Moreover, there has also been an increased amount of empirical research in disability sport over this same timeframe. Despite this increase, disability sport is still in need of greater amount of empirical research (Fairhurst et al., 2017). Furthermore, a great deal of research in the field has focused on elite or Paralympic coaches and athletes, leaving research in youth disability sport coaching largely unexplored. As a result, this study will develop our knowledge of youth disability sport coaching. Moreover, the study has the potential to raise awareness to youth disability sport by providing direction and guidance on effective coaching practices and ways of acquiring that information. Therefore, the results of this study would not only benefit individuals wishing to coach in youth disability sport, but it will also assist the youth with physical

disabilities who are participating in sport. In fact, having more skilled coaches would enhance the

sport experience, and hopefully encourage more youth with physical disabilities to get involved

in sport. There is no denying that skilled coaches are more likely to create a positive training

environment where youth with physical disabilities would positively respond, fostering their

personal growth and their level of enjoyment. A high level of sport enjoyment essential in their

desires to keep participating in youth disability sport (Martin, 2006).

Delimitations

For the purpose of the study the following delimitations were identified:

1. Participants were currently coaching youth with physical disabilities.

2. Participants had at least 5 years of coaching experience in disability sport.

3. Participants were currently living in the greater Montreal area.

Limitations

These delimitations may have resulted in the following limitations:

1. Due to the nature of the study, the findings were not generalizable to a larger population

   of youth sport coaches.

2. Results were limited by the participants' ability to recall their events or experiences.

3. The results were only indicative of youth sport coaches from Quebec.

4. The results were only indicative of coaches' views, and not indicative of athletes' or

   parents' views.

Chapter 2

Literature Review

This literature review will consist of four sections. First, a historical overview of research in disability sport and the evolution of disability sport will be presented. The second section will present the experiences lived by youth with physical disabilities and the benefits and barriers associated with sport participation. The third section will describe coach learning and the acquisition of knowledge among different populations of coaches. Finally, the fourth section will summarize the effective coaching practices existing in disability sport.

History of Research in Disability Sport

While the first sport event for persons with disabilities was held in the early part of the 19th century, the modern form of disability sport first appeared in the 1940's, during the post-world war II period (Schülke, 2001; Thomas & Smith, 2009). Dr. Ludwig Guttman, a neurologist and brain surgeon, led these efforts by recognizing that organized sport could serve as an efficient vehicle for the physical and psychological rehabilitations of war veterans compared to the traditional methods of physical therapy (British Paralympic Association, 2018b; Schültke, 2001). Therefore, upon the request of the British government, Guttman founded a center for spinal cord injuries at the Stoke Mandeville Hospital, providing recreational wheelchair sport events for war veterans as part of their rehabilitation process (Thomas & Smith, 2009). In view of the success of the wheelchair activities, the first competition, the Stoke Mandeville Games, was organized on July 28th 1948, corresponding to the first day of the Olympic Games in that same year (Legg & Steadward, 2011). The Stoke Mandeville Games continued to grow and went from 16 British athletes with spinal cord paralysis competing in one sport (archery) in 1948, to 130 athletes from both England and the Netherlands, competing in four sports (archery, darts, snooker, and table tennis) in 1952, giving an international dimension to the Stoke Mandeville Games (Gold & Gold,

2007; Legg & Steadward, 2011). The 1952 edition, therefore symbolized the birth of the

Paralympic Games (Legg & Steadward, 2011).

The first official Paralympic Games took place in Rome, Italy, only a few days after the

closure of the Summer Olympic Games 1960 (Legg & Steadward, 2011). The success of the

Summer Paralympic Games led to the creation of the first Winter Paralympic Games, hosted in

Ömsköldsvik, Sweden, in 1976 (Gold & Gold, 2007). However, it was not until 1988 that the

Paralympic Games used the same venues as the Olympic Games (Legg & Steadward, 2011). As a

result, the Seoul Paralympic Games of 1988 are considered to be the first modern Paralympic

Games (Legg & Steadward, 2011). In 60 years, the Summer Paralympic Games went from two

countries represented to nearly 150, from 130 athletes participating to over 4000 (Legg &

Steadward, 2011). A similar increase took place with the Winter Paralympic Games. This

evolution is the result of the important contribution made by two countries towards the

Paralympic Movement: the United Kingdom and Canada (British Paralympic Association, 2018a;

Canadian Paralympic Committee, 2013a).

Disability sports as well as the Paralympic Games both originated in the United Kingdom

(Thomas & Smith, 2009). Following the development of the Paralympic Games, other disability

sport events appeared, particularly in Canada (Legg & Steadward, 2011). For instance, while

Winnipeg hosted the first Pan American Games for athletes with disability in 1967, Edmonton

organized the first national wheelchair games a year later, and Toronto held the

TORONTOLYMPIAD that included athletes with visual impairments and amputee athletes for

the first time (Legg & Steadward, 2011). The predominant roles played by the United Kingdom

and Canada were not limited to the development of the Paralympic Movement, but also appear in

the performance of the countries during the Paralympic Games (International Paralympic

Committee, 2018b). Indeed, for the past three Summer Paralympic Games, the United Kingdom

constantly ranked in the top 3, earning 147 medals during the Rio 2016 Paralympic Games,

whereas Canada finished in top 3 for the past two Paralympic Winter Games, earning 16 medals

during the Sochi 2014 Paralympic Winter Games[1] (International Paralympic Committee, 2018a).

These are important contributions towards the Paralympic Movement that continued to occur

since London hosted the World Para Athletics Championships 2017 (International Paralympic

Committee, 2018a).

Despite the establishment of disability sport in 1944, empirical research in disability sport

did not begin until the 1970's (DePauw, 1986; Guttman, 1976; Steadward & Walsh, 1985) and

continued to grow exponentially over the past few decades following calls made by researchers

(DePauw, 1986; Reid & Prupas, 1998). Among these pioneers, Dr. Robert Steadward is

noteworthy, including publishing over 150 studies in disability sport while being a volunteer

leader in Paralympic Sport (Canadian Paralympic Committee, 2013b; Legg & Steadward, 2011).

Moreover, Steadward was the founding president of the International Paralympic Committee, and

he is now involved in the Steadward Centre for Personal and Physical Achievement, a leading

organization in disability research (The Steadward Centre for Personal and Physical

Achievement, 2017). Similarly, Dr. Karen DePauw is also considered to be a world leader in

disability sport since her work provided a framework for research in disability sport (DePauw,

1986). Although there is still a great need for more empirical research in disability sport, the

research conducted to date has expanded our knowledge on the spectrum of disability, from

disability sport coaching to the experiences of youth with physical disabilities (DePauw &

Gavron, 2005; Fairhurst, Bloom, & Harvey, 2017).

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[1] The summer Rio 2016 Paralympic Games held 528 events in 22 sports whereas the winter Sochi 2014 Paralympic Winter Games held 72 events in 5 sports

Youth with Physical Disabilities

Disability is a misunderstood term in our society (Anastasiou & Kauffman, 2013). This misunderstanding can be more exacerbated for youth with physical impairments who can often be stigmatized and labeled as handicapped (Sigelman, Miller, & Whitworth, 1986). The stigmatization and lack of social acceptance among youth appears early in a child's development, where a child starts to establish internal norms of what is "normal" and what is not (Sigelman et al., 1986). This lack of social acceptance can often lead to feelings of exclusion among youth with physical disabilities (Spencer-Cavaliere & Watkinson, 2010). More specifically, experiencing peer-rejection at an early-age can be a strong predictor of maladjustments in adulthood (Parker & Asher, 1987). As a result, youth with physical disabilities experience less intimate relationships and are less likely to engage in social activities, such as organized sports (Stevens, Steele, Jutai, Kalnins, Bortolussi, & Biggar, 1996).

Most youth with physical disabilities experience low-levels of physical activity compared to their peers without disabilities (Rimmer & Roland, 2008; Seymour, Reid, & Bloom, 2009). This lack of physical activity can negatively impact the health and quality of life of youth with physical disabilities, including an increased risk of chronic disease in adulthood and/or a long-term disease (Goodwin, 2016; Heath & Fentem, 1997). For instance, Heath and Fentem (1997) reported that the lack of physical activity for persons with physical disabilities may have resulted in osteoporosis or coronary heart disease, as well as increasing their risk of developing secondary health conditions such as type 2 diabetes or obesity. Moreover, a lack of physical activity could lead youth with physical disabilities to become overweight and also to the development of obesity-related secondary conditions, including fatigue and joint or muscle pain (Martin Ginis, Jetha, Mack, & Hetz, 2010; Rimmer et al., 2007). Nevertheless, youth can raise these low levels of physical activity by engaging in physical disabilities sport (Barg, Armstrong, Hetz, & Latimer,

2010). Sport is a physical and competitive activity that people practice in an institutionalized setting for both internal and external rewards (Coakley & Donnelly, 2009). According to Coakley and Donnelly (2009), the organized nature of sport has been associated with greater benefits than physical activity alone. Youth with physical disabilities highly benefit from sport participation but numerous barriers restrain their access to disability sport as we will discuss next.

Benefits and barriers of sport participation. Research results have shown that sport may be even more valuable for youth with disabilities compared to youth without disabilities (Harvey et al., 2009; Martin, 2013). First, disability sport has been associated with physiological benefits (Malone, Barfield, & Brasher, 2012). Thus, engaging in disability sport allows participants to develop their physiological capacities, including an increase in stamina, flexibility, and strength, as well as the improvement of their cardiovascular systems (Malone et al., 2012). These physiological benefits increase the overall level of physical fitness and motor skills of youth with physical disabilities granting them greater autonomy (Harvey et al., 2009; Malone et al., 2012).

Beside physiological benefits, youth with physical disabilities also obtain psychological benefits from their participation in disability sport (Taub, Blind, & Greer, 1999). Therefore, involvement in adapted sports has been related to identity development (Groff & Kleiber, 2001). Defined by Groff and Kleiber (2001) as an "individual's mental representations of his or her personal and social characteristics" (p. 318), identity is a central aspect for youth with physical disabilities (Shapiro & Martin, 2010). More specifically, youth can develop an athletic identity by engaging in youth disability sport (Shapiro & Martin, 2010). The development of an athletic identity allows youth with physical disability to positively construct their identity by identifying themselves as athletes, which can give youth a sense of competence and confidence (Groff & Kleiber, 2001; Shapiro & Martin, 2010). Such self-perception might be associated with other

psychological benefits obtained from disability sport such as a relief from stress or aggression and feeling good (Giacobbi, Stancil, Hardin, & Bryant, 2008). Furthermore, participating in disability sport gives athletes a sense of accomplishment while helping to develop their ability to concentrate and their capacity to trust others (Giacobbi et al., 2008). The development of trust facilitates the acquisition of social benefits to disability sport by making athletes less introverted, more likely to work with others, and by expanding their social networks (Barfield & Malone, 2013; Taub & Greer, 2000).

Participation in disability sport provides youth with an opportunity to develop a sense of community belonging, which is created by meaningful peer-relationships that are rarely available in their home communities (Goodwin, Lieberman, Johnston, & Leo, 2011; Goodwin & Staples, 2005; Shapiro & Martin, 2010). The establishment of such relationships is favoured in disability sport since youth can identify with others who share similar life experiences, fostering interpersonal interactions (Goodwin et al., 2011; Goodwin & Staples, 2005). Consequently, disability sport allows youth with physical disabilities to enhance their social relations by sharing an emotional connection with others and through the creation of common experiences that will decrease the risk of social isolation (Goodwin et al., 2009; Goodwin et al., 2011). Moreover, sport gives youth with physical disabilities a context where they can exceed the expectations associated with their impairments which change the perception of their peers about disability and its limitation (Goodwin & Watkinson, 2000; Seymour et al., 2009; Taub et al., 1999). Therefore, disability sport provides youth with physical disabilities a context in which to grow as individuals and to express themselves in a friendly environment, despite the multiple barriers to their access to sport (Martin, 2013).

These barriers exist on different levels, one of them being on the individual level (Martin, 2013). For example, pain or discomfort has been identified by youth with physical disabilities as

one of the most difficult barriers to overcome when trying to be physically active (Finch, Owen, & Price, 2001; Kang, Zhu, Ragan, & Frogley, 2007). Additionally, youth with physical impairments often face social barriers (Martin, 2013). As most youth, youth with physical disabilities mainly rely on adults to engage in sport, particularly their parents (Martin & Choi, 2009; Seymour et al., 2009), who may discourage or show very limited support toward their children' participation in disability sport because of fear of injury (Nixon, 1988). Parents, however, are not the only ones responsible for the low-levels of physical activity among youth with physical disabilities (Martin, 2013). In fact, youth with physical disabilities can be excluded from sport or physical activity due to others' misconception about their ability to perform the activity (Kang et al., 2007). This exclusion makes it harder for youth with a physical disability to find a partner to play with, constituting a major social barrier in their access to sport and physical activity (Tsai & Fung, 2005). Finally, youth with physical disabilities also face environmental barrier, such as lack of adequate equipment (Spivock, Gauvin, & Brodeur, 2007). Similarly, there are also undertrained staffs that do not understand the implications of working with youth with physical disabilities, particularly how to provide a safe and favourable training environment (Fraser-Thomas, Côté, & Deakin, 2005; Martin, 2013; Stuart, Lieberman, & Hand, 2006). As highlighted by Fraser-Thomas and colleagues (2005), untrained coaches can have a negative influence and deter positive youth development. For example, coaches who lack knowledge about their athletes and how to properly train them can increase the chances of youth developing sport-related injuries. Similarly, the authors discussed the potential emotional and psychological stress coaches can put on their athletes, which reinforces the necessity of understanding the learning experiences of coaches in disability sport and youth sport.

