Exploring the Learning and Mentoring Experiences of Paralympic Coaches

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Abstract

Participation in Paralympic sport has grown exponentially since the inaugural games in 1960. Despite this rapid increase in participation, the same growth and development of research has not occurred, especially relating to coaches in disability sport (Robbins & Houston, 2010). Moreover, advancing disability sport requires empirical research specific to the selection and training of coaches, the effectiveness of training programs, and coaches' backgrounds (DePauw & Gavron, 2005; Reid & Prupas, 1998). Therefore, the purpose of this study was to explore Paralympic coaches' perceptions of their learning and educational experiences, and specifically to examine formal and informal learning and mentoring opportunities. Semi-structured, open-ended interviews were conducted with six male Paralympic head coaches who were identified by a panel of experts as being among the best in eastern Canada. Results revealed that Paralympic coaches followed unconventional careers paths which included several challenges to acquiring disability specific coaching knowledge and skills. These barriers led the participants to utilize an array of informal learning situations in order to overcome these barriers. Most notably, the participants actively sought out mentoring relationships to acquire disability sport coaching knowledge when they first entered the field. When they became expert coaches themselves, they created formalized mentoring opportunities for aspiring coaches. The results of the current study address the educational needs of Paralympic coaches and can inform educational governing bodies (i.e., National Coach Certification Program in Canada, Canadian Paralympic Committee) on how best to educate aspiring Paralympic coaches. One example is developing a formalized mentoring program as a structured source of information specific to Paralympic sport. It is hoped that the results of this research will continue to increase the growth of Paralympic sport and worldwide.

Résumé

La participation aux sports paralympiques a augmenté de manière exponentielle depuis l'inauguration des Jeux en 1960. Malgré cette augmentation rapide de la participation, la recherche, spécialement en lien avec les entraîneurs de sports pour individu ayant un handicap, n'a pas connu cette expansion (Robbins & Houston, 2010). L'évolution de ces sports nécessite donc plus de recherche empirique spécifique à la sélection et la formation des entraîneurs, l'efficacité des programmes ainsi que les expériences des entraîneurs (DePauw & Gavron, 2005; Reid & Prupas, 1998). L'objectif de cette étude est donc d'explorer la perception des entraîneurs paralympiques face à leurs expériences d'apprentissage et d'éducation, et d'examiner plus spécifiquement les situations d'apprentissage formelles et informelles en plus des opportunités de mentorat. Des entrevues semi-structurées à questions ouvertes ont été réalisées avec six entraîneurs en chef paralympique masculins, qui ont été identifiés par un groupe d'experts comme faisant parti des meilleurs dans l'est du Canada. Les résultats ont révélé que les entraîneurs ont suivi des chemins de carrière peu conventionnels parsemés de plusieurs défis afin d'acquérir les connaissances et les habiletés spécifiques à l'entraînement des sports pour individus ayant un handicap. Ces barrières ont mené les participants à utiliser une variété de situations d'apprentissage informelles afin de les surmonter. Les participants ont particulièrement cherché de manière active une relation de mentorat dès leur entrée dans le domaine afin d'acquérir le bagage de connaissances nécessaire à l'entraînement de ce type de sport. Lorsqu'ils sont devenus eux-mêmes des experts, ils ont créé des opportunités formelles de mentorat pour les entraîneurs en devenir. Les résultats de la présente étude répondent aux besoins éducationnels des entraîneurs paralympique en plus d'informer les organisations d'éducation présentement en place (ex: le Programme de certification des entraîneurs du Canada, le Comité paralympique Canadien) sur la meilleure manière d'éduquer les futurs entraîneurs paralympiques. Un exemple est de développer un programme de mentorat formel qui agira comme une source d'information stucturée spécifique aux sports paralympiques. Il est à espérer que les résultats de cette recherche continueront de faire avancer le développement des sports paralympiques autour du monde.

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Chapter 1

Introduction

Participation in the Paralympic Games has grown substantially since the inaugural event in Rome in 1960 where 400 athletes represented 23 countries. The 2012 Paralympic Games included more than 4000 athletes from 164 countries (International Paralympic Committee [IPC], 2012). Despite this rapid increase of participants in the Paralympic Games, the same growth and development has not occurred with empirical literature, particularly coaching in disability sport (DePauw & Gavron, 2005; Reid & Prupas, 1998; Robbins & Houston, 2010). Moreover, in 1986 the United States Olympic Committee created the Committee on Sport for the Disabled and recommended seven key priority areas of research, including one on coaching athletes with a disability (DePauw & Gavron, 2005). They concluded that advancing disability sport would require empirical coaching research specific to this domain, as well as attention to the selection and training programs of these coaches (DePauw & Gavron, 2005; Reid & Prupas, 1998).

A major consequence of limited research in disability sport is the lack of available coaching resources. Paralympic coaches have noted there is a lack of specificity in coach education programs for disability sport resulting in decontextualized sources of information (Cushion, Armour, & Jones, 2003). To date, there are only a few empirical sources on the knowledge of Paralympic coaches (e.g., Cregan, Bloom, & Reid, 2007; Duarte & Culver, 2014; McMaster, Culver, & Werthner, 2012; Tawse, Bloom, Sabiston, & Reid, 2012). For example, McMaster and colleagues examined the learning experiences of Paralympic coaches and found that they developed a highly personal relationship with their athletes which helped them coach more effectively. The coaches also noted that there were few formal and informal learning opportunities for coaches of disability sport. Cregan and colleagues investigated the career

evolution and knowledge of elite coaches of swimmers with a disability. All the participants started by coaching able-bodied swimmers and only began coaching swimmers with a disability when an athlete with a disability arrived at their facility. These coaches were forced to acquire knowledge specific to disability sport such as accessibility and transportation. They also learned the importance of communicating with parents and support staff because they were valuable sources of information about accessibility, types of disabilities, and managing day-to-day challenges. In summary, there does not appear to be clear learning paths for coaches of athletes with a disability to acquire their highly specific knowledge.

The majority of coaching science research on coach learning has focused on elite coaches of able-bodied athletes (Gilbert & Trudel, 2004; Rangeon, Gilbert, & Bruner, 2012). Coach learning is typically defined by either formal or informal learning pathways (Nelson, Cushion, & Potrac, 2006). Formal learning resources include large-scale coach education programs that are provided by national sport governing bodies. Formal education programs provide novice coaches with essential technical and tactical knowledge, but fall short in preparing coaches to deal with social and personal aspects when dealing with athletes (Cassidy, Jones, & Potrac, 2004). Informal learning opportunities include coaching clinics, workshops, mentoring, interacting with other coaches, and self-directed learning such as reading coaching manuals or using the internet. Coaches typically value informal sources of knowledge acquisition more than formal education resources (Trudel & Gilbert, 2006). In the context of Paralympic sport, most coach certification programs are developed for able-bodied sport coaches and are therefore not tailored to the needs of aspiring Paralympic coaches (McMaster et al., 2012). Therefore, coaches of athletes with disabilities are often forced to acquire knowledge through informal learning situations such as hands-on experience and observing other coaches (McMaster et al., 2012). In some instances,

coaches form communities in which they share techniques and expand their knowledge with other like-minded individuals (Cushion, 2006). These groups are called Communities of Practice (Lave & Wenger, 1991) and are prominent as informal coach learning resources. These communities are often viewed as prime environments for coaches to seek out mentors and advisors as well as collaborate with peers (Cushion, 2006).

Most aspiring coaches seek guidance from a mentor coach at some point in their careers (Bloom, Durand-Bush, Schinke, & Salmela, 1998; Bloom, Salmela, & Schinke, 1995; Jones, Armour, & Potrac, 2003). According to Clutterbuck (2001), mentors have a responsibility to guide and nurture their protégé towards self-reliance. In a business setting, mentoring is used as a process that supports and facilitates learning (Parsloe & Wray, 2004). Mentoring has been shown to improve career and psychosocial functions (Kram, 1983) and mentored employees report higher levels of job satisfaction, organizational socialization, career commitment, opportunity, recognition, career mobility, and self-esteem (Chao, Walz, & Gardner, 1992; Colarelli & Bishop, 1990; Corzine, Buntzman, & Busch, 1994; Day & Allen, 2004; Fagenson, 1989). Not only do individuals benefit from formalized mentoring programs but organizations that implement formalized mentoring programs as a form of career development also experience benefits. The primary benefits of conducting mentoring programs at an organizational level include improved employee motivation, management of corporate culture, succession planning, and improved communications (Clutterbuck, 2004). In a sport context, mentoring has been described as a highly effective way for coaches to acquire valuable information, learn their roles and responsibilities, and improve their coaching style and behaviours (Bloom, 2013; Bloom et al., 1998). Despite the many advantages of mentoring, the relationship does not follow a set path and

acquiring a mentor coach is usually a case of being in the right place at the right time (Bloom, 2013).

Given the exponential growth of Paralympic participation and the limited availability of Paralympic coach knowledge, the need for current Paralympic coaches to pass on their experiences and mentor developing coaches is timely. Moreover, it has been shown that hands-on experience is an invaluable tool for coaches to learn the "do's" and "don'ts" of their profession (Jones, Harris, and Miles, 2009).

Purpose of the Study

The purpose of this study was to explore Paralympic coaches' perceptions of their learning and educational experiences, and specifically to examine formal and informal mentoring opportunities. This focus guided the following research questions: What are the formal education pathways (i.e., coaching certification programs) of current Paralympic coaches? What are the informal learning experiences (i.e., coaching clinics, mentoring, self-guided learning) of current Paralympic coaches? How can a formalized mentoring program be developed to accommodate the learning and education needs of aspiring Paralympic coaches?

Significance of the Study

Given the lack of coaching research in Paralympic sport, the current study has the possibility of filling a number of gaps in the literature. In order to inform coach education programs, scholars have called for more evidence-based empirical research investigating the current nature of mentoring in sports coaching (Bloom et al., 1998; Jones et al., 2009). This will allow researchers to identify the educational needs of this specialized group of sport coaches and further the development of these resources. Because Paralympic coaches rely more heavily on informal sources of knowledge acquisition, there is a need to develop these alternative sources of

education, such as mentoring. Developing a formalized mentoring program will address the educational needs of Paralympic coaches and provide them with a structured source of information specific to Paralympic sport that would ideally complement coach education courses specialized for this population. Gaining the perspectives of current elite Paralympic coaches will expand knowledge for educational governing bodies (i.e., National Coach Certification Program in Canada, Sport Canada, Canadian Paralympic Committee) to provide a basis for future Paralympic coach education programs. Blending the practical experience of expert Paralympic coaches with a research-based model of a formalized mentoring program will provide a vehicle for the advancement of disability sport worldwide.

Delimitations

For the purposes of this study, the following delimitations were identified:

1. Participants must have a minimum of 2 years of Paralympic coaching experience.
2. Participants are currently coaches in Canadian Paralympic Sport.
3. The current study strictly utilized qualitative interviews as the method of data collection.

Limitations

These delimitations may lead to the following limitations:

1. Results may only be applicable in the context of Paralympic sport coaching.
2. This study may only apply to male coaches located within the Canadian Paralympic sport context.
3. Results are limited to the perceptions and interpretations of the life experiences of participants.