Coach Learning

Understanding the learning experiences of coaches is considered essential to improve the quality of sports coaching and the resulting outcomes (Mallett, Trudel, Lyle, & Rynne, 2009). However, this understanding is restricted by the confusion between terms coach learning, coach education, and coach training that are used to qualify the learning process of coaches (Mallett et al., 2009; Nelson, Cushion, & Potract, 2006). According to Nelson and colleagues (2006), coach learning should be the overarching terminology used by coaching researchers.

Coach learning is often associated with both formal/nonformal and informal learning (Mallett et al., 2009). In an attempt to classify learning modes, Coombs and Ahmed (1974) suggested three types of learning: formal, nonformal, and informal. First, formal learning, such as large-scale national coach education programs, often takes place in an institutionalized setting where grades are assigned based on the restitution of knowledge. The learning is guided by a knowledgeable tutor or instructor (Mallett et al., 2009). The learner, in turn, is passive and has very limited influence on what can be learned. Furthermore, the instructor ensures that the participant masters what has been taught and successfully meets the expectations associated with the content provided. Consequently, only by demonstrating the right acquisition of knowledge and demonstrating the expected behaviour in a given situation does the instructor grant certification to the learner (Nelson et al., 2006). This certification recognizes the achievement of the learner, and gives learners' access to experts in their field providing knowledge in an environment where the quality can be ensured and measured. For instance, in Canada, the National Coaching Certification Program (NCCP) helps coaches acquire the foundations and skills in their sport (Duarte & Culver, 2014).

On the other hand, the methodology used in formal learning has often been criticized (Cushion, Armour, & Jones, 2003; Mallett et al., 2009; Nelson et al., 2006). For example, the

delivery lacks individualization which in turn can reduce how meaningful these learning experiences are for coaches (Mallett et al., 2009). By standardizing the delivery of their content, programs present coaching as a mechanistic process where every coach encounters the same situations that can be answered in a similar manner, regardless of the characteristics of their athletes (e.g., gender, age: Cushion et al., 2003; Nelson et al., 2006). Furthermore, critics have highlighted the lack of contextualized information given to the coaches, making formal learning situations less pertinent for coaches (Mallett et al., 2009). As a response to these critics, coaching associations tried to expand the scope of learning opportunities by giving coaches access to nonformal learning situations (Coombs & Ahmed, 1974; Mallett et al., 2009).

Nonformal learning primarily differs from formal learning in that it is designed for a specific population and takes place outside of the formal education system (Coombs & Ahmed, 1974; Merriam, Caffarella, & Baumgartner, 2007). Examples of nonformal learning opportunities include coaching clinics, seminars, conferences, or workshops (Nelson et al., 2006). In contrast to formal learning, nonformal learning situations are designed for a specific subgroup of the population, and therefore, tend to be less general, addressing a particular area of interest among participants (Nelson et al., 2006). On the other hand, Mallett and colleagues (2009) discussed the similarities between nonformal and formal learning, such as the direction by a knowledgeable expert and a short duration (e.g., day or week end). As a result, the authors suggested that these learning opportunities might be best qualified as "less formal" learning opportunities rather than nonformal learning opportunities (Mallett et al., 2009).

A final type of coach learning, called informal learning, occurs beyond the structured format of formal and nonformal learning situations (Coombs & Ahmed, 1974; Nelson et al., 2006). According to some experts, coaches learn through a wide variety of context: e.g. from their athletic experiences to their daily exposure to their work environment (Lemyre, Trudel, &

Durand-Bush, 2007; Schinke, Bloom, & Salmela, 1995; Wright et al., 2007). In contrast to formal/nonformal learning situations, learners are active in informal learning, making sense of their lived experiences (Fairhurst et al., 2017; Mallett et al., 2009). Therefore, coaches build their own knowledge according to what seems pertinent to them (Mallett et al., 2009). Although informal learning situations can be very diverse, research has divided informal learning to better understand its nature (Marsick & Watkins, 1990, 2001). Marsick and Watkins (1990) stated that informal learning opportunities should be broken down into two parts: informal learning and incidental learning. Informal learning can be intentionally encouraged and remain under the control of the learner, such as through mentoring, communities of practice, or informal learning networks (Cregan, Bloom, & Reid, 2007; McMaster, Culver, & Werthner, 2012). Incidental learning, however, is mostly an unconscious process, where coaches learn without being necessarily aware of it such as through trial and error or reflection (Duarte & Culver, 2014; Fairhurst et al., 2017; Marsick & Walkins, 1990).

Whether it is to suggest the use of a different terminology (Lefebvre, Evans, Turnnidge, Gainforth, & Côté, 2016; Werthner & Trudel, 2006) or to establish what learning opportunities should be privileged during the coach development (Gilbert, Côté, & Mallett, 2006), understanding the learning pathways of coaches is a primary objective of coaching research. Researchers have suggested that debating the different forms of learning opportunities and trying to distinguish them would not be as efficient as acknowledging their existence, their contributions to the coach development, and considering them as a whole and not as distinct parts (La Belle, 1982; Mallett et al., 2009). Nevertheless, it is important to understand the learning process for youth sport coaches, as well as for coaches of athletes with a disability.

Youth sport coach learning. Following the efforts of various sport governing bodies to professionalize coaching, youth coaches are encouraged to follow large-scale coach education

programs (Lemyre et al., 2007). The nature of these programs are particularly beneficial for youth coaches with limited athletic or coaching experience, as it gives them professional skills and the confidence to coach in their sport (Lemyre et al., 2007; Wright et al., 2007). Moreover, coach education has been found to significantly affect coach efficacy (Sullivan, Paquette, Holt, & Bloom, 2012). Although formal learning situations are beneficial for youth coaches because of their easy access and the assurance of receiving teaching quality, they are not the only learning situations used by youth coaches in their development (Wright et al., 2007).

Studies have reported that youth coaches also benefitted from nonformal and informal learning situations (Lemyre et al., 2007; Wright et al., 2007). Moreover, Gilbert and colleagues (2006) highlighted how years of playing a sport contributes to the accumulation coaching knowledge. Along the same line, youth coaches also reported using the Internet and books to improve their knowledge (Lemyre et al., 2007; Wright et al., 2007). While these learning situations can be valuable for youth coaches' development, their lack of guidance means they are limited to what they know, reducing the potential benefits from it (Mallett et al., 2009). Moreover, this lack of guidance can have a detrimental impact on the quality of their learning. Despite reporting interactions with other peers as a way of getting knowledge, studies have demonstrated that the inexistence of communities of practice among youth coaches was an important barrier in their development (Lemyre et al., 2007; Wright et al., 2007). In fact, youth coaches sometimes see their peers as rivals instead of as colleagues, and can be reluctant to share their knowledge with other coaches (Lemyre et al., 2007). This lack of collegiality does not appear to exist among elite disability coaches (Cregan et al., 2007).

Disability sport coach learning. Paralympic or elite disability coaches have limited access to formal and nonformal learning opportunities compared to able bodied coaches, especially formal and nonformal learning opportunities specific to their sport (Cregan et al.,

2007; Douglas et al., 2018; McMaster et al., 2012; Fairhurst et al., 2017; Tawse, Bloom,

Sabiston, & Reid, 2012; Taylor, Werthner, & Culver, 2014). Despite the increased visibility of

the Paralympics, athletes and coaches in disability sport often remain marginalized by receiving

less media coverage, less public and private entities attention, and less financial support, which

could reduce the opportunities available in disability sport (Thomas & Smith, 2003). As an

example, the National Coaching Certification Program (NCCP) in Canada offers 66 courses, of

which only 5 are disability sport specific: boccia, goalball, wheelchair basketball, wheelchair

rugby, and Special Olympics (Coaching Association of Canada, 2018a). Consequently, disability

sport coaches mainly rely on informal learning opportunities as a way of expanding their

coaching knowledge and skills (Fairhurst et al., 2017; McMaster et al., 2012; Taylor et al., 2014).

This may be especially important since only a small number of disability coaches have a

disability (Cregan et al., 2007; Douglas et al., 2018; Fairhurst et al., 2017; McMaster et al., 2012).

According to Douglas and colleagues (2018), coaches who were former Paralympic athletes

benefit from unique insights that cannot be replicate by coaches without a disability. Indeed, this

experience of living with a disability and as a Paralympic athletes increased the knowledge and

effectiveness of coaches with a disability, although it is possible to become an effective disability

sport coaches without living with a disability. In the absence of athletic experience in disability

sport, disability sport coaches have to use other types of informal learning to obtain knowledge,

such as reading coaching manuals (e.g., Coaching Athletes with a Disability) or trial and error

(Coaching Association of Canada, 2011; Cregan et al., 2007). Through trial and error, coaches

need to be creative in order to adjust their practices until they find the right fit for their athletes.

The acquisition of knowledge through trial and error can be facilitated by having disability

coaches reflecting on their practices (Taylor, Werthner, Culver, & Callary, 2015).

Reflection is the process of constructing knowledge out of past and current experiences (Callary, Werthner, & Trudel, 2012). This process is used by disability coaches to reflect on past educational experiences, including university courses or coach-education programs (Taylor et al., 2015). In fact, research results have found that most elite disability coaches started coaching abled-bodied athletes (Cregan et al., 2007). Consequently, interacting with others can foster learning (Cregan et al., 2007; Duarte & Culver, 2014; Fairhurst et al., 2017; McMaster et al., 2012; Taylor et al., 2015). For instance, disability coaches perceived parents and family members of athletes with physical disability as an important source of information (Cregan et al., 2007; Tawse et al., 2012). However, the perceptions of the learning experiences of disability coaches are not limited to interaction with parents.

Fairhurst and colleagues (2017) conducted a qualitative interview study with 6 Canadian Paralympic coaches, regarding their personal and unique learning experiences. Results suggested that these coaches learned a great deal about the disability sport context from interacting with their athletes, a finding that aligns with previous research on the coach-athlete relationship in the learning process of disability coaches (Cregan et al., 2007; Duarte & Culver, 2014; Taylor et al., 2015). Additionally, mentoring was also identified as an important learning opportunity for disability sport coaches (Fairhurst et al., 2017). According to Bloom (2013), mentoring allows the mentee/protégé to learn and develop their coaching skills from a mentor coach who provides guidance and directions. Furthermore, the results found that a mentor coach allowed young coaches to gain extensive knowledge that helped them become effective Paralympic coaches.

Effective Disability Sport Coaching Practices

Disability sport coaches have less access to resources and materials to train their athletes than coaches in able bodied sport (Fairhurst et al., 2017). As a result, athletes with physical disabilities are at risk of not being suitably trained (Martin, 2014). Due to the need for greater

training among disability sport coaches, researchers have begun identifying strategies used by Paralympic or elite disability coaches (Banack, Sabiston, & Bloom, 2011; Falcão, Bloom, & Loughead, 2015; Tawse et al., 2012).

According to both Cregan and colleagues (2007) and Tawse and colleagues (2012), elite athletes with physical disabilities want to be considered as elite athletes and want to be given choices in their training. A similar finding emerged from Banack et al., (2011) study, although their data came from the Paralympic athletes themselves. Central to their findings was that the Paralympic athletes preferred an autonomy-supportive coaching style (cf. Mageau & Vallerand, 2003) that provides athletes with choices, opportunities for initiative taking, and constructive feedback. In line with previous research on self-determination theory among elite able-bodied athletes, these findings suggested that the need for autonomy, competence, and relatedness are equally as important among elite athletes with physical disabilities (Banack et al., 2011; Deci & Ryan, 1985; Mallett, 2005). Similar to able-bodied coaching, disability sport coaches influence the level of intrinsic motivation of their athletes not only by satisfying these basic needs, but also by challenging their athletes and setting realistic goals (Cregan et al., 2007). However, despite these numerous similarities, coaching athletes with physical disabilities present unique challenges about which coaches need to be aware (Cregan et al., 2007; Tawse et al., 2012).

Understanding the nature of the disability of their athletes, the medication associated with it, and their daily experiences is a fundamental parameter for coaches in this context (Tawse et al., 2012). Sharing knowledge with support staff, parents, or volunteers provides coaches the opportunity to develop their creativity, a key characteristic of successful coaches in disability sport (Cregan et al., 2007). Finally, being knowledgeable about the disability of their athletes is important, including how the disability fits in the classification system (Martin, 2014).

The classification system in para-sports ensures a fair and equal competition between athletes (International Paralympic Committee, 2018a). The classification of every athlete is made following a three steps process. First, the athlete must report an eligible impairment (e.g., limb deficiency or ataxia). Second, this eligible impairment must meet the minimum disability criteria of the sport. Finally, if the athlete is eligible for a sport, the classification panel will assign them to the appropriate sport class in which to compete. Whereas knowing the classification system is important, coaches must also know the potential of their athlete to avoid "sandbagging" (Martin, 2014). This phenomenon occurs when an athlete purposefully underperforms in order to receive a lower classification.

Although numerous strategies to enhance team cohesion are documented in able-bodied sport (Loughead & Bloom, 2013), the same cannot be said in disability sport. Falcão et al. (2015) provided one of the only examples of Paralympic coaches who have reported using interpersonal activities (e.g. team dinner) to enhance team cohesion. Because organizing such events regarding transportation and accessibility, coaches must be well-versed in their athlete's functional capacities and must be very organized every time they plan a team event. Moreover, both Falcão and colleagues (2015) and Caron, Bloom, Loughead, and Hoffman (2016) have highlighted the importance of athlete leaders in overcoming these issues as a way to enhance team cohesion. This confidence in their athlete leaders contributed to the success of teams, both on and off the field of play. Despite these recent findings, more research is needed in disability sport for both athletes and coaches.