Operational Definitions

For the purposes of this study, the following definitions were used:

Mentoring is a non-familial, non-romantic relationship (Bloom, 2013) that emphasizes guidance, support, and facilitation (Cassidy et al., 2004). Mentoring involves a relationship in which an experienced individual has a direct and personal impact on the development of a less experienced individual (Bloom, 2013). The mentor personally commits his/her time for the personal and professional development of their protégé (Bloom, 2013).

Formal learning is an institutionalized education system (Coombs & Ahmed, 1974) that includes large-scale coach certification programs which aim to provide coaches with technical and tactical knowledge on the sport sciences and physical education pedagogy.

Informal learning is a lifelong learning process in which individuals accumulate knowledge, skills, beliefs, and insights (Coombs & Ahmed, 1974). Informal learning may manifest through many different avenues such as observation of other coaches, informal mentoring, coaching clinics, coaching workshops, and reading coach education resources.

Paralympic coach is an individual that teaches, guides, leads, and inspires elite level athletes with a physical disability that are members of a national team.

Chapter 2

Literature Review

This literature review will consist of three sections. First, a historical overview of Paralympic sport, Paralympic coaching research, and athlete research will be presented. The second section will summarize coach learning and the acquisition of coaching knowledge. The third section will present an overview of mentoring research including how the construct is defined will be presented. Research in the business and sport domains describing the benefits of mentoring will also be provided.

Paralympic Sport

Sport for athletes with disabilities has been in existence for over 100 years with the first sport club for the blind originating in Berlin in 1888 ([IPC], 2013). In 1944, following World War II, the British Government requested Sir Ludwig Guttmann of Stoke Mandeville Hospital to open a spinal cord injury rehabilitation center for injured war veterans (IPC, 2013; Tawse, Bloom, Sabiston, & Reid, 2012). This introduction of sport as a form of rehabilitation is recognized as the origin of organized sport for the disabled and led to the first International Wheelchair Games in 1948, which coincided with the London Olympic Games (IPC, 2013). These games, also known as the Stoke Mandeville Games, included 16 injured servicemen in the sport of archery (IPC, 2013). Later, these games became the Paralympic Games which first took place in Rome in 1960 featuring 400 athletes from 23 countries (IPC, 2013). Historically, the Paralympic Games have taken part in the same cities and venues as the Olympics which is reflected in its Greek proposition 'para', meaning "beside or alongside" (IPC, 2013). The Paralympics are the parallel games to the Olympics and the two movements exist side by side making the Paralympic Games the pinnacle international competition for world class athletes

with a disability. As the participation and organization of sport for the disabled gained momentum, the International Paralympic Committee was established in 1989 to act as the global governing body of the Paralympic Movement (IPC, 2013).

After missing the first two Paralympic Games, Canada has participated in every one since the 1968 games in Israel (Canadian Paralympic Committee [CPC], 2013). This participation is largely attributed to Dr. Robert F. Jackson, a Toronto orthopaedic surgeon, who became the first President of the Canadian Wheelchair Basketball Association and Founding Father of the Canadian Paralympic Committee (CPC, 2013). After the 1976 Summer Paralympic Games were held in Toronto, the Canadian Government released funds towards the development of programs for the advancement of sport opportunities for individuals with physical disabilities (CPC, 2013). This has partly allowed Canada to become known as one of the global leaders of the Paralympic Movement (CPC, 2013).

Internationally, the Paralympic movement gained momentum in 1985 when the United States Olympic Committee created a research subcommittee called the Committee on Sport for the Disabled (DePauw, 1986). This committee established seven priority areas for research on disability sport including: (a) training and/or competition effects, (b) selection and training of coaches, volunteers, officials, (c) technological advances, (d) sociological and psychological aspects, (e) similarities and differences among athletes with and without disabilities, (f) demographics, and (g) legal, philosophical, and historical bases of sport (DePauw, 1986). They concluded that advancing disability sport would require empirical research specific to the selection and training of coaches, the effectiveness of training programs, and coaches' backgrounds (DePauw & Gavron, 2005; Reid & Prupas, 1998). Although the Committee on Sport for the Disabled identified the need for research on disability sport, this growth and

development has not occurred within empirical literature, particularly relating to coaches in disability sport (Robbins & Houston, 2010). Ten years after the establishment of the Committee on Sport for the Disabled, Reid and Prupas documented and analyzed research publications related to the seven research priorities. Their results indicated that only five of the 204 data-based publications addressed coaching (Reid & Prupas, 1998). They concluded that "the coaching area is in dire need of data-based research to assess coach selection processes, [and] the effectiveness of coaches' training programs" (p. 172). More recent publications have found a similar distribution of research topics (i.e., Rangeon, Gilbert, Bruner, & Côté, 2009; Lee & Porretta, 2013). For example, Lee and Porretta conducted a similar analysis to Reid and Prupas for the time period of 2001-2011. Their results indicated that the majority of publications focused on the physiological and biomechanical aspects of disability sport (Lee & Porretta, 2013). When compared to the first time period analyzed by Reid and Prupas, both the frequency, percentage, and number of data-based publications on the selection and training of coaches of athletes with a disability decreased from 2001-2011. The need for empirical research within this population is undisputed, especially with the development of sporting opportunities and events for athletes with disabilities (DePauw & Gavron, 2005).

Paralympic coaches. Despite the paucity of research addressing coaches of athletes with a disability, coach learning, and the development of effective coaches (DePauw & Gavron, 1991; McMaster, Culver, & Werthner, 2012), literature reveals many similarities between coaching able-bodied athletes and athletes with a physical disability (DePauw & Gavron, 2005). Coaching athletes with a disability requires many of the same skills such as helping athletes set realistic goals, developing realistic skill progression, and providing consistent and appropriate feedback (Cregan, Bloom, & Reid, 2007; DePauw & Gavron, 2005). Psychologically, athletes with a

physical disability are the same as able-bodied athletes and, therefore, should be coached similarly (Cregan et al., 2007; DePauw & Gavron, 2005).

Despite these similarities, the athletes' physical disabilities often place different demands on their coaches and require coaches to acquire disability-specific knowledge (Tawse et al., 2012). Contextual factors such as understanding the nature of the athlete's disability and having knowledge of necessary biomechanical adaptations are required (Cregan et al., 2007). In addition, coaches must be aware of their athletes' living accommodations, transportation needs, and medical conditions (Quade, 1999). In order to investigate the disability specific knowledge required for coaches to effectively coach athletes with a disability, Cregan and colleagues studied the career evolution and knowledge specific to coaching elite-level swimmers with a physical disability. All six of the coaches had begun coaching able-bodied swimmers and only one of them competed as a Paralympic athlete. None of the coaches in this study intended to coach swimmers with a disability and only began doing so when an athlete with a disability arrived at one of their training sessions. Through a highly shared relationship with the athlete, parents, and support staff, the coaches acquired knowledge about the types of disabilities, accessibility, developing creative training programs, and building the autonomy of their athletes. More specifically, coaching manuals, clinics, and seminars were not as abundant in disability sport and therefore the coaches created a close relationship with their athletes. In the same way, coaches and the parents of athletes with a disability had a unique relationship. The coaches acknowledged that athlete participation may have been non-existent without their parents' provision and support. Similarly, Duarte and Culver (2014) explored the process of becoming an adaptive sailing coach. Using a life-story methodology, the authors revealed that the coach utilized collaborative networks of individuals to acquire disability coaching knowledge. Relationships

with colleagues, athletes, and mentors throughout her career helped her advance from recreational para-swimming instructor to developmental adaptive sailing coach. They concluded that it was through social interactions that disability sport coaches experience a variety of coaching contexts which optimizes their learning processes.

Despite the recognition that coaches require a specialized skill set when working with athletes with a disability, there is a lack of available coaching resources and learning opportunities to acquire this knowledge (Tawse et al., 2012). Many Paralympic coaches are not trained in the specific circumstances that define disability sport because many have completed coach education programs designed for able-bodied sport contexts (Cregan et al., 2007). Research investigating coach development has noted that there is a lack of knowledgeable coaches in disability sport because of the lack of disability-specific coach education resources (e.g. DePauw & Gavron, 1991; 2005; Robbins & Houston, 2010).

In order to determine how Paralympic coaches acquired disability-specific knowledge, McMaster and colleagues (2012) observed and interviewed five Paralympic coaches from a variety of sports. All five coaches had extensive backgrounds as elite athletes, three as able-bodied athletes and two as athletes with a disability. Although all five coaches had access to formal education with disability-specific information, many of them felt that changes should be made in terms of the structure of courses by incorporating more hands-on experience. For example, technical issues with disability apparatus, athlete differences in mobility, and information about disability classification were recommended. Because the coaches felt that their formal education was lacking, they relied heavily on their informal learning experiences. Examples of informal opportunities included seeking out resources (i.e. internet, books, DVDs), observing other coaches, and having or being a mentor. They valued the hands-on nature of these

experiences, and valued the benefits of working alongside other coaches at coaching clinics. Each of the coaches spoke of the mentoring process as a way of helping them learn. One of the coaches acted as a mentor to younger coaches providing them with information on specific disabilities and resources that would help them. Other coaches who had a mentor discussed that their mentor provided them with wisdom about practice content and time management.

Paralympic Athletes. A small number of publications have addressed the psychological factors associated with disability sport (Tawse et al., 2012). In order for coaches to better understand the unique needs of Paralympic athletes, research has investigated the motivation, goal orientation, needs satisfaction, social support, and autonomy of these athletes (i.e., Banack, Sabiston, & Bloom, 2011; Martin & Mushett, 1996; Gimeno, Hutsler, Vaíllo, Rivas, & Murcia, 2005). For example, Banack and colleagues explored the relationship between Paralympic athletes' perceptions of autonomy-supportive coaching behaviours, basic psychological needs, and intrinsic motivation to better understand the dynamic between coach behaviour and athlete motivation in disability sport. Their results indicated that the athletes felt autonomous and motivated to accomplish their training and competition goals when they perceived their coach to be autonomy-supportive. Furthermore, coaches that applied autonomy-supportive strategies when coaching athletes with a physical disability satisfied that athlete's need for competence and self-confidence which further increased the athlete's perception of autonomy. In a related fashion, Goodwin, Johnston, Gustafson, Elliot, Thurmeier, and Kuttai (2009) demonstrated that developing self-confidence and empowerment in athletes with a disability fostered an identity as an elite athlete rather than a person with a disability. In addition, athletes developed a sense of belonging, relatedness, and social support within the sport community (Goodwin et al., 2009). Research has demonstrated that coaches can foster a sense of community in their athletes with a

physical disability by encouraging strong social support networks in both sport and non-sport contexts (Martin & Mushett, 1996). Social support from coaches and parents in the face of technical and emotional challenges may contribute to athletes' beliefs that they can achieve their athletic goals and deal with day-to-day frustrations (Martin & Mushett, 1996). It is through autonomy-supportive strategies, social support, and fostering a sense of community that coaches can address the psychological needs of their athletes in order for them to build self-confidence in and out of sport contexts as well as an identity as an elite athlete.