Chapter 3

Methods

Philosophical Assumptions

Researchers have called for a clearer justification of one's epistemological assumptions in qualitative research (Carter & Little, 2007). Epistemology is the theory of knowledge and refers to how researchers think knowledge is created (Moser, 2002). Two main epistemological positions exist: 1) objectivist where the known exists independently of the knower, and 2) subjectivist where no separation exists between the known and the knower (Daly, 2007). According to Daly, these two positions can be conceptualized on a continuum, with each one underpinning different assumptions. The present study used a *social constructionist epistemology*, where all reality is constructed rather than created. Social constructionism recognizes the "presence of an external reality subjectively perceived and understood by the observer", emphasizing on the meaning-making process as an interactive process (Daly, 2007, p. 32). Consequently, social constructionism focuses on how participants are making sense of an experience rather than the experience itself.

This epistemological assumption aligns with an ontological view about the nature of "being". As a result, this study adopted a *relativist ontology,* which acknowledged the existence of multiple realities based on a person's values, beliefs, and point of views. In fact, similar to our epistemological assumptions, through a relativist ontology we acknowledged the roles played by the researcher and the participants in the construction of the reality. The epistemological and ontological assumptions adopted by the researcher for this study influenced the choice of methodology used to conduct the research (Daly, 2007).

Methodology

A methodology draws the boundaries of the study by framing all the steps that will be taken throughout the research project. The field of sport psychology has long been dominated by quantitative methodologies until Martens' work (1987) started questioning the pertinence of exclusively conducting quantitative research as the most efficient way to understand human behaviour. Martens proposed the use of a qualitative approach to better understand the lived experiences of participants. In qualitative research, researchers try to understand a particular phenomenon through their participants' perspectives with a focus on the context in which the phenomenon occurs (Braun & Clarke, 2013). Therefore, qualitative inquirers often study their participants in their natural settings in which their words constitute the main data of the researcher. Following Martens' call, qualitative research in sport psychology started growing and became more structured, providing researchers with guidelines to conduct their studies (Côté, Salmela, Baria, & Russell, 1993; Dewar & Horn, 1992). Currently, qualitative research has been used as a common methodology in sport psychology and different approaches have been developed (Creswell, 2013).

Five main qualitative approaches exist: narrative, phenomenological, grounded theory, ethnographic, and case study research (Creswell, 2013). The current study followed a *case study approach*. Our approach was bounded as an instrumental case where several cases were selected to better understand an issue (Stake, 1995). Following Creswell's recommendations on collective case study, several cases have been selected to illustrate the issue previously identified and selected. In order to develop an understanding of each case, the design of the study responded to the logic of replication, meaning that the same procedure was applied to each participant (Yin, 2009). Consequently, our methodology guided the methods, from the recruitment of participants to data analysis (Carter & Little, 2007).

Sampling Procedure and Participants

Determining the exact number of participants required for a qualitative research study is a challenging task. According to Braun and Clarke (2013) researchers should recruit enough participants so similar patterns and themes can be identified. Rather than focusing on a specific numbers of participants, researchers should aim at reaching data saturation (Sparkes & Smith, 2014). In order to reach data saturation, the recruitment of participants also requires strategic choices (Sparkes & Smith, 2014).

Participants were recruited using purposeful sampling to ensure that the participants had the ability to provide relevant content regarding the research questions. Among the fifteen subtypes of purposeful sampling described by Patton (1990), this research mainly used *convenience sampling*. Five male participants (M= 39 years old) were recruited according to two conditions: (a) participants were currently coaching youth with physical disabilities, and (b) participants had at least 5 years of coaching experience in disability sport. The primary researcher found all of his participants living within the greater Montreal area. The five coaches were coaching both genders and had been coaching individual or team sports for an average of 7.4 years.

Recruitment process. Prior to the recruitment of participants, a document was submitted to the McGill University Research Ethics Board for ethics approval. Once approved, participants were recruited through email in which a brief description of the study was included (see Appendix A). Those who agreed to participate received a consent form (see Appendix B) that was collected prior to meeting with the primary researcher. The meeting was scheduled and held at a location that was convenient for each participant. One interview took place at the work location of the participant, one at a coffee shop where the participant was a regular costumer, and the three other interviews were held at the training location of the coaches. Among these three

interviews, two took place after practice and the remaining interview was conducted prior to the practice.

Data Collection

Qualitative researchers have traditionally used several methods for data collection, such as interviews, observations, or gathering documents (Sparkes & Smith, 2014). The choice of method is best determined by the purpose of the study and how it will answer the research questions (Rubin & Rubin, 2012). Interviews are a social activity that allows a conversation to take place between at least two persons (Smith & Sparkes, 2016). Interviews are commonly used in academic fields of education, medicine, or sociology (Rubin & Rubin, 2012). Specific to sport psychology, nearly 80% of the qualitative studies identified in scientific journals over the periods 2000-2009 used interviews to collect data (Smith, Caddick, & William, 2015). However, the choice of interview should not be considered as a default option but rather a deliberate choice to answer the research question (Smith & Sparkes, 2016). Moreover, Smith and Sparkes (2016) noted the purpose of an interview is to create a conversation to get to know the interviewee and to encourage him/her to share his/her stories and experiences. Qualitative interviews allow the researcher to talk to those who experienced the issue and to explore in detail the perspectives of their participants on their lived experiences (Rubin & Rubin, 2012).

The current study used a *semi-structured interview* with a pre-established set of open-ended questions to guide the discussion (Sparkes & Smith, 2014). Open-ended questions encouraged the interviewee to elaborate on the questions and allowed the interviewer to facilitate the discussion while remaining flexible and responsive to unanticipated points. Consequently, the interviewer played an active role and contributed to the co-construction of knowledge through his interaction with the interviewee (Smith & Sparkes, 2016). Therefore, in line with the researcher's epistemological assumptions, it is essential to recognize the role played by the interviewer in the

building of knowledge and to explain how the researcher's subjective experiences and knowledge

shaped the data collection process.

The interviewer biography. The interviewer had extensive experience in youth sport,

both as a player in recreational and elite settings, and as a coach with over 5 years of coaching

experience in youth sport. Although the researcher did not have coaching experience in youth

disability sport, two experiences helped immerse him in this culture. First, the interviewer

attended an adapted physical activity course at the university level for an entire semester. Twice a

week, the interviewer learned from an experienced teacher and researcher who had been working

with people with disabilities for numerous years. In addition to theoretical knowledge, this class

allowed the researcher to obtain practical knowledge by observing students working with people

with disabilities. Second, the interviewer attended practices of youth disability sport teams where

he observed three practices of three different sports, each one lasting three hours. Observing the

practices allowed the interviewer to get familiar with youth disability sport. These experiences

allowed the interviewer to obtain knowledge in disability sport coaching and to develop a

subjectivity regarding this topic that would enhance the interviews.

Interviews. The interviews were conducted in English and French, based on the

interviewee's preference, and lasted between 63 and 169 minutes. Moreover, the interviews were

conducted in person and audio recorded and transcribed verbatim. Prior to conducting interviews,

the primary researcher engaged in one videotaped pilot interview. The research supervisor, who

has extensive experience in qualitative interviewing, analyzed the videotape and provided

insightful advices and guidance on interviewing techniques.

Interview guide. The interview guide started with opening questions designed to

establish a relationship with the interviewee and provide a brief description of their athletic

experience and coaching career prior to their career in disability sport coaching (see Appendix

C). The interviewer then guided the discussion towards the core of the interview, which was composed of three main questions that addressed the research questions. Follow-up questions allowed the interview to elicit depth, fill missing parts, or understand nuances of an issue (Rubin & Rubin, 2012). For instance, follow-up questions were asked if the answers given by the interviewee were too broad (or narrow), if the main questions were not answered, or if new ideas related to the topic emerged from the discussion. As a result, due to the nature of semi-structured interviews, the list of follow-up questions was not exhaustive as the interviewer had to respond to some of the unanticipated points brought by the interviewee. Finally, the interview guide concluded by giving the interviewee the opportunity to go back on any answers given or addressing any issues that have not been previously mentioned and that seemed relevant to the participant.

Data Analysis

Considered as one of the most widely used data analysis methods in qualitative research, thematic analysis has only been recently recognized as a distinctive method with clear guidelines and set of procedures in social sciences (Braun & Clarke, 2013; Sparkes & Smith, 2014). Thematic analysis identifies patterns within and across a dataset while allowing for description and interpretation of the meaning and importance of the data themes (Braun, Clark, & Weate, 2016). According to Braun and colleagues (2016), thematic analysis is a fairly straightforward technique but allows for complex and nuances in the interpretation of the data. Two major strands of thematic analysis currently exist: the "small q" strand tied to a realist ontology and the "big Q" strand that is not associated to any theoretical positions. The latter strand offers flexibility in the analysis of the qualitative data because it is not tied to a particular framework. However, this flexibility forces the researcher to make active choices about how he/she will interpret the data (Braun et al., 2016). Among these choices, the researcher needs to decide whether the approach is

grounded in any epistemological or ontological assumptions. As stated earlier in this chapter, the

study fell under a social constructionist epistemology and a relativist ontology, therefore the

analysis was shaped to a certain extent by the researcher's epistemological and ontological

assumptions, and his disciplinary knowledge (Braun & Clarke, 2013). A second choice regards

how the researcher approaches the data coding and theme development. The current study mainly

adopted a deductive approach, also called "data-driven" or "bottom-up", in which themes were

identified from the data without interpreting it through with particular theoretical lens. As

described by Braun and Clarke (2013) and despite its flexibility, thematic analysis implies

following six phases.

First, the *immersion* phase, in which the researcher became familiar with the data by

reading all the data items multiple times while looking for ideas or concepts of interest and taking

notes. For more clarity, the researcher also started to refer to the first interviewee as C1 (Coach

1), the second as C2 and so on, until C5. Secondly, the researcher *generated initial codes* by

systematically attributing a code or "tag" to each part across the entire data set that seemed

relevant to the research question. Then, the researcher produced a list of the different codes,

which was as open and inclusive as possible, as the researcher did not know at this point which

codes would be used to generate themes – 41 codes were generated by the researcher. Third, by

searching for and identifying themes, the researcher organized the different codes into potential

themes, combining the codes previously produced into overarching themes that captured more

than one specific idea. By the end of the third phase, the 41 codes were organized into seven

themes that produced three overarching themes, as shown in Table 2. In the fourth phase, the

researcher was *reviewing themes* to ensure that the candidate themes formed a coherent pattern

with the coded data, or if the themes must be removed or modified to best fit the coded data.

During the fifth phase, the researcher *defined and named themes*. In this phase, the researcher had

to refine and define the themes to make sure that each one of them was unique and captured the essence of a specific part of the data. As noted in Table 3, the themes have been organized into three overarching themes that were named *Learning Opportunities*, *Factors Affecting Learning*, and *Coaching Youth with Physical Disabilities*. Finally, the sixth phase consisted of *writing the report* in which the researcher had a final opportunity to polish the analysis and must find the right balance between data extract and analytic commentary in order to give the reader a clear interpretation of the data (Braun et al., 2016).

In addition to the guidelines, Braun and Clarke (2013) developed a checklist to ensure the quality of thematic analysis. Nevertheless, the evaluation of the data using thematic analysis also presents several weaknesses such as a limitative interpretative power if not used within a theoretical framework or the risk of producing unfounded analysis within the data (Braun & Clarke, 2013; Sparkes & Smith, 2014). The researcher can apply several strategies that will ensure the validity of the study by being aware of the weaknesses associated with the thematic analysis process, the researcher can apply several strategies that will ensure the validity of the study.

Quality Controls

Demonstrating rigor is a major issue when conducting a study, and a set of criteria has been established to assist judging the quality of the research (Sparkes & Smith, 2014). In fact, Lincoln and Guba (1985) were among the first researchers to establish criteria for judging the validity, the reliability, and the objectivity of qualitative studies, acknowledging the specificity of qualitative studies in sport and exercise sciences. Over the years, the criteria have been refined and additional methodological criteria have appeared to assess the quality of a qualitative study in the field (Creswell, 2013). According to Burke (2016), two overarching positions can be adopted by the researchers to evaluate qualitative research: the criteriological approach in which the

quality of any study can be evaluated using universal criteria, and the relativist approach. On one hand, the criteriologist believes that all genres of qualitative research can be similarly evaluated with fixed criteria. On the other hand, the relativist approach is in line with social constructionism epistemology and relativist ontology (Burke, 2016). Moreover, conversely to criteriological approach, criteria in a relativist approach are applied in a contextually situated and flexible manner (Sparkes & Smith, 2009). Due to the nature of the relativist approach, the researcher used this approach to determine the alternative criteria that best judged the quality and validity of the research. Ultimately, the researcher used the following criteria to ensure the quality and validity of the study: a critical friend, the sensitivity to context, and the substantive contribution and width.

Critical friend. As recommended by Smith and McGannon (2017), the primary researcher used the help of a critical friend to certify the quality of the research. The role of the critical friend was to challenge the researcher's assumptions and interpretations and to encourage reflection as opposed to arrive to an agreement on each aspect of the findings (Sparkes & Smith, 2014). For the purpose of this study, the critical friend was a researcher with extensive experience in qualitative methods and sport coaching research. The critical friend questioned the decisions made by the researcher and proposed alternative interpretations of the data. Moreover, the critical friend met with the researcher at numerous occasions, giving him feedback, discussing his ideas, and suggesting either to expand, to delineate, or to delimit the discussion of the results to ensure it remained coherent in regard to the data collected. Finally, the critical friend spent considerable time investigating the transcripts and analyses looking for biases, assumptions, overemphasized points or vague descriptions made by the researcher. By doing so, the critical friend improved the overall quality and validity of the research.

Sensitivity to context. When engaging with the data, the researcher needs to acknowledge and define the context of the study (Burke, 2016). In the present study, the researcher had experience coaching youth in able-bodied soccer and immersed himself in the youth disability sport community by meeting with coaches of youth with physical disabilities, observing their practices, and trying to understand the dynamic these coaches have with their coaching environment. In addition, the researcher also attended a university class that allowed him to learn more about the theories of adapted physical activity. These experiences influenced the researcher's perspective throughout this study. Therefore, the researcher identified the perspectives that he brought to the study and acknowledged that his experiences influenced the collection, analysis, and interpretation of the findings (Sparkes & Smith, 2014).