Literature investigating the psychological needs of athletes with a physical disability, how coaches can address these needs, and how coach education can provide disability-specific information is limited but insightful. Recommendations have been made by researchers investigating these dynamics to better inform future disability sport research and practice. For example, Banack and colleagues (2011) highlighted the importance of creating an autonomy-supportive environment for athletes with a physical disability in which coaches provide athletes with choices, allow athletes to take initiative in their training and rehabilitation, and give task-oriented feedback that fosters motivation to achieve. McMaster and colleagues (2012) suggested that formal education programs should offer courses exclusively tailored to disability sport coaches in order to address disability-specific content such as how to develop a strong social support network including coaches, parents, and support staff. They also suggested that able-bodied coach education programs should provide disability-specific teachings to aid able-bodied sport coaches transitioning into disability sport contexts.

Longitudinal reviews of research pertaining to disability sport (i.e., Lee & Porretta, 2013; Reid & Prupas, 1998) have established an ongoing need for the production of empirical research studying the psychological aspects of both athletes and coaches of athletes with a disability.

Research, thus far, has established many similarities between coaching able-bodied athletes as compared to athletes with a disability and these findings suggest that many coach certification programs created for able-bodied sport coaching have the potential to be adapted for disability sport coaching. Understanding that coaches of athletes with a disability do have additional duties and responsibilities and learn these responsibilities from multiple resources, national sport governing bodies can supplement coach education programs to meet the needs of aspiring disability sport coaches.

Coach Learning

A significant portion of coaching science research focuses on understanding how coaches learn to coach (e.g., Gilbert & Trudel, 2001; Werthner & Trudel, 2006; Wilson, Bloom, & Harvey, 2010; Wright, Trudel, & Culver, 2012). Learning involves a range of activities through which coaches develop an understanding of their working knowledge (Nelson, Cushion, & Potrac, 2006). Despite widespread recognition of the importance of coach preparation and development, understanding how coaches learn and acquire knowledge lacks consensus (Nelson et al., 2006). This is demonstrated by the many terms scholars use to describe this process, some of which include coach education (Martens, 2004), coach training (Smoll & Smith, 1994), coach development (Mallett & Côté, 2006), continuing professional development (Cushion, Armour, & Jones, 2003), and coach learning (Lyle, 2002). Trudel and Gilbert (2006) conducted an extensive review on this topic to clarify the inconsistencies in terminology and learning pathways. They concluded that coaches typically learn to coach through large-scale coach education programs and experience (Trudel & Gilbert, 2006). Nelson and colleagues have called these either *formal* learning contexts (i.e. coaching certification) or *informal* learning contexts (i.e. clinics, workshops, hands-on experience).

Formal learning is defined by Coombs and Ahmed (1974) as "institutionalized, chronologically graded, and hierarchically structured educational system[s]"(p.8). Formal learning environments include large-scale coach certification programs designed by national sport governing bodies such as the National Coach Certification Program in Canada and the Australian National Coach Accreditation Scheme. This style of learning is typically short-term, provides little follow-up, and offers few opportunities for new coaches to integrate the knowledge they have gained into practice (Knowles, Gilbourne, Borrie, & Nevill, 2001). Coaches often leave formal programs with an understanding of sport science and technical knowledge related to their sport but are unable to grasp the social and contextual aspects related to the role of a coach (Cassidy, Jones, & Potrac, 2004).

Informal learning was defined by Coombs and Ahmed (1974) as a "lifelong process by which every person acquires and accumulates knowledge, skills, attitudes, and insights from daily experiences and exposure to the environment" (p.8). Coaches learn through several informal avenues including past athletic experiences, informal mentoring, practical coaching experience, and interactions with other coaches and athletes (Bloom, Salmela, & Schinke, 1995; Carter & Bloom, 2009; Irwin, Hanton, & Kerwin, 2004; Jones, Armour, & Potrac, 2004; Schempp, Templeton, & Clark, 1999). Informal learning can also be expressed through self-directed learning such as reading coaching manuals, exploring the internet, and educational sport science videos (Wright et al., 2007). In order to understand the educational needs of elite sport coaches, Gould, Giannini, Krane, and Hodge (1990) investigated the educational backgrounds and the perceived needs of 130 elite coaches. Their results indicated that the two most important factors in the development of an elite coach were experiential knowledge and informal education. Of the informal learning pathways coaches valued, actual coaching experience and

observing other elite coaches were cited as the most influential factors involved in knowledge acquisition (Gould et al., 1990). Other informal learning pathways mentioned by these coaches were international coaching experience, knowledge of sport sciences, mentor program apprenticeships/experience working with top coaches, national level coaching experience, knowledge of sport psychology, and developmental coaching experience (Gould et al., 1990). Gould and colleagues recommended that formal education programs should incorporate informal learning in the forms of discussions, planned exercises, and hands-on experience to better address the educational needs of sport coaches.

Some researchers have been very critical of formal coach education programs (e.g., Cushion et al., 2003; Jones & Wallace, 2005), particularly noting that formal learning has less of an impact on knowledge acquisition compared to informal learning (Jones et al., 2004). In Trudel and Gilbert's (2006) review, many studies found that formalized learning opportunities were not as valued by coaches as their day-to-day practical experience in the field. Cushion and colleagues suggested that "an inherent problem with this rational approach is that learning becomes decontextualized, resulting in the production of two-dimensional coaches driven by mechanistic considerations who are unable to comprehend and, as a result, adapt to the dynamic human context" (p. 220). In contrast, "it is primarily through informal learning experiences such as reflection, mentoring, and communities of practice that coaches begin to get a feel for what coaching is, how coaches behave, and how day-to-day responsibilities are filled" (Sage, 1989, p. 254).

However, it is important to note that formal and informal sources of knowledge acquisition are not mutually exclusive. Both learning pathways, together, contribute to the development of elite coaches. According to Lyle (2002), "education and training depends on a mix of formal and

informal provision, and understanding how learning and preparation is taking place is important in analyzing practice" (pp. 275-276). As evidence to this concept, Wilson and colleagues (2010) investigated sources of knowledge acquisition and career progression of Canadian high school coaches. Their results indicated that knowledge was initially acquired through a combination of formal training, practical experience, and informal training opportunities. Formal education provided coaches with a knowledge base in sport sciences and physical education pedagogy which was further developed through informal learning opportunities such as working with more experienced coaches, and attending clinics and workshops. It appears that formal education practices provide coaches with an essential knowledge base, but it is also imperative that they continue developing their knowledge by informal means.

With a significant amount of research supporting the benefits of informal sources of learning, scholars have applied theories of learning to understanding informal coach learning. Cushion (2006) considered the concepts of reflection (Schön, 1983), communities of practice (Lave & Wenger, 1991), and zones of proximal development (Vygotsky, 1978) to explain how individuals construct knowledge. The following section will describe each theory in relation to coach learning.

Reflection. This type of self-directed informal learning involves a dialogue of thinking and doing in order to become more skillful (Giovannelli, 2003; Schön, 1983). It is through reflection that coaches begin to develop both knowledge and practice (Gilbert & Trudel, 2001). According to Hatton and Smith (1995), reflection is composed of four main processes: (1) a technical examination of one's immediate skills and competencies, (2) a descriptive analysis of performance, skills, and competencies, (3) a dialogic exploration of alternative methods to solving problems, and (4) critical thinking of the effects of a course of action. Reflection can be

further understood as a method of learning *through* experience and *from* experience (Gilbert & Trudel, 2001). Reflection-in-action takes place in the moment of a coaching dilemma. Reflection-on-action occurs when reflecting on an action can still impact the activity in the future. Retrospective reflection-on-action is defined as a "thinking back" because there is no longer an opportunity to affect change on the issue.

Communities of practice. Lave and Wenger (1991) originated the Community of Practice (CoP) framework as an approach to conceptualizing informal learning. The CoP involves sharing knowledge between expert and novice community members (Lave & Wenger, 1991). CoPs are an active learning process (Bloom, 2013). Learners initially hold more peripheral positions in the community and through knowledge acquisition and experience become more central members (Cushion, 2006). CoPs foster coach development because, as Salmela and Moraes (2003) noted, "sharing knowledge with other passionate coaches provides a rich forum for better understanding the complexities of coaching, as well as testing the effectiveness of one's particular ways of interaction and behaving in practice and games" (p. 289). These communities can be applied as ideal environments for mentoring opportunities because mentors and protégés can work within an environment of mutual exploration (Cushion, 2006). Essentially, CoPs are a type of informal coach learning that contains elements of group mentoring (Bloom, 2013).

Zones of proximal development. Vygotsky (1978) originally developed the theory of zones of proximal development to explain child development. The theory has since been applied to many types of learning tasks (Tharp & Gallimore, 1988). The central tenet is that learning can occur through mediation such as observing another person (Cushion, 2006). The learner is more than a passive recipient of information, engaging with what they observe in a practice setting (Cushion, 2006). This learning through interaction helps novice coaches recognize patterns in

successful coaching and allows them to better understand their own actions (Cushion, 2006). Zones of proximal development are consistent with research demonstrating that informal learning situations such as observation of elite coaches are some of the most influential factors in coach development (e.g., Gould et al., 1990).

Mentoring

The origins and roots of mentoring. The origin of mentoring dates back to Greek Mythology where the ancient archetype "Mentor" was a trusted advisor to Odysseus' son Telemachus (Merriam, 1983). While the roots of mentoring date back to ancient times, the word "mentor" did not appear in the English language until 1750 (Oxford English Dictionary, nd). Its appearance was influenced by the French writer, Fenelon, who wrote the story "Les Aventures de Tálámaque" in 1699 in which Mentor was the main character (Turner, 2013). After becoming the most reprinted book in the 18th century, the word "mentor" was resurrected after almost 3000 years (Turner, 2013). Not until the late 20th century did research on mentoring relationships begin to evolve.

The first modern day writing about mentoring appeared in 1978 when Daniel Levinson explored the influence of mentoring on the lifespan of men (Ragins & Kram, 2007). Shortly after, Kathy Kram (1985) published *Mentoring at Work,* which laid the theoretical foundation for understanding mentoring in academia and ignited a school of research dedicated to understanding mentoring relationships (Ragins & Kram, 2007). Through her work, the concept of mentoring transitioned from being an abstract construct to a concrete household term (Ragins & Kram, 2007). Over the next twenty years, researchers from various disciplines and professions sought to understand the meaning of mentoring (see reviews by Allen, Eby, Poteet, Lentz, & Lima, 2004; Clutterbuck & Ragins, 2002; Noe, Greenberger, & Wang, 2002; Ragins, 1999). In

addition to the general appeal of mentoring "as a personal, tangible, and transformational relationship" (Ragins & Kram, 2007, p. 4), organizations began to adopt mentoring as a tool for increasing employee productivity. Despite the growing popularity of mentoring in the workplace, defining mentoring as an academic construct proved difficult. As Ragins and Kram stated, "scholars continue to struggle with understanding the complexity of this pivotal, life-altering relationship. In a nutshell, we know it works; we are still grappling with why, when, and how" (p.4).

Defining mentoring. Extensive research on mentoring has been conducted in several professional domains including business, education, medicine, and sport. As such, there are many definitions within the literature (Parsloe & Wray, 2000). Fenelon's Mentor formed the basis of the modern day use of the term, and the word mentor soon came to mean "a wise and trusted advisor- an experienced person who advises, guides, teachers, inspires, challenges, corrects, and serves as a role model, often to a younger person" (Turner, 2013, p. 2). Until the 1990's, the majority of researchers faced difficulties developing a working definition of mentoring. Researchers who provided traditional definitions of mentoring described a "relationship between an older, more experienced mentor and a younger, less experienced protégé for the purpose of helping and developing the protégé's career" (Ragins & Kram, 2007, p. 5). Today, scholars agree that the term involves a non-familial and non-romantic relationship (Bloom, 2013) that emphasizes guidance, support, and facilitation as the foundation (Cassidy et al., 2004; Parsloe & Wray, 2000).