Substantive contribution and width. The researcher had to ensure that the study contributed to the understanding of the learning experiences of youth coaches in disability sport (Richardson, 2000). To accomplish this, the researcher provided quotations of answers recorded during the interviews, as well as detailed descriptions of the context of the findings, including the researcher's personal background that allowed the reader to evaluate and judge the quality of the interviews and the interpretations (Lieblich, Tuval-Mashish, & Zilber, 1998). Therefore, the quotes from participants exemplified the research findings and the contexts in which the participants' discussions were entrenched. By doing so, the researcher allowed the reader to understand the researcher's logic, and to judge whether or not the current results were generalizable to their own contexts.

Chapter 4

Results

This chapter presents the results of the five interviews conducted with youth disability sport coaches. The interviews averaged 102 minutes, and ranged from 63 to 169 minutes. The interviews were transcribed and resulted in 103 pages of single-spaced text. The five interviews of the study resulted in a total of 585 data extracts from which 41 codes emerged. These codes discussed by the participants have been alphabetically organized in Table 1. The number of data extracts varied from each participant, ranging from 63 (C2) to 186 (C5). However, these numbers do not imply that more data extracts are better since some coaches might expressed themselves more directly than others. This difference is simply the result of the use of open-ended interviews that allowed coaches to express their opinions with limited restrictions. The descriptions of the themes will be accompanied by supporting quotations labelled in the order the interviews were conducted (i.e., C1… C5).

Learning Opportunities

This section details the various learning opportunities accessed by coaches in order to acquire and develop their coaching knowledge specific to youth disability sport. The nature of these learning opportunities was diverse and impacted each coach's learning differently. To begin, all the participants discussed the importance of *structured learning opportunities*.

Structured learning opportunities. All of the coaches experienced structured learning opportunities that took place in an organized setting where coaches received knowledge from experts. For example, all coaches took coaching certification through the NCCP, but not all participants had the opportunity to take coaching certifications in their sport. One out of our five participants took coaching certification specific to their sport:

Results   32

> I took a level 1 training, through the NCCP certifications, really specific to wheelchair basketball, which shows certain types of exercises and how to organize a practice. Then, I did my level 2 when I wanted to train more competitive youth. (C2)

The three other coaches in our study did not take a coaching certification specific to their sport. As a result, they adapted what they learned in a non-specific or able-bodied sport coaching certifications to their coaching context. Similarly, some coaches also mentioned attending coaching conferences and seminars that, once again, were not disability sport specific:

> I had no choice but to take a national certification training in multisport, where they teach a global approach to coaching. This is difficult to apply to powerchair soccer. The certification I own is not applicable to powerchair. This is a problem that we have to deal with, but due to the newness of the sport, there are no alternative options. (C1)

> If a conference is eight hours long, there are probably two hours total that served me no purpose, because there is no way for me to use what was said. For example, during these two hours, they might be presenting exercises that can only be done standing, and therefore I cannot use these exercises. However, if they are presenting about coaching techniques in youth sport, that is information that I can use, because there are similarities between coaching youth in regular hockey and adapted hockey. (C4)

Due in part to their lack of specificity, structured learning opportunities did not appear to be the main source of their knowledge. In fact, only four different codes mentioned structured learning opportunities, which highlight the few available structured learning opportunities. In comparison, 10 codes addressed *unstructured learning opportunities* indicating that more coaches sought unstructured methods to acquire their coaching knowledge.

Unstructured learning opportunities. The unstructured learning opportunities were not formally organized nor planned and were either intentional or accidental. In particular, our participants described learning from mentors, community of practice, trial and error, and the search for additional coaching resources (e.g., online videos). First, having a mentor appeared to be an essential form of learning by the participants, especially early in their careers. The special

relationship coaches established with their mentors allowed them to develop their coaching

knowledge and gain confidence in their ability to coach:

> The first coach who took me under his wing was one of my coaches…What I liked about the relationship with my first coach is the confidence he gave me when I started coaching. He would let me do the exercises, and he told me to try things, to have fun. It really helped me because he had confidence in me and that gave me confidence. It was really an important part, as a kind of mentoring. (C2)

> I would consider [Name] to be my mentor and I have often referred to him. During the past 25 years, our athletes have competed at the same competitions, and we have been able to share our ideas, including those on the evolution of our sport. What we have addressed has often exceeded the scope of training, and we have spoken about a variety of concerns, including problems of recruitment to succession, because it is all connected. (C3)

> Second, the influence of other coaches on the participants' learning seemed to be greatly

beneficial. This opportunity to exchange coaching knowledge and learn from their peers helped

to create a community of practice that allowed coaches to learn within a positive environment as

explained by one participant: "There is a strong community of practice here. We are a very close-

knit group, and all of us are always hungry for more information" (C5). As one coach noted: "To

develop knowledge in this field, it is equally important to exchange information with your peers"

(C3). Exchange between coaches were facilitated by the use of technology, especially social

media:

> I think one of the biggest elements that have helped us grow is the social media and virtual communication that we have now. In the past it was very difficult to communicate with other cities and provinces. Today, we can go online, to Facebook groups and other social media platforms. (C5)

> Despite its benefits, a community of practice was not available to all our participants,

likely because the sport was simply not developed enough in the participant's region:

> I do not communicate much with other coaches due to either the distance between us, or because we are the only ones who play sledge hockey in [our city]. When I coached regular hockey, I would run into the other coaches who had practice right after us, and sometimes I would stay and watch and chat with them, but with sledge hockey there's only us. (C4)

Third, coaches also developed their knowledge through unintentional learning

opportunities, such as trial and error, which was extensively used by all the participants:

> Trial and error has been the most important resource for me. Initially, a coach starts with a vision that guides their coaching. Trial and error allows the coach to put that vision to the test, and brings them the most immediate response. Whether it's a game strategy or a technique to rotate the chair. The trial and error strategy guides coaching. (C1)

> I learned to be a disability sport coach through trial and error, which was recommend by high-level disability sport coaches. I thought it was wrong because trial and error seemed like an archaic method to me. I ultimately realized that it was an efficient way to learn. (C3)

The participants constantly praised trial and error as an efficient way to learn. However, the use

of trial and error was more of a necessity than a choice because of the absence of more structured

learning opportunities:

> I gradually acquired my experience through training by doing trial and error. There is no foundation, which means neither books nor training, which exists to learn how to become a coach in powerchair soccer. (C1)

> This information was more specific, such as what to do to make the youth more functional, or how to adapt their sledges. Again, this has had to be trial and error because no documentation exists. (C4)

Fourth, coaches had to be creative and proactive in their research of additional coaching

knowledge. For instance, all participants mentioned using technology (internet) to develop their

knowledge:

> The Internet has facilitated my development. I look up powerchair in different countries, such as France or Portugal, and then I can see information on what is happening in other countries, and this helps my learning process. If I were in the same situation 30 years ago, I would never have been able to gain as much knowledge. I use the Internet for research when I have time. I intend to watch all of the games from the Powerchair World Cup, and to take notes and try to target certain things. I watch how certain players do certain things, and see if I'm able to bring that to my players, and show them how to do it. (C1)

> I initially wanted to understand more about my para-swimmers and specifically what their classifications meant. I tried to educate myself by going on the Internet and using search engines such as Google. I surfed the national body website and found some information. (C5)

More specifically, three coaches talked about watching videos online to find new drills or new

strategies for their practices: "I learned a lot through watching videos on YouTube, because it can

be hard to get an idea of the functioning of the sport initially" (C4). Furthermore, the content

available to coaches online increases, which seems to corroborate the cooperation of coaches

through social media where coaches post content online to help their peers:

> YouTube is a big resource for me and I think a lot of coaches use YouTube. I can watch
> para-swimming races or search for anatomy lectures on amputees. I get most of my
> information from watching videos on YouTube. I am finding increasingly more para-
> swimming specific things. (C5)

There are many ways coaches learn but as we saw, the way coaches learn do not always result

from a volunteer or conscious choice. In fact, several factors affected coaches' choices and

accessibility to some learning opportunities over others, which not only shaped the learning

process of the coaches but also their experiences as youth disability coaches.

Factors Affecting Learning

Several factors impacted how and what coaches learned, as well as their coaching

experience. Overall, coaches' learning was influenced by *personal*, *social*, or *environmental*

factors.

Personal factors. These factors encompassed the coaches' personal experiences and

background that led them to coach in youth disability sport. Naturally, each participant had their

unique experiences that led them to coach youth with physical disabilities. They either started

coaching because of a family member, an internship as part of a class requirement, or a job that

required them to work or coach kids with disabilities Although the reasons are various and

distinct, the common aspect for all participants was that none of them initially planned on

coaching in youth disability sport:

I've never had any coaching experiences out of disability sport. In fact, at the end of my career as a young player, it was natural to go into coaching. Maybe I was a little pushed in that direction because there is not many coaches, but for me it was kind of natural to go to coaching and I discovered I had some talent. I had the opportunity to coach some teams but at the beginning I was not thinking about coaching, it just happened like that. (C2)

I began coaching in disability sport solely due to the exposure I got from the physical education teacher who would present several adapted sports. It was never planned that I would begin coaching. If it hadn't been for the offer that I got at [Name of the school], I don't think I would have ever begun coaching in disability sport. It was not something that I was aware of, but there are lots of customers here. We get three hours on the ice, with three different groups of 15 to 20 kids. (C4)

My first big involvement with para-swimmers was in 2013. I had moved to a small town in Quebec to take my first job as a head coach, and to improve my French. It was not until my first week at the job that I was told that I had two para-swimmers in my group. Both of the swimmers were about 12 to 14 at the time. (C5)

Prior to coaching in youth disability sport, all coaches were athletes growing up. Four out of five coaches participated in a variety of able-bodied sports, either in a recreational or competitive setting. The fifth coach participated in youth disability sport, without having a disability himself, until he started coaching his former team. Through their sport participation all coaches developed an interest for sport:

I was never a high performance athlete but I've always liked sport. During school I played volleyball, baseball, tennis, archery, badminton, softball and hockey. I probably tried about 15 to 20 different sports. I played hockey and baseball intensively. (C1)

I was always an active child and growing up I did a lot of indoor sports due to the cold temperatures in my area. I did ballet, gymnastics, and judo up until age 8 or 9, and after that I began partaking recreationally in team sports such as softball and baseball. I joined the swim team at age 9, and after 2 or 3 years swimming became my dominant sport. I've also done cross-country skiing and other team sports such as basketball. (C5)

The only sport I played is wheelchair basketball. An important thing is that this sport is doing what is called reverse integration, i.e. instead of taking young people with disabilities and brings them into a standing sport, we do the opposite so people without disabilities can also participate. (C2)

Despite their different personal experiences, coaches shared a common passion for their coaching role. This not only encouraged and guided their learning, but appeared to be essential to

develop and blossom as a youth disability sport coach: "Primarily, in order to be an effective coach in youth disability sport, you must like it. If you're coming to practice without really wanting to be there, the youth will be able to tell immediately" (C4), "When I started to coach youth, I instantly realized that I loved it. How it is possible to develop young people when they don't even know that they are capable of getting there, it gave me the will to pursue" (C2). This passion for coaching in youth disability sport pushed them to seek out additional coaching knowledge, despite the lack of structured learning opportunities easily available to them, while using their past experience:

> In sum, the advice I would give to someone who wants to coach youth in disability sport is to be passionate, to trust themselves and to be ready to transfer their experience to another athlete. They also need the will to excel, to acquire new knowledge, and to meet people who will help them progress. (C3)

> Another piece of advice is that you must seek out knowledge from your athletes, other coaches, and the governing bodies. You must stay on top of new trends and new information. If you don't, the sport will never move forward. (C5)

Environmental factors. The learning and the coaching experiences of the participants were also affected by environmental factors, which included the lack of resources, the limited number of players participating, and the necessity to promote their sport to encourage more youth to participate. Some coaches mentioned their learning was hindered by the lack of financial means. In these cases, the governing bodies did not have enough money to support their coaches in developing training methods and promoting their sport:

> The problem is that the sport is still relatively unknown, and therefore we receive no subsidy. Once our sport becomes recognized, the department in charge of powerchair in Quebec will allocate a grant, which will allow our sport to continue to develop. Nothing will change until our sport reaches a certain level of development. Powerchair can only develop when everybody is ready to really invest. (C1)

> One of the barriers that I faced during my apprenticeship that slowed down my development was the lack of money in our sport, because it stopped me from practicing in a professional manner. Besides Athletics Canada, there exist no structures that allow a coach to work full-time. (C3)

Other than the aforementioned resources, in order to coach one also needs players. All coaches

mentioned the challenge of recruiting from a restricted pool of players: "At the end of the day,

you cannot be a para-athletics coach if you do not have any athletes" (C3). A limited number of

players reduced their coaching opportunities and the possibility to learn from experience:

> There are very few disability sport programs designed exclusively for the youth. This goes hand in hand with the fact that the sport is still developing. Powerchair soccer does not have enough players to separate them into age groups. However, to me it seems that in Quebec, there are 50,000 people in electrical wheelchairs, yet there are only 16 players in our club. (C1)

> Due to the relatively small pool of players, there is a barrier when it comes to the different levels of disability of the players, as well as the skills that they have and the number of years they have been playing for, as all players are put in the same group. Therefore it is hard to make a practice that is suitable for all. Practices are somewhat based on levels, but even within levels, there is a discrepancy (C2).