Although mentoring shares similar functions to other relationships that involve a teaching component, the career development and growth aspects specific to mentoring seems to distinguish the mentoring relationship from other personal relationships (Ragins & Kram, 2007).

For example, mentoring and coaching begin to diverge on this point. Mentoring and coaching do share many similarities in terms of teaching and learning approaches. However, the main function in coaching is the development of skills with an end goal of improved performance (Clutterbuck, 2004). With an agenda set by the coach, the focus is set on the task and the coach controls the direction of the relationship (Clutterbuck, 2004). Mentoring centers on the variables beyond the task such as the potential and capacity of the learner (Clutterbuck, 2004). It is typically a longer-term relationship with the goals and expectations constantly evolving through the developmental process (Clutterbuck, 2004). To demonstrate this important distinction, Clutterbuck and Megginson (2005) stated:

> [Coaches may behave] like a mentor - using their own experience to ask questions that lead learners to their own insights and conclusions, helping to develop their own wisdom...but mentors have a number of other roles to play, which are typically outside of the coach's remit. They help the learner to build wider networks, from which to learn and influence; they act as a sounding board and counsellor, responding to the individual's need for emotional support; and they act as adviser and, frequently, role model (p. 5).

In the last several years the definition of coaching has moved away from a skills and performance focus to an emphasis on self-empowerment (Rolfe, 2013). Researchers have felt there are more similarities between mentoring and coaching than there are differences (Gray, 2013). This modern perspective is demonstrated by the merging of the European Mentoring and Coaching Council, the International Coach Federation, and the Association of Coaching to create the Global Coaching and Mentoring Alliance (Gray, 2013).

The main function of mentoring is to foster a learning environment where a mentor oversees the developmental progression of a mentee with the purpose of helping their mentee recognize their career potential, develop their skills, and work towards their professional goals (Connor & Pokora, 2007; Parsloe, 1992). Mentors typically provide two types of functions to their protégés in order to promote developmental progression, *career functions* and *psychosocial functions* (Ragins & Kram, 2007). Mentors provide career functions by helping protégés prepare for advancement in the organization by sponsoring their personal advancement, increasing their visibility, offering them protection, and exposing them to challenging tasks (Ragins & Kram, 2007). Psychosocial functions of mentoring involve an emotional and psychological component and are built on trust and interpersonal bonds between a mentor and their protégé (Ragins & Kram, 2007). Mentors guide their protégé in order to promote their self-efficacy, self-worth, identity, and personal growth (Ragins & Kram, 2007). In the first edition of the book, *Everyone Needs a Mentor* by David Clutterbuck (1985), an acronym was used to describe the role of mentor: Manage the relationship, Encourage the protégé, Nurture the protégé, Teach the protégé, Offer mutual respect, and Respond to the protégé's needs. In the latest edition of the book, Clutterbuck (2004) noted the mentor provides a unique source of support to their protégé, "one based on reflective learning and something akin to pastoral care" (p. 20). Most recently, Bloom (2013) provided a comprehensive definition of mentoring with this key concept in mind:

> [Mentoring] involves a relationship between a mentor and his/her protégé where the former has a direct influence in the development of the latter and personally commits his/her time for the others' personal growth and development. The pillars of the relationship are trust and respect (p. 477).

Although many mentors display the above characteristics in their mentoring relationships, the style in which the interactions take place between a mentor and his/her protégé differs based on context. Clutterbuck (2001) distinguished between mentoring styles that take place in American and European organizations. In the traditional American style of mentoring the mentor uses power, influence, and authority to impact their mentee's development. Age and elevated status are central tenets of the dynamic and practical help and guidance are used to forge communication pathways. However, in the European style of mentoring, the focus is on the mentee who works toward developing skills such as self-reliance and becoming self-resourceful. This model focuses on encouraging the mentee to learn through experience and the interactions between the mentor and mentee are based on a mutuality of learning.

There is also an important distinction in how the mentoring relationship is structured. Clutterbuck (2007) highlighted this by stating that mentoring programs can be developed using formal or informal designs. In determining whether a program is formal or informal there are two contextual factors involved: (1) the degree in which the creation of the relationship is planned and structured, and (2) the level of structure within the relationship itself. According to Clutterbuck (2001):

> Getting the best from the mentoring scheme, then, involves building in the best aspects of both formal and informal approaches. A formal structure is essential because it provides meaning and direction for relationship and support where necessary. But individual relationships will flourish best when allowed to operate as informally as possible. Successful formal relationships very frequently go on to become successful informal ones (p. 31).

Although formal mentoring has become a core area of interest for scholars, research on the informal/formal distinction suggests that the two are not equally beneficial (Allen et al., 2004; Chao, Walz, & Gardner, 1992; Ragins & Cotton, 1999). With the use of mentoring in diversity, leadership development, and international programs, researchers have focused on understanding the conditions under which formal mentoring relationships can thrive (Ragins & Kram, 2007). According to Rolfe (2013),

> Formal mentoring programs that are strategic, planned, and supported properly, provide a framework for mentoring partnerships that enables the pairs to negotiate how their relationship will operate. Such schemes provide guidelines that define the roles and responsibilities. They suggest frequency of contact and topics of conversation and other logical considerations, but allow individuals freedom and autonomy to manage their mentoring. Thus a structured program serves organizational objectives and the needs of individuals (p. 3).

Mentoring in business. Within a business setting, researchers have focused primarily on investigating one key research question, "What is the value of mentors and mentoring for the career success of protégés?" (Ragins & Kram, 2007). Generally, research has indicated there is a positive relationship between mentoring and career outcomes in business (Aryee & Chay, 1994; Gonzalez-Figueroa & Young, 2005; Kirchmeyer, 1998; Tharenou, 2005). In investigating this question, scholars have measured mentoring outcomes either objectively or subjectively (Ragins & Kram, 2007). Objective career outcomes include promotion rates, salary, and compensation (Day & Allen, 2004; Dreher & Chargois, 1998) whereas subjective outcomes include perceived

career success, job satisfaction, and organizational commitment (Aryee & Chay, 1994; Baugh, Lankau, & Scandura, 1996).

In the last 10 years, three large scale reviews have systematically investigated the benefits of mentoring in an organizational context (e.g., Allen et al., 2004; Noe et al., 2002; Wanberg, Welsh, & Hezlett, 2003). For example, Noe and colleagues compiled a monograph on the immediate and long-term benefits of mentoring. The short-term outcomes included psychosocial, career-related, and role modeling functions, while the long-term outcomes included promotions, compensation, work alienation, job involvement, and perceived career success variables. Noe and colleagues concluded that mentored individuals reported higher levels of career and job satisfaction, promotion rates, and income as compared to non-mentored individuals. In a related study, Allen and colleagues conducted a meta-analysis investigating the objective and subjective outcomes for protégés of mentoring relationships. Results indicated that individuals involved in a mentoring relationship received greater career outcomes on both the objective and subjective measures compared to non-mentored individuals (Allen et al., 2004). More specifically, career-related mentoring, as opposed to psychosocial mentoring, was more positively related to both objective and subjective career outcomes including compensation, salary growth, promotions, career satisfaction, job satisfaction, and satisfaction with mentor.

Aryee and Chay (1994) investigated 164 professional and managerial level employees in the public and private business sector in Singapore. They utilized a cross-sectional, employee self-report survey to understand the subjective outcomes of mentoring in the workplace which included career satisfaction, organizational commitment, career commitment, and job involvement. Their results indicated that mentored employees scored higher on the outcomes compared to non-mentored employees. Corzine, Buntzman, and Busch (1994) sampled 208 bank

officers to investigate job satisfaction, salary, and career plateau outcomes. Their results indicated that mentored individuals reported higher levels of job satisfaction and were less likely to reach a career plateau. However, there was no difference in salary between mentored and non-mentored individuals (Corzine et al., 1994).

Critics of mentoring scholars have pointed out that much of the research investigating protégé outcomes has been cross-sectional and, because of this, causal relationships between mentoring and protégé career success cannot be made (Ragins & Kram, 2007). In order to investigate the long term outcomes of mentoring, Kirchmeyer (2005) conducted a longitudinal study of 143 American academics who earned doctoral degrees in accounting between the years 1984-1987. The results indicated that mentored individuals in academia experienced both career advancement and performance as a result of mentoring (Kirchmeyer, 2005). From a global perspective, Tharenou (2005) conducted a longitudinal study of 3220 lower to middle managers from the public and private business sectors in Australia in order to investigate the objective outcomes of salary, number of promotions, and managerial level of mentored individuals. The results indicated that gender moderated the relationship between mentoring and career outcomes. They concluded that career support increased women's career advancement more than it did for men's career advancement (Tharenou, 2005).

The most recent longitudinal investigation on the mentoring outcomes in a business setting was conducted by Jones (2012) in the United Kingdom. Studying five mentoring dyads over a 17 month period, the findings indicated that both the mentors and mentees benefited from the program along four learning outcome dimensions. Cognitive learning included the acquisition of knowledge about the organization, politics, as well as workplace culture. Skill-based learning included developing new interpersonal skills, and communication skills such as

listening, questioning, and reflecting. Affective-related learning involved experiences in motivational change towards taking initiative and achievement of personal goals. Social networks included expanding connections inside and outside the organizational setting.

Mentoring in sport. Although many athletes and coaches have sought the advice of a more experienced player or coach at some point in their career, empirical research on mentoring in sport is limited (Bloom, 2013; Jones, Armour, & Potrac, 2003, 2004; Jones, Harris, Miles, 2009; Koh, Bloom, Fairhurst, Paiement, & Kee, 2014). This is especially concerning in the coaching literature, given that is an important factor in coach development (Bloom, Durand-Bush, Schinke, & Salmela, 1998; Cushion, Armour, & Jones, 2003), where scholars from around the world have emphasized the need for the development of structured mentoring programs (e.g., Bertz & Purdy, 2011; Bloom et al., 1995; Bloom et al., 1998; Cushion, 2006; Dickson, 2001; Gould et al., 1990; Jimenez, Lorenzo, & Ibanez, 2009; Jones et al., 2003). Bloom (2013) outlined several barriers contributing to the lack of formalized mentoring programs in sport coaching including: a lack of funding to professionalize the process, a lack of consistency in the types of mentoring, and no clear indicators to define the effectiveness of formalized coach mentoring programs. According to Cushion (2006), "mentoring in its current form, is unstructured, informal, and uneven in terms of quality and outcome, uncritical in style, and serves to reproduce the existing culture and power relations found in existing coaching practice" (p. 131). In order to inform coach education programs, scholars have called for more evidence-based empirical research investigating the current nature of mentoring in sports coaching (Bloom et al., 1998; Jones et al., 2009).

Research from the UK examining mentoring in sport found that informal bases of learning such as observing coaches during practices and competitions were viewed as crucial

aspects of coach learning (Cushion et al., 2003, Jones et al., 2003, 2004; Jones et al., 2009). The impact of mentoring for sport coaches extends beyond the technical aspects of coaching to include personal relationships that develop with their mentor coach long-term (Bloom et al., 1995).

Bloom and colleagues (1998) conducted one of the most direct empirical investigations of mentoring in sport coaching. They investigated the mentoring experiences of Canadian Olympic team sport coaches. Their results indicated that mentoring was a long-term process. Many of the participants were mentored by more experienced coaches during both their athletic and early coaching careers. Once they reached a certain level of expertise, coaches began acting as mentors to athletes and other young coaches. Many of the coaches stated that their mentors taught them tactical, technical, and physical skills and also shared their philosophies, beliefs, and values about coaching. Trusting relationships were developed with their mentors who provided them with opportunities to access valuable information and create a network of colleagues. Interestingly, coaches involved in this study noted there was no set path to finding a mentor coach, but once they found a coach they were able to develop a highly personal relationship and maximize their coaching potential. Because of the happenstance nature of finding a mentor, the participants advocated formalized mentoring programs. Bloom and colleagues concluded that mentoring is a highly effective way for new coaches to learn their roles and that formalized mentoring programs were recommended as an effective coach learning and development tool.

Several countries such as Australia and Canada have addressed the need for more formalized coach mentoring programs (Nash, 2003). In Canada, coach mentoring practice is governed by the Coaching Association of Canada (CAC) (Bloom, 2013). There are currently seven National Coaching Institutes (NCIs) across the country whose mission is to elevate coach

education in Canada. As part of their Advanced Coaching Diploma, coaches participate in an apprenticeship program with a master coach. The mentor is responsible for guiding young coaches through the completion of the diploma's four core themes: coaching leadership, coaching effectiveness, performance planning, and competition readiness (Coaching Association of Canada [CAC], 2013). The mentees meet with their mentor coach on their own either by phone, email, or on-site during training sessions. Despite the success of the program, the CAC acknowledges challenges and limitations present in the current system (CAC, 2013). First, there is no definitive schedule upon which the mentors and mentees meet. Sessions are typically done on the coaches' own time within the limits of their own availability. Second, mentoring sessions do not always take place under the same conditions. Several mediums such as email, phone, face-to-face are used. Third, finding qualified coaches who are willing to participate in the training required to fulfill the role of mentor is difficult. In some cases, coaches of different sports are matched as mentor and mentee (CAC, 2013).

Internationally, Koh, Bloom, Fairhurst, Paiement, and Kee (2014) recently implemented a formalized mentoring program for novice basketball coaches in Singapore. An eight hour mentoring program consisting of observation and hands-on sessions between experienced mentor coaches and mentees was created. After completion of the mentoring program, separate focus group interviews were conducted with the mentors and mentees. The results indicated that both the mentors and mentees benefitted from participation in the program. The mentees learned technical knowledge of basketball, athlete psychology, innovative thinking, and time management skills from their mentors. The majority of the mentees benefitted from receiving feedback on their hand-on practice during training sessions, particularly as a way to develop their unique coaching style. In reference to the mentoring program itself, the mentees stressed the

importance of matching mentors and mentees based of level of coaching, style of coaching, and personality in order to maximize the benefits of the program.

Chapter 3

Method

The purpose of this study was to explore the learning and educational experiences of Paralympic coaches and specifically to examine formal and informal mentoring opportunities. The participants, interview technique, data analysis, and validity components of the study are discussed in this chapter.

Participants

Purposive sampling was used in which participants were selected according to pre-determined criteria (Guest, Bunce, & Johnson, 2006). More specifically, six current male Paralympic coaches from various individual, team, and coacting sports were interviewed in the current study. Participants were coaches in Canadian Paralympic sport for an average of 12 years and were recommended by a panel of experts that included current and former members of the Canadian Paralympic Coach Council advisory board as being among the best in Eastern Canada. The participants in the current study were all male coaches primarily because the list provided by the Canadian Paralympic Coach Council advisory board only included male candidates, which is likely indicative of the Paralympic coaching context in Canada. Purposive sample sizes are often determined inductively through data saturation (Guest et al., 2006). Prior qualitative research in disability sport provides support for sample sizes of 4-6 participants mainly due to the highly qualified profile of the participants and the richness of the data acquired through qualitative interviewing (e.g., Cregan, Bloom, & Reid, 2007; McMaster, Culver, & Werthner, 2012; Tawse, Bloom, Sabiston, & Reid, 2012).

Procedures

Approval from the McGill Research Ethics Board was obtained (Appendix C). Participants were emailed a recruitment script (Appendix A) and asked to participate in our study. Once they agreed to participate, they were asked to complete a demographic questionnaire (Appendix D). This demographic questionnaire was used to develop an understanding of their past athletic involvements, as well as past and present coaching experiences in both able-bodied and parasport.

A pre-interview routine consisted of the interviewer, also the principle investigator, establishing rapport with the participant by engaging in a general discussion about their sport. The interviewer also observed practices of most of the coaches before interviewing them. The demographic questionnaire was used to gain an overall description of the interviewee. The interviewer also provided the participants with a background of her experiences in elite sport. The interviewer briefly described her background in elite sport participation and coaching in order to develop familiarity and establish a conversational mode which encouraged reflective and detailed responses (Rubin & Rubin, 2012). Each participant read and signed a consent form (Appendix B) and were invited to ask any questions they had prior to the commencement of the interview. The interviews were audio-recorded by the investigator and notes were taken during the interviews as a supplement to Stage 1 of Braun and Clarke's (2006) thematic analysis.

Interviews are commonly used by researchers exploring the meaning and perceptions of experiences because they allow the interviewer to inquire deeply into social and personal events (Dicicco-Bloom & Crabtree, 2006). Interviews are consistent with the interpretive constructivist paradigm which posits that "the core of understanding is learning what people make of the world around them, how they interpret what they encounter, and how they design meanings and values to events" (Rubin & Rubin, 2012, p. 19). This research design provided a better understanding of

learning in disability sport as interpretivism reveals "the experience and meaning of disability in our culture in richer terms than normally achieved" (Ferguson, Ferguson, & Taylor, 1992, p. 7). Interviews encourage the interviewee to share a rich description of phenomena based on the meanings that life experiences had for the interviewee (Dicicco-Bloom & Crabtree, 2006). A responsive interview model was used in the current study. Responsive interviewing emphasizes searching for content and richness, has a flexible design, and incorporates the impact of the interviewee's personality on the questioning (Rubin & Rubin, 2012). The responsive interviewing model is based on forming a relationship with the interviewee in which the interviewer and interviewee work together in answering the research question. The interview itself is not dominated by the interviewer but, rather, operates under mutual trust. The researcher responds to what the interviewee says giving the interviewee the power to emphasize details, experiences, and events they perceive to be important (Rubin & Rubin, 2012). The responsive interviewing technique is consistent with the interpretive constructionist paradigm (Rubin & Rubin, 2012).

Interview Guide

This study utilized semi-structured, open-ended interviews as the primary source of data collection. Semi-structured, open-ended interviews are the most widely used form in qualitative research (Dicicco-Bloom & Crabtree, 2006) because they allow the participant to describe their experiences in their own terms and allow them to tell their unique story (Smith & Osborn, 2008). The interviews were guided by a pre-planned script (Appendix E) but the sequence was adjusted to fit the moment as well as the participants' account of events. In accordance with Braun and Clarke's (2006) guidelines for thematic analysis, interviews allow for the collection of a large body of data, offering a thick description of the research topic.

The interviews began with a general background of the coaches' athletic involvement. Next, the interviewer asked the coaches to describe their evolution into coaching. Probes were used to clarify the timing and order of events while follow-up questions were used to elicit depth and detail on how, when, and why they began coaching as well as the context in which they began coaching. Next, the interviewer asked the coaches to describe how they got involved in parasport and specifically Paralympic sport.

Following this, the main questions of the study were asked. These questions centered on both the formal educational experiences (i.e., certifications) and informal learning experiences (i.e., coaching clinics, parents, athletes, internet, etc) that guided them through their career. The final set of main questions asked the coaches about their mentoring experiences within Paralympic sport, including having a mentor as well as being a mentor to other coaches. Follow-up questions were used to understand why these individuals were impactful and what these individuals taught them. The last main question asked the coaches to provide input towards building a mentoring program for Paralympic coaches. The flexibility of the interview guide allowed for exploration and probing of areas of interest and facilitated the emergence of any new areas of information.

Data Analysis

Braun and Clarke's (2006) recommendations for Thematic Analysis were followed to analyze the data. Thematic analysis offers a theoretically flexible approach to analysis. It is a method of identifying, analyzing, and reporting patterns in the data (Braun & Clarke, 2006). For the purpose of providing insights into mentoring opportunities for Paralympic coaches, identifying themes within coaches' educational and learning experiences allowed these patterns to come forth. Research involving Paralympic coaches is scarce, particularly research involving

mentoring. This method appropriately reflects the reality of coaches' experiences, and describes the data in rich detail, allowing for interpretation of various aspects (Braun & Clarke, 2006). The benefits of thematic analysis are its flexibility, ability to summarize key features of a large database, highlight similarities and differences across a dataset, and present data in a way that is useful and accessible to the educated general public (Braun & Clarke, 2006).

To begin the analysis phase, the audio-recorded interviews were transcribed verbatim making edits by assigning a number system to the names of participants to ensure anonymity. Each interview was then analyzed line by line and related extracts were collated into initial codes that were deemed relevant and adequately represented the content of the text. In accordance with Braun and Clarke's (2006) guidelines, data analysis consisted of six phases which are outlined in Table 4. Although thematic analysis allows for flexibility in the analysis process, in order to ensure that the analysis is performed with rigor the 15-Point Checklist for Good Thematic Analysis (see Table 5) was used throughout the analysis phase of this study.

Validity

It is essential for qualitative researchers to demonstrate that their research is sound and rigorous so they can produce findings that are valuable to the research community (Yardley, 2008). In this study, five techniques were used to maximize the validity of the research: comparing researchers' perspectives, peer review, participant feedback, commitment and rigor, and a paper trail (Yardley, 2008). Additionally, validity was further maximized by training the principle investigator in qualitative interviewing. Under the supervision of an experienced interviewer, the researcher conducted one pilot interview in order to develop effective, professional, and consistent interviewing skills. The pilot interview was audio-recorded and videotaped and was examined and evaluated with an experienced interviewer, who provided

feedback. In addition, participants involved in the pilot interview provide feedback on the researcher's interview style, behaviours, and comments, as well as the format of the interview guide.

Comparing researchers' perspectives. Comparing researchers' coding in the form of inter-rater comparison consisted of the principle investigator and her supervisor discussing the emerging themes over repeated meetings throughout each data analysis phase. These discussions were used in order to identify potential themes, highlight clarifications and allow for any necessary modifications to be made. These discussions helped to minimize any researcher biases by providing an alternative perspective on the data.

Peer review. Peer review was also used in the current study to maximize validity. As defined by Lincoln and Guba (1985), a neutral person was given a list of themes that were identified by the primary investigator, as well as a list of definitions to describe the themes. In order to ensure validity of tagging, the current study used an impartial graduate student studying sport psychology as an external reviewer. Yardley (2008) outlines *comparing researchers' coding* as a core principle to ensuring validity in qualitative research which involves triangulation of data between two coders.