Recruiting players is key for the sustainability of youth disability sport teams and for disability

sport programs in general. As a result of this difficulty to recruit young athletes, very few youth

specific programs exist in disability sport:

> We need to make sure to recruit young people. Most youth in wheelchairs do not know our sport, so we need to get them to come and try it out, because 95% of the time the youth that tried our sport has continued with it. (C1)

> One of our difficulties is recruiting young people, especially because they are sometimes not even aware that our sport exists. Another big difficulty is that the athletes remain in rehabilitation centers for only a short period of time, and when they eventually go back home, we lose them. (C3)

> According to the participants, one way to facilitate the recruitment would be to promote

their sport. Indeed, one coach mentioned promoting his sport in places such as rehabilitation

centers or schools, and reaching out to future and current health professionals, which would

facilitate the recruitment in the long run:

> The [Name of the association] is doing a good job, doing demonstrations in schools, that's the obvious part to go in schools to try to hook the youth, but also by doing demonstrations with the next generation of physio, occupational therapists, who are in

Universities. So we think that in 4, 5, 10 years, there will be one professional in each rehabilitation centres who will know about wheelchair basketball and will be able to promote it to youth when they will be ready. (C2)

Having more youth participating in disability sport will mean more opportunities for coaches to get involved and to develop.

Social factors. Individuals within the coaching context also influenced the learning of participants. Coaching in youth disability sport requires the acquisition of knowledge on a broad spectrum: understanding the sport itself, the equipment, as well as athletes' disabilities, its medical implications, and how it impacts training. Mastering all can be difficult and thus, youth disability sport coaches relied upon their support staff for the expertise they lacked:

I have to request assistance sometimes in order for the team to work, because I do not have all the skills needed for disability sport. For example, my skills in repairing wheelchairs are not strong. I also realized that athletes would feel safer if they had someone who was more familiar with the same networks of competitions that they competed in. Thus I looked for an assistant coach who could be a specialist in the equipment, and understand the progression that the athletes could have. (C3)

[Name], the manager, has helped me learn about the equipment. [Name], the person who put the program in place, has explained the main parts of it to me, which was very important, especially initially, because he learnt over time, and shared his experience with me. [Name] has helped me learn about the equipment, and when a piece of equipment is broken or malfunctioning, I send the youth with it to [Name], and I ask him what to do if it happens again. We all have our own specialties. (C4)

In addition to the support staff, parents also played a key role in shaping the learning and development of coaches. Participants mostly saw parents being supportive of youth athletes with a disability. In fact, parents of these young athletes were often pleased to see their kids being physically active and became involved in their child's team:

The majority of the parents that I work with in wheelchair basketball are very involved, are there for the right reasons and come to support their children. They take care of their children's transport to practice and they are happy to see them move. (C2)

The parents are my resources, they're the ones who often know their child's disability the best, and it's important to me that they're here. For example, one person who is affected by cerebral palsy might be able to walk, whereas another might need a wheelchair. It may

be the same diagnosis but that doesn't mean that it's the same reality, and therefore I need the parents in order to find out what we can and cannot do. (C4)

However, a few coaches mentioned reasons why parents could become obstacles to getting youth to participate in disability sport. In fact, parents were sometimes overprotective and afraid that their children getting injured:

> To be able to bring the youth in the gym, it is often the parent who may be the problem and would put an end to it because they are afraid of injuries, it's too dangerous for their kids, or whatever. I can say that the parent is a factor, I saw it in my years of coaching. (C2)
>
> Sometimes the parents don't involve their children because they're afraid that their child will get injured. The children also have to be cleared medically, which can be complicated. If a child wants to try sledge hockey, the parents and doctors, who don't know anything about the sport, will try to analyze everything about sledge hockey before letting their child come play with us. (C4)

Additionally, parents were sometimes lacking in financial means due to the expensive medical equipment and treatments required by some of the youth. Many parents also lacked the free time to commit to youth disability sport due to the high number of appointment they had each week:

> Parents are usually already overwhelmed by physiotherapy, occupational therapy, speech therapy and other medical appointments, that they're not necessarily concerned with finding a sport for their child. After all the appointments and treatments, the parents usually just want their child to rest over the weekend. (C4)

In sum, the number of youth with physical disabilities that can participate in youth disability sport is limited. These factors influenced the learning experiences of coaches by either facilitating or hindering access to more coaching knowledge and development opportunities as a youth disability sport coach. Integrating and understanding these factors and their impact on the coaching context guided their learning and allowed coaches to develop their coaching knowledge.

Coaching Youth with Physical Disabilities

This section covers the application of the knowledge coaches acquired through their learning opportunities. Coaches described applying this knowledge by creating a coaching

philosophy that was predicated on the following two themes: *coaching the athlete* and *coaching*

the person. Despite their connection to addressing the development of the athletes as a whole,

these two themes have unique differences as well.

     Coaching the athlete. This theme referred to the technical, tactical, and physical

knowledge used by coaches to enhance the athletic performance of their athletes. Coaching youth

with physical disabilities was similar to coaching other athletes in that coaches were trying to

develop sport-related skills to help them reach their maximum potential:

> A coach's goal should be that each player reaches their goal and their maximum potential. If a coach sets the same goal for all of their players, they will be disappointed. A coach must deal with the capacity of the individuals and maximize their potential. A coach must work to give the players an opportunity to flourish through the sport. (C1)

Despite treating athletes with a disability like any other athletes, coaches needed to assess the

physical capabilities of their players. Having a clear understanding of the youth's potential

allowed coaches to determine how to tailor and individualize their coaching practices for their

different athletes:

> In order to learn each youth's disability, the first thing to do is to see how the youth moves and identify their limitations. I look to see whether they can control their pelvis or their upper body because this will have an impact as soon as the youth enters rotation. The primary thing to assess is whether the youth can remain stable in their chair. After assessing whether the youth can remain stable in their chair, I look to see how I can maximize the movements of the players, if they aren't stable. The lack of stability will influence a lot of variables that are related to the game. (C1)

> It is very important to know and understand the disabilities of my youth, so that we can work with their limitations so that I can know what muscle mass to work. Any mass that is not inert can be improved. (C3)

> In line with understanding the abilities of their athletes, all coaches talked about the

importance of being able to adjust their training to meet their athletes' needs and abilities:

> In powerchair, I may have one player that is able to do one movement without problems, but then there may be another player that is not able to do it due to their limitation. Therefore, I must look for a way to allow that player to do the same thing. When a coach

has to handle different limitations, they must implement a much more targeted approach that is based on each player in order to enable them to develop the same movement. (C1)

We work from a functional perspective by getting the youth into the wheelchair, and if they push, we look at how, and whether they are having any problems. It's observation. What might happen is that sometimes the youth is too young to understand what we are trying to explain due to the complexity of the movement. If that happens, we cannot suddenly fix everything. There are always things that we need to adjust when the youth begins, such as the chair or finding the right pair of gloves. (C3)

Coaching the person. Coaching in youth disability sport goes beyond developing athletic skills on the field. Coaches also used their knowledge to foster the personal development of their athletes. The personal development was primarily fostered through the teaching of life skills:

Wheelchair basketball gives athletes an opportunity to give everything they got, out on the court to push their chairs and play with their friends. As for the social benefits, looking back on my own experiences, what I remember the most was the team experience, the fun we had together. Not necessarily the big tournaments or the performances, but building team cohesion and relationships. This is something that is not as easy for my athletes outside of basketball, but when we are playing, the mentality is that we're all teammates, we can all go to each other and talk to each other. (C2)

In order to better coach the person, the participants learned the disabilities of their athletes and how it impacted their daily life:

When I first meet players, I ask about their disability in a simple and medical way. I gather information about the disability. I either speak to them, who might for example tell me that they were born with it or that this or that was taken from them, or I speak to the parents who might tell me that it was a result of their cancer. It does not matter. (C3)

It is becoming more and more important for me to understand the disabilities of my para-swimmers. I felt very panicked my first month here because I was only given 3 to 4 weeks' notice that I would be coaching para-swimmers. Within the first month, I realized how important it was going to be to understand each disability. I have to keep every child happy. (C5)

To foster the development of their youth, coaches were keen to ensure that every one of them had a pleasant experience participating in disability sport. As such, participants made considerable efforts to make their practices fun: "The coach's goal is not to perform, but to make sure that a young person with a disability is able to do physical activity and have fun" (C1).

"With youth, if it's not fun you know that you will not see these youths again. Therefore, it requires more games, and even games that are not related to basketball, inspired by the schoolyard" (C2). An emphasis on fun over performance guided the coaches' practices:

> I had to find something that would be fun for both a 5-year-old child and a 16 year-old teenager, and also take into consideration that the levels were not equal. If you put an NHL player versus a Bantam player, it wouldn't be fun for the Bantam player, and it's the same case in this scenario. Sometimes the workouts I had prepared would turn out like that. Therefore, I had to find a way to ensure that everyone has fun. (C4)

Summary

The purpose of this study was to gain an understanding of the learning experiences and acquisition of knowledge of youth sport coaches in disability sport and to better understand how such experiences affected their coaching practices. Participants were individually interviewed and an inductive analysis of the data revealed three overarching themes: *learning opportunities, factors affecting learning,* and *coaching youth with physical disabilities*.

In order to acquire coaching knowledge, coaches accessed two types of learning opportunities: structured and unstructured. All coaches followed structured coaching certifications, with only two having access to coaching certification specific to their disability sport. The three remaining coaches followed an abled-bodied or multisport coaching certification and adapted their knowledge to the specificities of their coaching context. Similarly, two coaches mentioned attending conferences and seminars but none of them specific to disability sports. As a result of the few structured learning opportunities designed for disability sport, coaches relied mostly on unstructured learning opportunities. Among these unstructured learning opportunities, four coaches identified having a mentor as a key source of their knowledge acquisition. Although not formalized, the mentoring allowed coaches to receive guidance and advice on how to coach youth with physical disabilities. In addition, coaches learned through a community of practice with their peers and through trial and error practices. Finally, searching for resources online, such

as an online article about their athletes' disability or a video about new strategies or drills in their sport, was an efficient method of knowledge acquisition.

The content of the coach's learning and how they acquired their knowledge was influenced by personal, environmental, and social factors. First, four of the five coaches participated in a variety of able-bodied sports and one participated in youth disability sport before coaching in disability sport. As a result of these years spent participating in sport, all participants developed an interest for sport that influenced their decision to coach. All coaches felt a lack of resources at some point in their career, which slowed their progress and prevented them from acquiring additional knowledge. In particular, three coaches mentioned the lack of coaching certifications tailored to their sports as restricting their learning. Two coaches talked about the lack of financial resources as a factor that prevented them from developing new techniques. All coaches agreed on the difficulty of recruiting youth athletes given the lack of financial resources and strategies to bring the youth to participate. In fact, very few youth disability sport programs exist in the greater Montreal area, although the number of players in this region is likely greater than in the rest of Quebec. This is a reflection of most of the youth living with a disability not being aware of these sports or not having accessibility to them. As such, coaches identified the lack of promotion as a problem in their sport environment. Although it does not seem related to coach learning, better promoting the sport will allow coaches to recruit more players and create more opportunities to coach, which will then create more opportunities to learn.

The learning experiences of coaches were also influenced by the individuals surrounding the youth disability sport environment. For example, coaching in youth disability sport requires coaches to develop knowledge on a wide range of aspects, from knowing the sport itself to understanding the disabilities of each athlete. Coaches often relied on the help of support staff to learn about their athletes' unique disabilities and for other expertise (e.g., managing equipment).

In addition to the support staff, the parents were also an important resource from whom coaches could learn.

Coaches implemented the knowledge they acquired in order to develop youth on and off the field. Like coaches in other sports, youth disability sport coaches tried to develop their athletes' sport skills. To do so, they assessed the abilities of their athletes and planned their practices accordingly. Knowing the person required coaches to understand the disabilities of their athletes and its impact on their lives. All participants stressed the importance of developing their youth, not only as athlete, but also as people. According to them, youth disability sport is a powerful vector for youth to develop socially by establishing meaningful relationships with their peers that are not always available outside of the sport context.

In conclusion, the participants learning experiences involved a combination of structured and unstructured learning opportunities. The latter were intentionally or unintentionally accessed by coaches and included mentoring, trial and error, or the use of technology. As a result, participants needed to be creative and proactive in searching coaching knowledge. For instance, by reaching out to people outside of their coaching environment or by trying to transfer knowledge acquired in a different field or sport. The acquisition of their knowledge was moderated by personal, environmental, or social factors. Finally, coaches always looked at the bigger picture, as noted in this quote by C1: "The coach must remember that they are there to help youth practice a sport and that it is never about them, but always about the players".

Chapter 5

Discussion

The purpose of this study was to gain an understanding of the learning experiences and acquisition of knowledge of youth disability sport coaches, and how it affected their coaching practices. This chapter will begin by discussing the learning opportunities used by the participants. Following this, several personal, environmental, and social factors that shaped the coaches' acquisition of knowledge will be presented. Lastly, the discussion will address how these learning experiences impacted the participants' coaching practices.

Learning Opportunities

The current results indicated that youth disability sport coaches learned from a combination of structured and unstructured learning opportunities. These findings are consistent with previous research describing formal, nonformal, and informal learning opportunities (Coombs & Ahmed, 1974; Mallett, Trudel, Lyle, & Rynne, 2009; Nelson, Cushion, & Potrac, 2006). More specifically, the results of the present study indicated that youth disability sport coaches learned primarily through informal learning opportunities (e.g., mentoring, trial and error), as opposed to formal or nonformal learning opportunities (e.g., coaching certifications, conferences). According to the participants, this finding was in part due to the limited formal learning opportunities available to them.

Lack of formal learning opportunities. Most participants in the present study did not have access to formal learning opportunities specific to their sport and had to gather their coaching knowledge in other ways. In fact, these coaches acquired their knowledge from able-bodied coaching certifications or coaching conferences, and/or from their athletic experiences playing able-bodied sports. Indeed, given that disability sport coaches do not have a clear path for acquiring coaching knowledge (Cregan, Bloom, & Reid, 2007; Taylor, Werthner, & Culver,

2014), the current participants were forced to rely on decontextualized information requiring

them to evaluate whether or not the information had application to their disability sport coaching

contexts. Decontextualized learning can impact the coach's ability to adequately train youth with

physical disability (Martin, 2014). Moreover, according to Cordova and Lepper (1996),

contextualized learning has been linked to an increase in the depth of engagement in learning and

perceived competences among students. Given the variability of disabilities across disability

sports, acquiring contextualized knowledge would help coaches understand the implications of

coaching youth with physical disabilities, particularly for novice coaches with no previous

experience working with people with disabilities. This information could be first acquired via

disability sport specific formalized opportunities, such as coaching certifications. Although not

perfect in their current format (Mallett et al., 2009), coaching certifications are a good starting

point for coaches (Abraham, Collins, & Martindale, 2006).

Only one participant actually had the opportunity to follow a NCCP coaching certification

specific to his disability sport. The coach reported it benefitted his learning by teaching him how

to develop the technical skills of his players through specific exercises, how to organize the team

on the court according to the classification of each player, and how to plan the season. The

acquisition of coaching knowledge mirrors what Lemyre and colleagues (2007) found regarding

the benefits of formal coach education for youth sport coaches. According to the authors, youth

sport coaches appreciated the information they acquired through coaching certifications, as well

as the opportunity to meet other coaches in the same sport. Consequently, formal learning

opportunities in disability sport would give many advantages to those hoping to work/volunteer

in this domain, including the knowledge to succeed and access to other people volunteering in

this area (Côté, 2006, Erickson, Bruner, MacDonald, & Côté, 2008).

Substantiating our findings, the lack of specific formal learning opportunities available for coaches has been highlighted in previous research in elite disability sport (Douglas, Falcão, & Bloom, 2018; Fairhurst, Bloom, & Harvey, 2017). For example, in their study with Paralympic coaches, Fairhurst and colleagues (2017) found that coaches had very few formal disability coach education opportunities, making it harder to acquire disability sport specific knowledge. This is not surprising given that only five disability sport coaching certifications are currently being offered through the NCCP, compared to 61 in able bodied sports (Coaching Association of Canada, 2018a). This low number of coaching education opportunities in disability sport is further disconcerting knowing that 28 disability sports are represented at the Paralympic Games (International Paralympic Committee, 2018c). Fortunately, some progress has been made in Canada in the past few years. For instance, a 45 minute eLearning module has recently been released through the NCCP, showing an awareness, at the institutional level, of the necessity of providing disability sport coaches with more formal learning opportunities (Coach Association of Canada, 2018b). Although not specific to youth with disabilities, the module provides coaches with a resource for effective communication protocols for people with disabilities and demonstrates how to provide them with a positive, safe, and inclusive training environment. Despite this improvement, more resources are required for coaching youth with disabilities.

Similar to the lack of formal learning opportunities specific to youth disability sport, the current study highlights a lack of nonformal learning opportunities tailored to youth disability sports coaches. Nonformal learning opportunities are similar to formal learning opportunities but take place outside of the formal system and are meant to be more hands-on (Nelson et al., 2006). Examples of nonformal learning opportunities include coaching conferences or workshops. Comparable to formal learning opportunities, the participants perceived a lack of nonformal learning opportunities specific to youth disability sports as problematic. Two coaches mentioned

attending able-bodied coaching conferences despite not knowing if they would acquire information adaptable to their coaching contexts. Coaches attended these conferences by default and had to think critically about the pertinence of the information with regard to their disability sport. This finding is consistent with previous research suggesting that more nonformal learning opportunities tailored to (youth) disability sports would enhance the development of coaches and also contribute to the growth of disability sport in general (McMaster, Culver, & Werthner, 2012; Taylor, Culver, Werthner, & Callary, 2015). In the United Kingdom, a workshop called "Pupil to Paralympian" provides resources to coaches/teachers to support youth with disabilities, to inspire and motivate them to engage in disability sport, and to encourage them to fulfill their sporting potential (Disability Sport NI, 2018a). Moreover, Disability NI also raises awareness about youth disability sports by visiting schools and community groups. Thus, since 2009, almost 40 000 kids received a presentation on disability and had the opportunity to participate in five activities based on Paralympic sports (Disability Sport NI, 2018b). These are examples of actions that could be taken in Canada in order to raise awareness about youth disability sport. However, until more formal learning opportunities are available, youth disability sport coaches will have to rely more heavily on informal learning opportunities such as mentoring or trial and error.

Mentoring. Some participants in the present study were mentored, despite not purposefully seeking their mentors. Instead, the mentoring was a result of being at the right place at the right time, and therefore was entirely informal. The informal nature of mentoring among youth disability sport coaches is consistent with previous research on mentoring in elite disability sports coaching (Fairhurst et al., 2017; Taylor et al., 2014). However, although almost exclusively informal, Fairhurst et al. (2017) highlighted that the majority of their participants were actively seeking out for a mentor, which did not appear in the current study. Despite the unintentional access to mentoring, the current participants still benefited greatly from having a

mentor. Specifically, they learned to adapt their exercises to youth with varying disabilities, as well as placing the focus of their practices on fun, enjoyment, and task mastery. In addition, the mentoring enhanced participants' confidence to coach in youth disability sport through the establishment of a strong relationship with their mentors that often went beyond the scope of training. These benefits mirror the definition of mentoring in sport offered by Bloom (2013), which involves a trusting and respectful relationship between a mentor (a more experienced person) and a mentee (a less experienced person), whose learning and confidence is built through on-going interactions with the former. In light of the benefits associated with mentoring, it can be concluded that all youth disability sport coaches would benefit from interactions with a mentor.

To facilitate the access to mentoring opportunities, a formalized mentoring program could be created in youth disability sport. Recently, several countries such as Singapore and the United Kingdom have implemented formalized mentoring programs into their coach education (e.g., Koh, Bloom, Fairhurst, Paiement, & Kee, 2014; Sawiuk, Taylor, & Groom, 2017; 2018). These could be used to inform the initiatives made in the Canadian youth disability sport context. Accordingly, a clear understanding of the youth disability sport environment and context would be key in order to develop a formalized mentoring program (Griffiths & Armour, 2012). The youth disability sport context is highly specific due to the variability of its athletes and classification systems between youth disability sports. As a result, it might be preferable for the mentors to coach the same sport as their mentees, so they could have an appreciation of the complexities of their coaching environment. For example, a sport specific formalized mentoring program has been successfully implemented with novice basketball coaches in Singapore, as part of a Level 1 coach education course (Koh et al., 2014). The program made mentees feel more confident and competent in their coaching role, while allowing mentors to display valuable pedagogical knowledge and skills, and engage in relevant self-reflection. Despite these promising

results, a sport specific mentoring program is perhaps too ambitious in the immediate future in

Canadian disability sport. However, a cross-sport mentoring approach that includes all disability

sports might be more feasible at the present time. As a matter of fact, several studies have

advocated for formalized multi-sport mentoring programs in the United Kingdom (Sawiuk et al.,

2017; 2018). In Canada, the Advanced Coaching Diploma (ACD) aims to enhance coaching

excellence among elite coaches, partially through a multi-sport mentoring initiative (Coaching

Association of Canada, 2018c). The ACD provides each coach with a mentor with whom they

can engage in both one-on-one and through small group conversation. Despite the intuitive

appeal of this program, limited empirical support exists regarding its effectiveness. In the

meantime, youth disability sport coaches could benefit from the knowledge of their peers by

engaging in communities of practice.

Defined as "a group of people who share a concern, a set of problems, or a passion about

a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing

basis" (Wenger, McDermott, & Snyder, 2002, p.4), the community of practice (CoP) has been

identified as one of the three social learning networks used by coaches, along with Network of

Practice (NoP), and Informal Knowledge Network (IKN) (Culver & Trudel, 2008). The CoP

separated itself from NoP and IKN by the ongoing nature of the interactions between the

members of the CoP. In the past, CoPs have been shown to provide as an effective way of

acquiring coaching knowledge in disability sport (Fairhurst et al., 2017; Taylor et al., 2014).

Nevertheless, the existence of strong CoPs within youth disability sport seemed less evident.

Indeed, only one current participant mentioned using this social learning network while a second

coach was using a NoP. More specifically, a clear distinction seemed to appear in the existence of

CoPs between individual and team youth disability sports. In fact, none of the participants

coaching team sports had the opportunity to share knowledge with their peers. An absence of

interactions partially explained by the lack of development of their sports within their regions preventing them from reaching out to their peers, but also by the perception youth disability sport coaches may have of their colleagues. According to the participants, youth disability sport coaches sometimes perceive their peers as rivals instead of colleagues and are therefore less likely to share their strategies. A focus on competition rather than on improvement also appeared in previous research on youth sport coaches working in able-bodied sport contexts in Canada (Lemyre et al., 2007). While research in youth sport coaching revealed that the establishment of a CoP allowed the learning of the coaches to be very situated, it does not diminish the importance of competition (Culver, Trudel, & Werthner, 2009). Competition should be primarily perceived by youth (disability) sport coaches as an opportunity to learn and improve, for both the coaches and their athletes (Gilbert, Gallimore, & Trudel, 2009). Establishing CoPs would positively impact the coaches' learning by facilitating the exchange of knowledge between the members. Learning being a complex, situated, and related process, it does not only happen in the learner's head (Lave & Wenger, 1991). As a result, by engaging in multiple CoPs, youth disability sport coaches will favour the likelihood of acquiring knowledge. Nevertheless, information sharing among youth disability sport coaches is rare and, as a result coaches tend to rely on different informal learning strategies for knowledge acquisition, including trial and error.

Trial and error. Trial and error appeared to be an effective learning strategy used by all participants. In fact, coaches generated learning by taking actions and detecting and correcting their own mistakes. This finding adds to the current literature about the impact of trial and error on the learning of disability sport coaches (Douglas et al., 2018; Fairhurst et al., 2017; Taylor et al., 2014). The effectiveness of learning through trial and error has also been studied in a variety of settings, including business (Sosna, Trevinyo-Rodriguez, & Velamuri, 2010). In fact, Sosna and colleagues (2010) perceived trial and error as a dynamic process that stimulates creativity.

This relates to the current study where creativity was mentioned by several of the current participants as an essential attribute, as they often had to think outside the box to adapt their practices to their athletes.

Despite being praised as an effective learning strategy by youth disability sport coaches, the use of trial and error was also a default choice that came about in the absence of more formal learning opportunities. In fact, a parallel can be drawn with Nelson's (2008) explanation of "bounded rationality". According to Nelson (2008), a bounded rationality exists when a person has an objective and a theory on how to reach this objective (their rationale), but their theory is incomplete (so the bounded rationality). Consequently, youth disability sport coaches used trial and error as a substitute to their incomplete understanding of the situation and, thus, it became a strategy for them to answer their own questions. Unique to this study is the preponderance of trial and error in the development of youth disability sport coaches in comparison to disability sport coaches. A potential explanation for the predominance of trial and error in the learning of youth disability sport coaches could be due to the fact that the participants seemed to acquire less knowledge through communication with their athletes, as opposed to elite disability sport coaches. For instance, McMaster and colleagues (2012) emphasized the importance of communication with athletes with disabilities as a way to effectively train and teach them. Conversely, the current results did not find communication with the athletes as one of the main learning opportunities used by youth disability sport coaches. Indeed, youth with physical disabilities might have a limited understanding about their disabilities and less experience playing sport, which could prevent them from sharing feedback pertinent to training with their coaches. Therefore, this lack of communication with their athletes might have encouraged youth disability sport coaches to use trial and error more extensively than disability sport coaches of adult athletes. Despite its effectiveness, the influence of trial and error on the learning of youth

disability sport coaches should be reduced. Coaches learn through a mix of informal and formal learning strategies and, therefore, a better balance between the different learning opportunities would have to be established (Cushion & Nelson, 2013; He, Trudel, & Culver, 2018). A better balance would optimize the learning of disability sport coaches and allow them to use trial and error to a lesser extent. However, youth disability sport coaches should not be discouraged from using trial and error as it stimulates their creativity and encourages them to take initiative. Developing these qualities could positively impact the development of the youth disability sport coaches, as they will be more likely to be proactive in their learning. For instance, coaches could go beyond the traditional learning opportunities, including coaching certifications or mentoring, by learning through more innovative strategies, such as the use of technology.

Technology. All the current participants used technology to acquire coaching knowledge, mainly through searching the Internet. Coaches were navigating on the Web in order to retrieve videos of new drills and strategies or to find information about the disabilities of their athletes. This finding adds to the current literature about the role technology plays on the development of disability sport coaches (McMaster et al., 2012; Taylor et al., 2014). In contrast to McMaster and colleagues' (2012) study, the current participants noticed a growth in recent years of the content specific to disability sport available online. Despite this increase, youth disability sport coaches can face several problems when searching and navigating through the Web on their own, due to the unmediated nature of this activity. According to Eklund and colleagues (2003), searching the Internet can be really time consuming and coaches can easily get lost because of the lack of guidance associated with navigating through the Web. Moreover, coaches are sometimes unable to verify the validity of the information that they are retrieving. This incapacity to verify their online sources could mislead the coaches and put youth with physical disabilities at risk of not being properly trained. Establishing self-educating communities could diminish the risks of

acquiring inaccurate information where coaches could collaborate and learn through the Web via Computer-Mediated Communication (CMC) (Burbules, 2006).