Before the coder comparison occurred, the primary researcher randomly selected 25% of the total initial extracts and presented them to the reviewer along with a list of the initial codes. The primary researcher provided the reviewer with a brief description of each of the initial codes. Next, the reviewer was instructed to match the 25% of extracts with the provided initial codes to the best of his/her knowledge. Throughout the process, the primary researcher was available for questions and clarifications regarding the descriptions of the initial codes.

Of the 122 extracts selected, the reviewer accurately matched 91 of the corresponding initial codes (75%) to those identified by the research team. Discussions were used to clarify the discrepancies in the remaining 31 misidentified extracts. Of the 31 disputed initial codes, 12 were a result of misunderstanding due to language confusion. Through discussion and clarification, the reviewer coded these 12 extracts in agreement with the research team. On the other hand, 10 of the disputed codes initial were discussed and consensus was reached to change the labeling to that identified by the reviewer. The primary reason for these changes was the clarification of context within each extract.

Following the initial code clarifications, 22 of the 31 misidentified initial codes were agreed upon resulting in an agreement of 113 of the 122 (93%) extracts. For the remaining 9 initial codes, discrepancies were discussed and were a result of code definition confusion. For example, the following quote was labeled by the research team as (lifelong learning). This initial code was used for extracts where the interviewee described their continuous search for new information and desire to expand their coaching repertoire.

> I was a horrible coach when I first started out but I recognized that and said "ok, I can't do this so I have to learn how to do it". I've always looked to other places to learn and to grow my ability to coach, to help the athletes, and maximize their potential. I always had the idea that if we ask the athletes to always search and find a way to maximize their potential we have to do the same thing in ourselves. We have to do what we ask them to do.

After reading the extract, the reviewer believed that because the coach was discussing that their learning was self-initiated they coded this quote as *Coach education - Self-taught*. Once the primary investigator clarified that *Lifelong learning* represented an ongoing desire to learn in the context of long-term coach learning, the reviewer agreed that the code assigned by the research team was correct.

Similar discrepancies were found in the remaining misidentified extracts. For example, disagreement was found in extracts originally coded as *Coaching - Athlete differences* instead of *Coaching - Disability specific* and vice versa. Through discussion, it was established that *Coaching - Athlete differences* represented extracts describing a coach's responsibilities in working with different individual differences between their athletes including personality, training style, and communication style. Whereas, *Coaching - Disability specific* was clarified to represent the coach attending to disability related coaching responsibilities such as transportation, recovery practices, training programs, and equipment modifications. Once consensus was reached, changes were made to the corresponding extracts. The last discrepancy discussed by the reviewer and primary researcher involved clarification between the initial codes *Teaching athletes life skills* and *Athlete talent development*. Similar to the previous description, a clarification of definition reconciled these discrepancies. For example, extracts coded as *Teaching athletes life skills* was used to represent extracts discussing a coach's responsibility to help their athletes develop skills that transcend the sporting environment and are valuable in everyday life. Furthermore, *Athlete talent development* was used primarily with extracts describing the coach's focus on the specific development of their athlete's sport performance inside the sport context. Once these definitions were clarified by the primary researcher, the reviewer coded the corresponding quotes in agreement that that of the research team.

For the next phase of the analysis the research team created and defined mid-level codes which were used to group together initial codes with similar meanings. These mid-level codes were created after discussion between the primary investigator and her supervisor agreed that further collation of the data extracts was necessary. Next, the primary investigator provided the reviewer with the list of mid-level codes and their associated definitions as well as a list of all 51

initial codes. The reviewer was then asked to place all 51 initial codes within each mid-level code. The primary investigator was available for clarification of the definitions of the mid-level codes and initial codes. The reviewer correctly identified 46 of the 51 initial codes (90%). The remaining five discrepancies were discussed. The research team agreed that one of the initial codes *Paralympic Sport* should be moved to the mid-level code selected by the reviewer *Challenges of Paralympic Sport*. Agreement was reached and the placement of this initial code was changed. Of the four remaining discrepancies *University Education, Current Coaching Position, Coach to Coach - Working Partnerships,* and *Having a Mentor* discussion between the research team and reviewer revealed confusion regarding the context or definition of the initial codes and/or mid-level codes. Agreement on all four discrepancies was reached and the placement of all four initial codes remained unchanged.

For the next phase of the analysis the research team created and defined themes which were used to group together mid-level codes with similar meanings. Next, the primary investigator provided the reviewer with the list of themes and their associated definitions as well as a list of all nine mid-level codes. The reviewer was then asked to place all 9 mid-level codes within each theme. The primary investigator was available for clarification of the definitions of the themes and mid-level codes. The reviewer correctly identified all nine of the mid-level codes (100%).

Participant feedback. Also known as respondent validation, participant feedback was used at several time points throughout the study in making sure that their input has been properly represented (Yardley, 2008). Immediately following the interviews coaches were given the opportunity to edit, add, clarify, or delete any statements they made. Following transcription of the interview scripts, coaches were sent the full transcription of their interview with the

opportunity to edit and clarify any statements. Of the six participants that were contacted three of the participants read their respective transcripts providing clarification on specific details such as names, places, and time points. Finally, once the analysis was complete, coaches were sent the findings and conclusions of the study to ensure that their views were not misrepresented and to confirm the researcher's transparency (Yardley, 2008).

Commitment and rigor. The researcher demonstrated commitment and rigor throughout the research process by showing that the analysis was carried out in depth and that this study contributes significantly to the area of study (Yardley, 2008). First, participants were selected through purposive sampling, ensuring that the participants involved are directly relevant to the central research questions. Second, the involvement of the research team with previous research involving Paralympic coaches provided them with familiarity concerning the nature of the parasport environment.

Paper trail. A paper trail serves to reassure others that the research has been conducted carefully by providing evidence throughout the analysis linking the raw data to the final report (Yardley, 2008).Throughout the process, the researcher maintained a detailed transcript of developments, themes, codes, and interpretations. Traces of work such as notes, memos, and diagrams were taken throughout the data collection and data analysis phase so that all stages of the analysis can be retraced (Yardley, 2008).

Chapter 4

Results

This chapter presents the results of the six interviews conducted with Canadian Paralympic head coaches. First, a brief summary of the nature of the data will be provided including a description of the findings that emerged from the data. In addition, the four themes that emerged from the analysis, *Early Career Milestones, Becoming an Expert Paralympic Coach, Being an Expert Paralympic Coach,* and *Mentoring in Paralympic Sport* will be presented.

The six interviews of the study resulted in a total of 491 data extracts. From these data extracts, 51 initial codes emerged. Table 1 presents an alphabetized frequency of the topics discussed by each participant. The number of data extracts discussed by each participant varied from 58 (C6) to 140 (C1). A higher number of data extracts does not necessarily imply that more or even better information was forwarded by the participant. Some coaches may have expressed their thoughts more clearly than others. The difference in the number of data extracts discussed by each coach is not surprising given that open-ended interviews allow coaches to express their opinions with few restrictions. The 51 initial codes were organized into nine mid-level codes based on their similarities of content and are shown in table 2. Finally, the nine mid-level codes were organized into four themes. A total of four themes were created and are shown in table 3.

Early Career Milestones

This category provides background information about participants' experiences, influential life events, and individuals that positively impacted their career progression towards becoming an expert Paralympic coach. Participants discussed their athletic experiences prior to and during their early coaching careers, their initial experiences working with athletes with

disabilities, their formal education, as well as the athletes, coaches, parents, and professors that provided inspiration and support throughout the early stages of their development.

All of the coaches described an intense passion and love for sport. It was this passion that inspired them to become high level athletes and likely helped in their coaching progression as well:

> I always played lots of different sports when I was a kid. I was your classic gym rat. I was the kid that was first in the gym in the morning and the last one out of the gym at night; the kid the janitor would have to kick off the court. I would shovel off the court in the winter so I could practice. (C5)

All the participants described participating in a multiple sports from a young age, ranging in level from club participation to National team members. All six of the participants participated in able-bodied sport as an athlete:

> I did a lot of different sports in competition: volleyball, judo, ice hockey, golfing, and soccer. At some point in my career as an athlete I was doing the highest possible level in my province for two sports. (C1)

> I played hockey until the junior level in my province. I was involved in a lot of sports growing up: rugby, football, tennis, cycling, and triathlons. I was really active in a lot of sports. (C6)

One of the participants began his athletic career in able-bodied sport. However, a major accident that involved life-changing injuries led him to participate in disability sport for the remainder of his athletic career.

The participants pursued a career in coaching for a variety of reasons. For many, it was an opportunity to remain involved with their sport once their personal athletic career had reached its peak. One coach noted that coaching was an opportunity for him to provide the quality of coaching that he felt he did not receive as an athlete:

> The whole thing started for me in terms of coaching was when I was on my last tour as an athlete. I had a coaching book with me that I read. While reading it I was thinking, "If I knew this or had coaches that knew this I would have been so much better". That was when I was convinced that was my big problem. Then I said "what can I do with this?" I knew it was the end of my career, it was planned to be the end so I was thinking what I could do now. Well, I can educate myself; I can train to be a coach and do it better for other people that I can help. It wasn't specific to my sport, it was just coaching. That's how I started coaching. (C3)

Five of the participants began coaching in able-bodied sport contexts. Interestingly, the one participant who participated in disability sport as an athlete began his coaching career in able-bodied sport:

> When I had my car accident, I tried wheelchair sport but I hated it. I thought that if I couldn't play able-bodied, maybe I could coach it. So I called up my old high school and talked to my old coach to see if I could help coach. I was literally still in rehab at that time. It was only about two or three months post injury when I called him up and he said, "I can do one better. You can coach the team." So, I started coaching when I was really young and some of the guys I was coaching I had played with. (C5)

The participants' initiation into disability sport varied. Two gained experience with disability populations through their formal university education that involved exposure to adaptive physical activity populations:

> When I finished university, there were a few stages/practicums with people with disabilities and this was my first time working with this group. It's been about 20 years now that I'm working with people with disabilities. I like working with special populations. (C2)

> The center where I did my practicums has integrated programs of children with disabilities and able-bodied kids. The center was built with Paralympic athletes in mind, but again the challenge is bringing those athletes in. It was the first center that was inclusive enough that people could treat it as a recreational center. The center was accessible and had staff that were either trained or interested in educating themselves in how to work, coach, and teach individuals with a disability. That was my first experience in disability sport. It was a fundamental introduction to sports for all the children that wanted to participate. I just fell in love with the place. (C6)

The remaining four participants were introduced to disability sport by athletes with disabilities who asked them for coaching assistance:

> When I finished competing I did one year of school to upgrade in a few classes to get into university. It was a pre-university program and in my class was a guy in a wheelchair. We started to talk about creating a training plan for him and that was my favourite thing to do. When I described all these training techniques for him, he asked me to help him; he was a wheelchair racer. I didn't know anything about wheelchair racing. Listening to his situation was similar to my experience as an athlete in that he didn't have any coaches that knew what they were doing. So I started to coach that one guy and then a year or so later I had 8 to 10 disability athletes that I was coaching. (C3)

> I wasn't planning on getting involved with the adaptive program because I thought I was at the tail end of my coaching career. Within three four months that I took on the job the center opened and the athletes that wanted to follow me arrived; some of them really good athletes. We traveled the country to make sure that other provinces were developing the sport as well. (C4)

All the participants received a post secondary education, many while simultaneously acquiring their first coaching experiences. One coach completed CEGEP education, three completed bachelor's degrees, one completed a Master's degree, and one received a Master's degree and conducted PhD research, although he did complete his PhD. Interestingly, all of the participants pursued their formal education in Physical Education, and the two that went to graduate school conducted their research in disability specific domains, such as spinal cord injuries. The coaches explained that that they learned a lot during their Physical Education practicum courses in adapted physical activity even though they were not coaching specific learning environments.

Throughout their athletic careers and early coaching experiences, the participants acknowledged several individuals that inspired, supported, and guided their development. These individuals included parents, other athletes, coaches, and professors:

> The coach that helped me with the last couple of years of my athletic career really impacted me. He had a massive amount of information. I learned a lot from him as an athlete. He was the one who triggered me to do something with coaching. He taught me a lot about how to adapt to different quantities and qualities for training. (C3)

> I had one course and one teacher at university who really was a great support to me. He's the teacher with whom I did my practicum. When I was out of university he was working at the rehab center and I continued to stay in touch with him. My first job was actually working with severely disabled people. So basically, since I finished university I've always worked with people with disabilities. (C2)

Moreover, the participants explained that their professors provided them with invaluable foundational information about the biomechanics and physiology necessary to work with persons with disabilities:

> There are a lot of things I learnt from the professor I did my research with that I still use today. I learnt basic physiology and how the body reacts. I learned biomechanics from him. He was also a teacher for me at the university in exercise physiology. Working with him was even more interesting because I got more of the details from him. If you don't have that base of knowledge in physiology it is very difficult to know what you are doing. It's like if you don't have the foundation of your house it is going to fall apart. (C3)

Becoming an Expert Paralympic Coach

This category described the participants' learning experiences from the beginning of their Paralympic coaching careers. These experiences included barriers to acquiring disability specific coaching knowledge, as well as how the participants sought information necessary to effectively coach athletes with a disability.

Challenges of Paralympic Sport. The participants discussed the lack of empirical research as a major barrier to acquiring disability specific information. There are few publications investigating coaching in Paralympic sport, particularly in the high performance setting:

> Getting access to information specific to disability sport is a problem. There are not a lot of things being published or available for my own learning. I found that challenging from

> year to year because education for me is important. I learned by doing, because there is not much that I can learn from specific to the sport (C2).
>
> Whenever I find something, an article, I read it because I want to know if they have found something I can apply to my training. Very often the research is not really applicable to top level athletes though. It's just for disabled (C1).

Despite relatively limited available research, one coach acknowledged that one of the major challenges with empirical research is that the speed at which research is published limits its immediate usefulness for coaches:

> Research can help you save time but very often research is lagging behind the athletes and coaches. What we want is to have some scientific background explaining, "That's why that happens" instead of us going through trial and error and saying "we tried that, it didn't work". Building scientific background takes time because this sport has been based on trial and error since the 50s. So there is a lot of trial and error in the past, more so than research. It will take time for researchers to be at the level where the athletes and coach are right now (C1).

In addition to the lack of empirical research on athletes with disabilities, participants noted that a lack of formal coach education on disability sport increases the challenges to acquiring disability specific knowledge:

> In Canada, there are no real courses given for disability specific coaching. They spoke about it a little bit in regular coaching courses but not specifically. I think coaching associations need to have disability coaching courses. They need to talk about it (C2).
>
> When I took my initial theory courses there was very limited information about elite disability sport; no Paralympic information at all. It was only when you sought out or went in that direction that you got technical information (C6).

The participants' experiences on trying to acquire disability specific knowledge inspired many of them to promote and develop their sports. They discussed traveling across Canada to provide exposure to disabled populations about the possibility of sport participation and competition:

> Our sport is not well known so my main role is to go with some equipment and show the sport to people with disabilities. I just travel the province to make contact with those

> disabled groups and show them the sport. A lot of interest comes from me traveling and exposing people. So after I show them the sport they are then informed of their possibilities to compete (C2).

With sports that have more established programs, participants increase the level of expectation for athletes and coaches alike in order to promote a high performance atmosphere on a national and international scale:

> Recently, we've changed the athletes we give funding to. We raised the standard so it is tougher to get funded; it is tougher for the athletes to get on the team. So we increased the standard, and are spending more effort on rebuilding the system to get new people in that understand what elite is. We need to change it, up the standard, have higher expectations, focus better, rebuild the system. That is how to get back to being the best in the world (C3).

In addition to promoting their sports across the country, the participants agreed that a major key to increasing the competitive nature of Parasport is by developing the next generation of elite level coaches. The participants believed that the development of formal coach education programs specifically designed for Paralympic sport is needed. Several of the participants are currently contributing to the development of these programs:

> I was involved with developing coaching courses for our sport and for that I was also an instructor for those coaches here in our province. I'm still following their evolution as a coach and we are sharing lot of ideas. There's not that much information or education about our sport. Obviously I needed to work on developing those courses. I was the one who gave the first pilot, who worked on it. All the coach education here in Canada that is disability specific and sport specific I worked on developing (C2).

Acquiring Coaching Knowledge. This property described the resources participants utilized in order to accumulate their disability specific knowledge. These resources included informal learning experiences such as trial-and-error, coach collaboration, and the athletes themselves and formal education resources such as university education, coach certification, and conferences respectively.

When the participants first began coaching athletes with disabilities, information on how to effectively coach these athletes was scarce. The lack of available resources required the participants to acquire their knowledge through trial and error practices, reading books and manuals, and adapting existing coaching information to disabled populations:

> Coaches have to find the right fit for every athlete. You couldn't find that in the studies before. In the 80s we started from scratch though. We had to use our imagination. "Oh, ok. We tried that, that's too tough, we cut it." We learned that way. I learned a lot through trial and error. That was one of my strengths at the time (C1).

> I answered my own questions because even at that time there was no way of doing it. That's how I found out. My goal with doing the research was because I saw myself as the coach and not the researcher. If I did research it had to answer my questions as a coach. It had to be applicable to me working with my athletes (C3).

> I've probably run 6-8000 practices in my life. I've probably coached somewhere close to 2000 games. I've never kept the stats but those are numbers that are probably reasonable. So when you look at the number of hours, around 12 to 16 000 hours going into time and practice. In that 10 year window, I probably easily did my 10 000 hours. I got it with the full spectrum of coaching contexts which is really unusual. I wouldn't recommend it, to get your 10 000 hours in ten years, because I probably did about 30 years of coaching in 10 years. The important part about this point is getting the 10 000 hours of experience; the volume of coaching. I was not a great teacher, I didn't know much about coaching at all when I first started. I've made so many mistakes along the way that it's allowed me to really become good at what I do. I made all those mistakes and that huge volume of practice time combined with my own drive to reflect on how to be better. Taking advantage of the knowledge that crossed my path at various points in time and understanding how to put that knowledge into the context of the way I looked at the game. Those things all together really helped me get to the position that I'm in (C5).

In addition to learning how to coach athletes with a disability through trial and error, the participants learned the majority of their disability specific knowledge from the athletes themselves:

> When I began to coach athletes with wheelchairs, there was not a whole lot of knowledge about them. I built my knowledge with them; they taught me. Because they were the best in the world and they know a lot more than anybody else around the world, they could teach me how (C1).

> The things you need to learn when you work with Paralympic athletes you learn from the athletes or you look it up. It takes a little time to learn because there are many classes, classifications, and mobility capacities and things like that. But you can learn those things, you can ask the athletes. Can you do this? Yes or no. If you can't what can you do and why can't you do this...that's how you learn this. I learned from the athletes (C3).

In a more formal capacity, five of the participants received education related to sport coaching from various institutions including universities and/or coach certifications from sport governing bodies. Four of the participants obtained their coaching certifications in able-bodied sport. Three of these participants received their Level 4 coaching certification and the other two participants received their Level 5 coaching certification. One participant did not complete formal coach certification at any point during his career. The remaining participant developed the coach education program for his sport and therefore received accreditation for that program:

> I worked it up to achieving my level 5 certification. But to me, education is ongoing. My education is in able-bodied sports. There are no separate certifications; there is only the one way to be certified. There's only one. All of my coach certifications were in able-bodied sport, and they did not discuss any disability sport information (C3).

> For some disability specific courses, specific to my sport, I was credited for my courses because I developed them here in Canada. In regards of overall education obviously at university I learned some skills about coaching. I also did my level 4 coach certificate, following the old level 4 structure. Before doing that I did my level 3, with coaching association of Canada (C2).

All the participants believed that acquiring new information was an ongoing process. Therefore, in addition to their formal certifications, the participants attended conferences as a form of ongoing professional development. Interestingly, the participants attend a variety of conferences, not exclusive to disability sport or sport coaching. Two of the participants described attending conferences related to business, organization, strength training, and psychology:

> Sometimes the conferences I attend are about organization but most are specific to coaching. Some of the topics were strength training, physiology, the mental part of sport, and biomechanics. I've been to conferences that are about business too. I watch the speakers and think, "that person is really good at business. I wonder how come he is so

> good?" You often find out they have a vision of where they want to go with something, they are persistent and find ways to make it happen and that's why they are successful. That's what good coaches have to do too whether it's parasport or able-bodied sports (C4).

Some of the participants attended conferences in a variety of domains partially because there were so few conferences developed specifically for Paralympic coaching. However, participants attended disability specific conferences if and when they were provided:

> Our sport association provides professional development opportunities. For example, if I want to go to a course or a conference, then I just tell them and I go. It's self-driven almost. There is no one overseeing me and telling me where to go to learn. I have to look at what's available. I'm always on the lookout for these opportunities and try to take advantage of them when I see the information. For example, there's always the PetroCanada Sport Leadership Conference. If you can learn one thing that can change your strategy then I think it is useful (C6).

> There have been just a few Paralympic sport specific conferences. I've been to about five in the last 1.5 years and most have come from our international sport association. They do international conferences and coaches from around the world come and an expert will talk to us about a topic, like strength training or starts. There are a lot of times where there is sharing between coaches and exchanges of ideas about what they do. Often what they ask 4-5 coaches to come present for 30 minutes or an hour on something they are doing in their country. That's where you learn a lot, sometimes it's like, "what a good idea!" That's where we get a lot of information, from sharing (C4).

In addition to attending conferences, the participants discussed collaborations with their assistant coaches, coaches they are teaching, and/or other expert coaches. Interestingly, many of these collaborations extends to the international stage since specialized information is difficult to acquire in Canada:

> I've expanded my personal knowledge in the last couple of years and look forward to linking with other coaches from other countries. I know coaches in other countries that are strong competitors in our sport and they are more experienced than us, more people are playing there. I think they have very good coaches and very good athletes and I'm curious what they are doing over there. So I have to go internationally for my own education and my own challenges (C2).

> If you go to Europe there are a lot of coaches that were coaching our sport before me. I know them by first name now and sit down with them and talk to them. Some of them are open to sharing that information and some are like me, just figuring out as we go along. It's still recent and new (C4).

Being an Expert Paralympic Coach

The day-to-day roles and responsibilities for coaching athletes with a disability were discussed in this category, including both on and off-field responsibilities. As well, the participants discussed the similarities and differences between coaching able-bodied athletes and athletes with disabilities, including the importance of building relationships with their athletes, the athletes' caregivers, and disability specialists.