The establishment of self-educating communities and the use of CMC would allow youth disability sport coaches to engage in group discussions and debates, while sharing information with their peers (Burbules, 2006). Therefore, coaches would learn through this ongoing and dynamic process where each member can be either student or teacher by presenting or retrieving information. Nevertheless, encouraging coaches to be part of an online community where they could share their knowledge is not without difficulties. In fact, coaches are often reluctant to contribute to these online communities because they are often dictated by people who post negative comments or "cybergossib" (Wright et al., 2007). As a result, coaches are likely to be "lurkers" (Lazar & Preece, 2003) who simply read the threaded discussion without contributing to it (Wright et al., 2007). Thus, several regulations are required in order for the CMC to facilitate the coaches' learning. According to Lazar and Preece (2003), the phenomenon of "cybergossip" could be avoided by having a moderator, a registration process, and by establishing community norms. Therefore, coaches would have a sense of whom they are talking to and would be less afraid of contributing to the discussion (Wright et al., 2007). Additionally, the online community will need at least one "knowledge navigator" or "learning catalyst" which has been identified as a key factor for the success of online education (Volery & Lord, 2000). The learning catalyst could guarantee the pertinence and validity of the information shared and also encourage the coaches to interact with their peers. As such, not bounded by specific hours or places, coaches could discover and acquire new coaching knowledge at their own convenience. In sum, taking advantage of technology could allow youth disability sport coaches to overcome the current flaws existing among the traditional learning opportunities while opening a new avenue for their learning. Together, the current results of this section highlight the unique combination of formal

and informal learning opportunities experienced by youth disability sport coaches. The stronger

emphasis on informal learning strategies was mainly due to the limited formal learning

opportunities specific to youth disability sport available, which pushed coaches to be creative and

proactive in their acquisition of coaching knowledge. Despite the similarities, each participant

had a unique learning pathway that was influenced by the presence, or absence, of numerous

factors.

Factors Affecting Learning

The current results indicated that the learning of the participants was an intricate process

influenced by personal (e.g., the coach's athletic experiences), environmental (e.g., lack of

financial support), and social (e.g., interactions with various people) factors. In fact, these factors

directly or indirectly shaped the learning of the coaches by either facilitating or hindering their

access to certain opportunities. The influence of personal and contextual (environmental and

social) factors on coaches' learning is consistent with previous research conducted with both

able-bodied coaches (Lemyre et al., 2007; Schinke, Bloom, & Salmela, 1995; Trudel & Gilbert)

and disability sport coaches (Cregan et al., 2007; Douglas et al., 2018; Fairhurst et al., 2017;

McMaster et al., 2012). The impact of each of these three factors on the coaches' learning will be

presented separately in the following sub-sections, as they all impacted the participants' learning

in specific ways.

Personal factors. When acquiring their coaching knowledge, the current participants

were influenced by their previous sport and non-sport-related experiences, such as their athletic

experiences or their academic education. The influence the coach's biography had over their

learning is consistent with previous literature in elite disability sport coaching (Cregan et al.,

2007; Douglas et al., 2018; McMaster et al., 2012). For example, Cregan and colleagues (2007)

highlighted how the past experiences of elite disability sport coaches helped them coach in

disability sport, even though these experiences were not necessarily related to disability sport. More specifically, the athletic experiences of these coaches, which for the most part took place in able-bodied sport, allowed them to build coaching knowledge that they could transfer to their coaching context. However, previous research also discussed how having athletic experiences in disability provided coaches with unique insights and coaching knowledge to excel in this domain (Douglas et al., 2018). This finding has been confirmed with one participant in the current study who participated in disability sport as an athlete (even though he was able-bodied). His participation in this environment provided him with specific knowledge about the sport, such as exercises or drills, as well as insights into the culture of disability sport. One could surmise that these hours spent playing disability sport served as hours of "pre-coaching" experience (Gilbert, Côté, & Mallett, 2006), allowing the coach to obtain fundamental coaching knowledge before he started to coach disability sports. Furthermore, early sport participation has previously been identified as a career stage of elite able-bodied sport coaches (Schinke et al., 1995). According to Schinke and colleagues (1995), elite basketball coaches used both positive and negative athletic experiences from their sports to build their coaching philosophy. Therefore, although having athletic experience specific to their sport is likely to facilitate coaches' learning, coaches still benefit from athletic experience outside their sport. This is reassuring since most disability sport coaches do not have an athletic background in disability sport (Cregan et al., 2007; Douglas et al., 2018; Fairhurst et al., 2017).

In addition to their athletic experiences, some coaches within this study reported that their academic background (i.e., university experience) impacted their learning as disability sport coaches. In fact, one participant was first introduced to disability sport through a University class during which he obtained practical experiences and knowledge specifically related to disability sport. Another participant explained how he transferred his academic knowledge of software

design to the disability sport coaching context. These findings support those of researchers such as Fairhurst et al. (2017) and McMaster et al. (2012) who collectively outlined that coaches' knowledge was positively affected by their attendance at higher education institutions. Specifically, both studies reported that coaches' university experiences facilitated the development of specific and non-specific disability sport knowledge, as well as important life skills, such as creativity and analytical skills that also positively influenced their ability to coach within the disability sport context. The current findings support the assertion that learning opportunities such as those offered at higher education institutions can enhance coaches' creativity and capability to transfer knowledge from one context to another. Together, this indicates that being exposed to a wider range of learning opportunities can enhance coaches' specific and non-specific coaching knowledge, increasing their ability and motivation to apply their knowledge to contexts such as youth disability sport. To summarize, the results suggest that coaches' biography can impact the learning of youth disability sport coaches.

Environmental factors. In addition to their personal background, the current results also suggested that coaches' learning was influenced by several environmental factors (e.g., small pool of players, limited promotion of the sport or lack of financial support). For example, participants explained that the small pool of players available limited their opportunities to grow and develop as a coach. In fact, having fewer players restrained the coaches' choices of exercises or drills reducing their opportunities to further their learning. This finding supports previous research that discussed the influence of environmental factors on the learning of elite disability sport coaches (Duarte & Culver, 2014; McMaster et al., 2012; Taylor et al., 2014). For instance, McMaster and colleagues (2012) outlined the necessity for disability sport coaches to understand the unique characteristics of their coaching contexts, including the existence of a small disability sport coaching cohort and a lack of adequate materials. Nevertheless, to the best of our

knowledge, the current study is the first to identify that a limited pool of athletes can be an environmental factor that affects the learning of disability sport coaches. However, the limited pool of players as a barrier to coach's learning may or may not be relevant to youth disability sport coaches outside the greater Montreal area or Quebec, since coaches might have access to either more or less players. Due to the limited pool players encountered by the current participants, and because previous research was conducted with elite and Paralympic coaches, the limited pool of players might be a factor exclusive to the youth disability sport context. Consequently, retaining current athletes appears to be of significant importance for disability sport coaches to ensure coaching opportunities. Research in the educational setting discussed potential strategies to increase youths' desire to attend school (Epstein & Sheldon, 2002). This approach included assessing youths' personal situation and characteristics, establishing meaningful relationships with them, and involving their families and/or communities in the process. By adopting a similar approach within the youth disability sport context, coaches could encourage their athletes to remain involved in disability sport, subsequently increasing their opportunities to learn from their coaching. Currently, there are approximatively 300,000 youth with disabilities in Canada (Employment and Social Development Canada, 2006), each of which could be a potential athlete. As a result, it is perhaps a matter of making these individuals aware that they could participate in disability sport.

Additionally, coaches within this study discussed the limited promotion of youth disability sport, resulting in youth not being aware of disability sport opportunities. This lack of promotion has been previously identified as an issue that prevent more youth with disabilities from participating in sport (Kang, Zhu, Ragan, & Frogley, 2007; Martin, 2013; Stuart, Lieberman, & Hand, 2006). For example, Martin (2013) discussed how health practitioners are sometimes unable to inform or encourage youth to be physically active because of their lack of

knowledge about disability sport. As such, Murphy and Carbone (2008) suggested that health professionals should encourage youth with disabilities to engage in sports by becoming more aware and knowledgeable of the sport programs available in local communities. This finding was supported by one current participant who discussed the strategies employed by governing bodies to promote his sport. He explained that governing bodies are starting to reach out to current and future health practitioners by going to rehabilitation centers, specialized schools, and Universities to educate these individuals. Promoting and educating current and future health professionals seems pertinent, as they are in direct contact with youth. It is plausible that this promotion could increase the number of players available for coaches, increasing coaches' opportunities to learn from coaching.

Social factors. The learning of the current participants was also impacted by their social interactions with staff members and athletes' parents, a finding that aligned with previous research (Cregan et al., 2007; Fairhurst et al., 2017; Tawse et al., 2012). For instance, Cregan et al. (2007) discussed the impact parents had on the acquisition of knowledge among elite disability sport coaches by sharing information about their children's disability, medications, and eating patterns. As a result, coaches had to learn to communicate with the parents as they were considered crucial for coaches' success. In the current study, the role of the parents appeared more pronounced. In fact, in addition to sharing information to the coaches about children's feelings, health, and disabilities, parents were the individuals who enabled their children to participate in disability sport through acts such as transportation and emotional encouragement. Therefore, the current participants appeared to rely more heavily on the parents than the coaches working in Paralympic sport settings. This finding is indicative of the different dynamics between youth disability sport and its able-bodied counterparts when it comes to communications with parents. For instance, Lemyre et al. (2007) outlined that able-bodied youth sport coaches

frequently perceived parents as a disturbance to their coaching. As a result, coaches rarely inquired about parents' knowledge in relation to children's personal characteristics and tried to avoid interacting with parents. By comparison, the current coaches identified parents as largely supportive, involved in their children's sport program, and as facilitators of learning. Due to their contribution to the coaches' learning, youth disability sport coaches should try to encourage and facilitate the parents' involvement in their program.

Besides parents, the current study also demonstrated the influence staff members had on the coaches' learning. In fact, staff members were bringing expertise that was complementing the coaches' current knowledge. For example, staff members were commonly former athletes themselves, knowledgeable about equipment (i.e., how to repair and adjust equipment to athletes' needs), or knowledgeable about athletes' disabilities. The impact of staff members on coaches' learning is consistent with previous research from Tawse and colleagues' (2012), who provided evidence of the impact staff members had on the learning of wheelchair rugby coaches. These staff members were usually former or veteran athletes functioning as assistant coaches who educated coaches by sharing their knowledge about the sport or the disabilities while also contributing to the development of athletes. In return, they received mentoring from the coaches to become head coaches in the future. The current findings support the claim that the learning of both head coaches and assistant coaches (or staff members) benefit from a reciprocal relationship. A similar dynamic has also been found between head coaches and assistant coaches in able-bodied sports (Rathwell, Bloom, & Loughead, 2014). In fact, Rathwell and colleagues (2014) noted that head coaches were learning from their assistant coaches by recruiting them based on the complementarity of their skills and knowledge, whereas assistant coaches were receiving exposure to external sources of knowledge through their head coaches. Therefore, youth disability sport coaches could enhance their learning and coaching skills by reaching out to

individuals within their coaching environment who possess expertise that could complement their current knowledge. To summarize, the findings indicate that social interactions, even with individuals outside the sport context, can be an avenue for learning, helping coaches to develop and facilitate the transfer and application of their knowledge into their coaching practice.

Coaching Youth with Physical Disabilities

The data collected in this study not only contributed to our understanding of the learning experiences of youth disability sport coaches, but also provided some information on how these coaches applied their coaching knowledge. In fact, coaches often shared concrete examples to enlighten our comprehension of how their learning impacted their coaching in youth disability sport, a population long overlooked by the coaching researchers. Ultimately, it appeared that youth disability sport coaches were mindful of the development of their youth on the field (e.g., sport related skills), as much as their development off the field (e.g., life skills). Thus, the following subsections will discuss how the participants tried to both coach the athlete and the person.

Coaching the athlete. Youth disability sport coaches participating in this study always tried to help each of their athletes reach their athletic potential, a finding consistent with previous literature on elite disability sport athletes (Cregan et al., 2007; Tawse, Bloom, Sabiston, & Reid, 2012). For example, the wheelchair rugby coaches who participated in Tawse and colleagues' (2012) study emphasized the importance of treating their players as athletes rather than as individuals with a disability. The current participants also adopted this approach, including focusing on their athletes' abilities rather than on their limitations. This confirms what Rimmer and Rowland (2008) identified as one of the main barriers to sport participation among youth with physical disabilities. Together, these findings resonate with Gilbert's (2017) claim that coaches should not have a one-size-fits-all approach and that there should be a collaborative

approach to training between the youth and the coach. This collaboration that should be based on trust, respect, patience, and communication, would allow coaches to individualize their training to each youth, according to their unique characteristics and needs, and allow them to reach their athletic potential.

Coaching the person. Coaches in the current study were also focusing each athlete's personal growth and development. To do so, the participants emphasized making practices fun. This is consistent with previous research in which fun was identified as a key component of youth sport, for both able-bodied athletes (Allen, 2003) and for youth with disabilities (Martin, 2006). For instance, Martin (2006) stressed sport enjoyment as the main psychological variable in youths' desire to remain involved in disability sport. In fact, research in youth sport has demonstrated how having fun with others and making friends were both significant to the youth's motivation to engage in sport (Allen, 2003). A finding particularly relevant to the context of youth disability sport since previous research showed that youth with disabilities have a smaller social networks in comparison to their able-bodied counterparts (Stevens, Steele, Jutai, Kalnins, Bortolussi, & Biggar, 1996), making this context important for the development of meaningful relationships for youth with disabilities (Goodwin, Lieberman, Jonhston, & Leo, 2011; Seymour, Reid, & Bloom, 2009). Coaches within the current study confirmed the potential role of youth disability sport, a place where their youth could establish strong relationships with their teammates, which was not always available outside of the sport context. In sum, youth disability sport coaches, through the creation of a positive and fun environment, contributed to the social development of their players, by developing meaningful relationships and establishing a sense of community.

In addition to the social benefits, the coaches interviewed for this study used youth disability sport as a platform for the teaching of life skills, which have been defined as "skills that

enable individuals to succeed in the different environments in which they live, such as school, home and in their neighborhood" (Danish, Taylor, Hodge, & Heke, 2004 p. 40). This is not surprising since research has long identified sport as a vehicle for the teaching of life skills to youth (Gould & Carson, 2008; Petitpas, Cornelius, Van Raalte, & Jones, 2005). According to Gould and Carson (2008), the teaching and development of life skills through sport is highly dependent on the coach. The current findings indicated that coaches were using some key moments within their sports, such as a tough defeat, to teach life skills to their youth, such as resilience, perseverance, and the importance of working as a team. This is consistent with Camiré, Trudel, and Forneris' (2012) who also used teachable moments to facilitate the transfer of life skills from the sport into the athlete's life. To summarize the current results, youth disability sport coaches should adopt a holistic, yet individualized approach to respond to the unique characteristics and needs of each of their athletes. Adopting an athlete-centered approach (Falcão, Bloom, & Bennie, 2017) is likely to facilitate the positive development of the youth, to increase the chance of seeing the youth remaining involved in their sport program, and would encourage more youth with physical disabilities to engage in disability sport.

Chapter 6

Summary

The sixth and final chapter of this thesis will provide a summary of the study, which includes an overview of the participants, procedures, data analysis, and the main conclusions. Subsequently, practical and theoretical implications will be identified, as well as limitations and recommendations for future research.

Research in this area has increased since the first call made by DePauw (1987), and subsequently since Cregan and colleagues' (2007) early study on the knowledge and behaviours of disability sport coaches. Much of the early research in the coaching science domain has focused on elite and Paralympic coaches; thus, the youth disability sport coaching domain has largely been overlooked. The purpose of this study was to gain an understanding of the learning experiences and acquisition of knowledge of youth disability sport coaches and how it affected their coaching practices.

Five coaches were purposely recruited according to three criteria. First, they were currently coaching youth with physical disabilities. Second, they had at least five years of coaching experience in disability sport. Finally, they lived in the greater Montreal area. Data was collected using semi-structured open-ended interviews after the research team created an interview guide informed by the literature on coach learning, experiences of youth with disabilities in sport and physical activity, and effective coaching practices in disability sport. Thus, all the participants were interviewed over a period of 73 to 169 minutes at locations and times of the participants' choosing. The interviews were then audio-recorded and transcribed verbatim. The analysis followed Braun and Clark's (2013) procedures.

Three overarching themes emerged from the interview data: *Learning Opportunities*, *Factors Affecting Learning*, and *Coaching Youth with Physical Disabilities*. Despite having

different athletic and coaching backgrounds, and coaching different disability sports, the participants shared many similarities in their learning. Specifically, most participants did not have formal learning opportunities specific to their sport. As such, all participants largely relied on informal learning opportunities, including trial and error and mentoring to acquire valuable coaching knowledge. Furthermore, the learning of all participants was influenced by several personal, environmental, and social factors that included their athletic experiences, the limited financial support from the governing bodies, or the presence of staff members. Finally, all the participants expressed the importance of developing their youth both on and off the field, including teaching valuable life skills. The findings of the current study provide preliminary empirical evidence for the learning experiences of youth disability sport coaches.

Conclusions

Learning Opportunities

- Although all coaches took some type of NCCP coaching certification, only one participant had certification specific to his disability sport. Therefore, most coaches relied on decontextualized information that came from informal learning opportunities.

- Participants acquired considerable coaching knowledge through an informal mentoring process that allowed them to develop their knowledge and gain confidence.

- Likely due to the absence of formal learning opportunities, all five participants identified trial and error as a valuable strategy for acquiring coaching knowledge.

- Participants used technology, such as the Internet, to find new drills or information about coaching youth with physical disabilities.

- There was little to no communities of practice for our participants.

Factors Affecting Learning

- All coaches participated in organized sports growing up, four of them in able-bodied sport, and one in disability sport (even though he did not have a disability).

- The lack of financial means from disability sport governing bodies hindered the learning of the participants who felt a lack of support in the development of their training methods and in the promotion of their sport.

- The limited promotion of their sport made the recruitment of players difficult, which reduced their opportunities to learn from coaching experiences.

- Participants highlighted that very few youth specific programs exist in disability sport.

- The learning of the participants was enhanced by interactions with parents, who were mostly supportive and gave coaches information on their child and his/her disabilities.

- In some cases, parents could be an obstacle for sport participation, as they were afraid of their child being injured. Additionally, some parents could not afford to put their children in youth disability sport because of financial and/or time constraints.

Coaching Youth with Physical Disabilities

- Participants treated their youth as athletes and tried to develop sport-related skills.

- Coaches assessed the physical abilities of each player in order to help him/her reach his/her maximum potential.

- All participants adjusted their training regimens according to the youth's abilities and needs.

- Coaches fostered the development of their youth off the field through teaching life skills, such as resilience, perseverance, and team work.

- To facilitate the personal development of their youth, coaches needed to know about their disabilities.

- Participants put an emphasis on making their practices fun to ensure that each youth had a pleasant experience and would continue to pursue their sport.

Practical Implications

The current study is of interest to the disability sport community, especially the youth disability sport coaching community, since it is one of the first accounts detailing the learning experiences of this cohort of coaches. More particularly, the present study can be used by the Coaching Association of Canada (CAC) and the National Coach Certification Program (NCCP) in charge of the development of coach education. Although progress has been made in the recent years by adding more disability sport certifications (five right now), the development of more coaching certifications specific to disability sport is needed (24 disability sports represented at the Paralympic games do not have coaching certifications, which means the vast majority of Paralympic sports do not have their own coaching certifications. The current results could be used to address the current barriers to knowledge acquisition faced by these coaches. Moreover, this knowledge could assist the recruitment of more coaches to disability sport, particularly those with no athletic experience in disability sport.

The current results also provided evidence about the value and importance of mentoring on the learning of youth disability sport coaches. This information may be used to help develop a multi-sport formalized mentoring program for youth disability sport coaches. This could also help develop communities of practice in the youth disability sport context, who could provide another important structured educational resource for them.

Additionally, the present study mentioned the utilization of technology, specifically through the use of Computer-Mediated Communication (CMC), as a promising venue for the youth disability sport coaches. Consequently, future researchers can use the current study's findings as an impetus to establish how technology can facilitate the learning of youth disability sport coaches.

Limitations and Recommendations

Although the study enhanced the understanding of how youth disability sport coaches acquired their coaching knowledge, certain limitations need to be addressed. First, it was fairly complicated to recruit participants that are exclusively coaching youth with physical disabilities. In fact, there are very few disability sport programs that are youth specific. As a result, most participants were coaching youth and adults within the same program. Second, the interviews focused solely on the perspectives of the youth disability sport coaches. Acquiring the viewpoints of other members involved in the youth disability sport environment, such as staff members or parents, could contribute to a broader comprehension of the coach's learning and development. Similarly, obtaining the perspectives of the youth themselves on their coach's learning practices may provide a different interpretation since they are directly impacted by the coach's knowledge. Furthermore, the results only reflect the learning of youth disability sport coaches within the greater Montreal area and within their respective sports. Given that Montreal is a large city with a population greater than 1.5 million people, the resources in terms of potential coaches or athletes, training facilities, and accessibility might be more developed than in rural communities across Canada and/or the United States. For example, Quebec has more wheelchair basketball programs than any other province, which seems to indicate the sport is more developed in this region (Wheelchair Basketball Canada, 2018). As such, future research inquiring about the learning of youth disability sport coaches may want to replicate this study in different cities, provinces or

countries, and/or with other sports to develop our understanding of the learning experiences of youth disability sport coaches with access to different resources. Finally, all of the participants in the present study were male. It would be of particular interest to have female youth disability sport coaches reflecting on their learning to see whether there are similarities and discrepancies in comparison to their male counterparts.

Even though a lot more research is required to fully understand the learning experiences and the development of the youth disability sport coaches, the current study has offered some initial insights into this largely understudied domain. Therefore, the current results positively contribute to the advancement of youth disability sport coaching by adding to the limited body of literature on the acquisition of knowledge of youth disability sport coaches and the practical application of that knowledge.

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Appendices

Appendix A

Recruitment Script

Dear _____,

My name is Pierre Lepage and I am currently working towards a Master of Arts degree in sport psychology at McGill University under the supervision of Dr. Gordon Bloom. We would like to invite you to participate in our study examining the learning experiences of youth sport coaches in disability sport. We are contacting you based on a set of criteria highlighting your experience and knowledge in youth disability sport coaching.

If you choose to participate in this study, you will be asked to partake in one face-to-face interview that would last approximately one hour in a location of your choice. If more information is required, a follow up interview may occur. The questions would revolve around your experiences as a coach in youth disability sport.

The McGill University Ethics Board has reviewed and accepted this study for its adherence to ethical guidelines. All of the information provided will be confidential and the responses will only be analyzed by myself, my supervisor Dr. Gordon Bloom, and the research team. The interpretations and results will be sent back to you after the interview to ensure for accuracy and to allow you the opportunity to clarify any of your answers.

Should you have any questions concerning this study, please contact my supervisor or myself using the information provided at the bottom of the page. The McGill Sport Psychology Research Laboratory has a history of producing influential research on sport coaching and leadership. Please visit our website if you would like to learn more about our research: http://sportpsych.mcgill.ca.

Thank you for considering participating in this research project, and I look forward to hearing from you.

Sincerely,

Pierre Lepage

Pierre Lepage, B.Sc.   Gordon A. Bloom, Ph. D.
Master's Candidate, Sport Psychology   Full Professor
Dept. of Kinesiology & PE   Dept. of Kinesiology & PE
McGill University, Montreal   McGill University, Montreal
pierre.lepage2@mail.mcgill.ca   gordon.bloom@mcgill.ca

Appendix B

Informed Consent Form

This study is in partial fulfillment of the requirements for the degree of Master of Arts for Pierre Lepage, a current graduate student in sport psychology in the Department of Kinesiology and Physical Education at McGill University. You are invited to participate in the research study entitled: "Development and Acquisition of Knowledge of Youth Sport Coaches in Disability Sport". If you choose to participate in this study, you will be asked to partake in one 60 minute, audio recorded interview, without compensation. If more information is required, an additional follow-up interview may be requested either in person, over the telephone, or virtually over Skype. During the interview you will be asked questions regarding current and ideal coaching behaviours and strategies with your coach.

At the end of the interviews you will have the opportunity to clarify or edit any comments you made. You will also receive a typed transcript of the interviews, which may be edited at your discretion. Prior to publication, you will receive copies of the results and conclusions of the study. Any and all information you provide throughout the study will **remain confidential**. Only the principle investigator, Pierre Lepage, and the faculty supervisor, Dr. Gordon A. Bloom, will have access to identifiable data. All audio files and the digital copies of interview transcripts will be securely stored in encrypted folders on a password-protected computer for a period of seven years. Any paper copies of notes will be converted to digital files. After ensuring they were converted accurately, the paper copies will be destroyed. Seven years after the study ends all the data will be destroyed. The information will be used for publication purposes and scholarly journals or for presentations at conferences. Your name and identity will not be revealed at any time. The McGill Research Ethics Board has reviewed this study for compliance with its ethical standards. **Your participation in this study is voluntary and not mandatory. You are free to refuse to answer any questions or withdraw from participation at any time, for any reason without penalty or prejudice.**

After reading the above statement and having had the directions verbally explained, it is now possible for you to

provide consent and voluntarily agree to participate in this research project based on the terms outlined in this

consent form. You will be provided with a signed copy of this consent form for your records. Please contact the

Research Ethics Officer at 514-398-6831, or Lynda.mcneil@mcgill.ca, if you have any questions or concerned

regarding your rights and welfare as a participant in this research study. Please sign below if you agree to participate

in this study.

_____   _____
Signature   Date

_____   _____
Researcher's Signature   Date

I agree **(CHECK YES □ OR NO □)** to the audio recording of the interviews with the understanding that these recordings will be used solely for the purpose of transcribing these sessions.

Pierre Lepage, B.Sc.   Gordon A. Bloom, Ph.D.
Master's Candidate, Sport Psychology   Full Professor
Dept. of Kinesiology & PE   Dept. of Kinesiology & PE
McGill University, Montreal   McGill University, Montreal
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Appendix C

Demographic Questionnaire

1. Name:

2. Age:

3. E-mail:

4. Preferred phone number (work, cell, or home):

5. Briefly list your personal athletic experiences (i.e., sports, years played, highest level
    reached, awards, etc.):

    _____

    _____

    _____

6. Please list your highest level of education and the degree you received:

    _____

7. Please list any coaching certifications or clinics you have attended:

    _____

    _____

8. Current coaching position and duration:

9. Please list in chronological order any previous coaching positions, including assistant or
    volunteer:

Years	Sport (and level)	Category (and gender)	Position

10. What are your general motivations for coaching in youth disability sport?:

_____

_____

_____

Appendix D

Interview Guide

Pre-Interview Routine

- Introduction of researcher

- Overview of the study

- Reminding of the set-up of the interview (e.g., audio recorded, possibility to take a break at any time, or possibility to refuse answering questions)

Opening Questions

1. Briefly tell me about your athletic career

2. Briefly tell me about your educational background

3. Briefly tell me if you had attended any coaching clinics or certifications

4. Briefly tell me about how you started your coaching career prior to coaching disability sport

Main and Follow-Up Questions

5. How did you first get involved in disability sport coaching?

    a. In youth disability sport?

6. What resources did you access to develop your coaching knowledge and skills in disability sport?

    a. How important was your own experience in (disability) sport? (If any)

    b. What was the most efficient way to acquire coaching knowledge?

    c. How do you keep developing knowledge?

    d. How do you plan on improving your coaching skills in the future?

7. What barriers to the acquisition of knowledge did you face?

      a. How a coach could overcomes these barriers?

      b. What changes could facilitate the acquisition of knowledge of coaches in youth

         disability sport?

Summary and Concluding Questions

8. Is there something that we didn't cover in the interview that you would you like to add?

9. Do you have any final comments or questions?

Probes: Key phrases to stimulate reflection

- Can you expand on that?

- Can you clarify that?

- That's interesting, tell me more about that

- Could you please tell me more about this

- Could we please go back on this