All the coaches described their current coaching positions as Paralympic National Team Head Coaches. Three of the six participants coach team sports while the other three coach co-acting sports. All of the participants noted their primary role as head coach was to identify and develop talented athletes in their sport. The coaches also alluded to the importance of teaching their athletes important life skills through their daily involvement in sport:

> As the Canadian head coach my main focus is on high performance but because my sport is a small world I also work with the younger or newer athletes. I try to make a link with their personal or club coaches as well. (C2)

> As a coach you have to see the proper moments to apply things and that doesn't come from a coaching manual. When an opportunity comes, any day, any workout; when I know there's an opportunity for the athlete to learn something, I take advantage of it. Sometimes we're not even training and it's just traveling. There is an opportunity to teach them about life. I sit there and realize we're about to walk into a perfect opportunity to help them get mentally strong about something. Sometimes we could be in Germany and we'll visit concentration camps and I take that opportunity when I'm with young athletes. They learn to be a little more respectful for people and life, humble, more polite, they don't complain as much about food. I take those opportunities to teach athletes about what is needed later on in life. I know it stays with them. (C4)

All the participants discussed planning the daily, weekly, and seasonal training schedules for their athletes and/or teams. This planning often included balancing training hours and rest times, competition scheduling throughout the season, as well as organization of training camps leading up to season-ending competitions such as World Championships or the Paralympic Games. These plans are highly detailed and organized, outlining every action necessary for their athlete to be successful:

> After I select the athletes for the National Team, we increase the lengths of the training sessions with the athletes progressively through the season. It starts in April about 10-12 hours a week and it goes up to 25-30 hours a week coming closer to the event. They'll be training, and the environment is very important as we come closer to those events. When we are done after the big event, there are two weeks when the athletes are in a rest period. (C2)

Many of the participants felt working with other coaches across regional and national training centers was an important part of being a National Head Coach. The participants are in constant contact and collaboration with club coaches across the country in order to monitor athlete talent development. Furthermore, the purpose of these relationships is to promote a high performance atmosphere across the country. Also, as the head coach, it is their duty to convey the expectations associated with becoming a national team athlete:

> Part of my job is what we call centers for performance. So I will contact coaches in their province where they have a group of athletes. I will travel there and run a camp over a weekend just to communicate and educate the coaches and give them more information that they can use and introduce to the kids during practice. Mainly because I'm not always there, I only visit them once or twice a year. The purpose is to keep them up to date on their development that increases their level of coaching. It also introduces the athletes to a different mindset, such as the different pace of practice and the level of commitment you need to go to the next level (C6).

> There are three regional training centers in Canada and I'm responsible for the three coaches at each center that work under my umbrella. The training centers are in three cities spread across the country. I am responsible for all three regional centers via my assistant coaches. (C2)

All the participants discussed off the field responsibilities such as administrative responsibilities which included equipment management and modifications, coordinating traveling accommodations for training camps and competitions, program funding, and program budgeting. Many of the participants commented on the broad role of their administrative responsibilities which they attributed to the infancy of their respective Paralympic programs. More specifically, most of the Paralympic programs did not have full-time staff for many of the non-coaching positions in the organization and therefore the participants were responsible for many of these tasks:

> I'm responsible for every aspect of track and field here in Canada. The high performance program, the national team activities, the coaches, the high performance director, the operational staff, the technical staff, the IT staff, and the national team funded athletes. I'm on top of that pyramid that has to do with Olympic or Paralympic team program. (C3)

> It's not just being a head coach; it's more than just being with athletes on the court. My main responsibilities are being responsible for the whole program. That means of course, making sure the athletes are well-taken care of among other things. (C2)

All the participants discussed some of the similarities and differences between coaching able-bodied athletes and athletes with a disability. All six of the participants believed that coaching able-bodied athletes and athletes with a disability is equivalent when focusing on the mental aspects of sport performance. More specifically, one coach explained that an athlete's motivation, mental toughness, drive, and personal fears were very similar between athletes with disabilities and able-bodied athletes:

> When I compare the first disability athlete I started coaching to the two able-bodied athletes I coached that went to the Olympic Games, they reacted the same exact way. They played different sports, one played able-bodied ice hockey, one did able-bodied speed skating, and one was a wheelchair athlete. They reacted the exact same way, with the same drive, afraid of the same parts of their career, afraid of not achieving their goals, etc. That's why for me an athlete is an athlete. They are the same. For me it was a good

> experience to coach those three athletes in three different sports in both able-bodied and disability and see that they are the same, not the same sport but the same type of mind frame. (C1)

All of the coaches agreed that there are clear differences between coaching athletes with a disability and able-bodied athletes. For example, two coaches described this difference being primarily physical. More specifically, the physical demands of high performance sport and day-to-day time management:

> You can't train wheelchair athletes in an event like an able-bodied athlete. It's not the same game. Athletes in wheelchairs can sustain much more volume in training because of the equipment differences. They can sustain higher levels of repetitions, distance, and volume training (C1).

One coach discussed that the time required for their athletes with a disability to prepare for practice as well as transition between different pieces of equipment in training and in the weight room was significantly longer:

> The biggest difference with the disability athletes from able-bodied is the set up and finishing of the workouts because to get them into a training session and get them comfortable is tough. By the time you've done that you've spent 30-40 minutes in preparation, then the workout starts which is an hour, then to transition them is another 20-30 minutes. So, when I deal with my main athlete, something that an able-bodied athlete could do in two hours, it takes my main athlete four hours. If we go to the weight room it's another hour on top of that. So that means everything I do with the disability athletes is double the time. (C4)

In order to effectively coach athletes with a disability, all the participants emphasized the importance of building a strong coach-athlete relationship. They believed that because their athletes' were the experts of their physical disability they could provide valuable information and feedback about the coach's plan. Therefore, the coach-athlete relationship in disability sport is characterized by a partnership between coach and athlete in which the athlete has substantial influence on their training practices:

> I have to start working with them and they need to learn how to work comfortably with me. I'm pushing them as a coach but it's also a partnership. When I learned that I was going to work with my main athlete, we met, we spoke a lot about what she likes to do, what works for her, what doesn't and those were just the mental things. Then we had to get into what she was able to do physically. Things like can she get out of the chair, do I have to lift her up. Through discussion we made arrangements for everything. It's a lot of learning so I don't try to push my way; I just become a partner to the athlete. (C4)

In addition to building close relationships with their athletes, two participants discussed having important relationships with the athlete's caregivers. They emphasized these relationships because an athlete's family members were integral to the coaching team because they provided the participants with support, feedback, and insight into the athletes' home practices:

> When they have wives and husbands around, I get to know them also because that's part of the team too. I get to know who they are and they tell me stuff that the athlete doesn't want me to know, because they don't want to look weak. That's part of the partnership and I don't break that confidence either. My main athlete's husband will tell me things and ask me not to tell her, and I won't because it's a partnership that involves trust. I'm not going to use it against us. Or else she won't tell him things anymore. (C4)

Finally, the participants discussed that having relationships with disability specialists was critical to the success of their athletes. The participants explained that "it requires a team of professionals to work with a para-athlete" (C4) which included physiotherapists, biomechanics, and engineers. The participants explained that each athlete's physical disability is unique and therefore requires individualized therapy, care, and equipment modifications:

> If I need a specialist, I have access to them. I have a nutritionist on site, I have a doctor and therapist on site and they both have knowledge about Paralympic athletes. They are very knowledgeable. If I need a biomechanist, there is the engineering faculty I have access to. I can have access to everything. A psychologist if I need, we have two on site. It's based on the needs of the athletes. We are fortunate to have everybody we need around us. (C1)

> Every coach tries to figure out each individual athlete but in para-athletes I have to be closer to the physios and people that have that expertise in disabilities. Sometimes you think you will be able to do something with the athletes and it doesn't happen. So we have

> to sit down together and the physios will suggest that we should change the equipment. That's the biggest help I get from them, towards modifying the equipment to help the athlete be more comfortable and not get injured. (C4)

> When we did experiments with the engineers, they looked at how the athlete sits in the chair for the best performance. They try so many ways, and finally they achieve the optimal way for the athlete to sit. So I learn from them as well. (C1)

Mentoring in Paralympic Sport

This category described the participants' mentoring experiences throughout their coaching careers, beginning with lessons learned from their mentor coaches. Once they became expert coaches, they began acting as a mentor coach. They also provided suggestions for future coach mentoring practices.

Lessons from mentors. Four of six participants worked with a self-identified mentor coach, while the other two did not have mentor at any point in their career. Of the four participants that had mentors, one was an informal relationship which developed after a chance meeting at a coaching conference, one participated in a formally-planned mentorship program, and two were hired by established coaches as an assistant coach through which their mentoring relationship developed during the time they worked together:

> I participated in a seminar and a coach that presented there was very interesting. Over time we built a relationship. For me, that was a mentorship relationship. He taught me what he was doing and it was my decision to take the information or not. It wasn't a formal mentorship or anything but he really helped me out (C1).

> I went to the Olympics as an apprentice coach many years ago. One of the coaches I learned the most from was the lead mentor of the mentoring program I participated in while I was there (C3).

> I was lucky because when I first started working with the national team, Sport Canada wanted someone to work with the head coach as an assistant because he didn't speak English that well. I worked with him for five years and it was great. He was my mentor coach (C4).

The two participants that did not have a mentor to learn from primarily because there were very few expert coaches to learn from due to the infancy of Paralympic sport. Instead, they reached out to a variety of individuals such as coaches, teachers, parents, and past assistant coaches to answer their questions, seek guidance, and obtain advice:

> I didn't have a mentor at any point in my career. A lot of coaches have that person that they if they have troubles they pick up the phone and call them. I call different people for different things. I'll call my dad up if I'm having leadership issues. I'll call young coaches for fresh, new ideas. It depends on what I need, that determines to who I turn to speak to (C5).

A more detailed explanation of the participants' methods of acquiring knowledge can be seen in the category called "Becoming an Expert Paralympic Coach".

The participants with mentors discussed the sustainability of the lessons they learned from their mentors, "The stuff I did with my mentor in the late 80's I still use today. It comes to me during practices all the time" (C4). The participants discussed the coaching skills they learned from their mentors. All the participants gained extensive knowledge on the bigger picture of being an elite coach, including planning and communication:

> My mentor showed me all of his planning papers: the full year plan, the weekly plan, etc. He gave everything to me! If you were going to tell me I was going to learn that in a classroom, I would have told you not in a million years. If I were to go to school to learn everything in those pages I would have had to go for biomechanics, physiology, everything (C4).

A specific coaching skill the participants learned from their mentors was effectively communicating feedback to athletes:

> I think a lot of what I learned from my mentor was because he believed in mental preparation more than the science of physiology. For example, he had a different way of teaching technique all the time and instead of using numbers and angles it was about feelings. He was always trying to communicate corrections to the athletes in a language they could understand. He tried to achieve very technical things that you would normally

> say very scientifically, but the athlete doesn't process things that way. He would try to look for the feeling that they should feel when they execute the move correctly (C4).

An additional coaching skill the participants gained from having a mentor was learning highly specialized technical skills for coaching disability sport, such as the physiological aspects of working with athletes with a disability and the details of building a successful training plan:

> I asked my mentor if I could go for runs with him every morning. Every morning I had a thirty minute window of opportunity to ask him questions. I would ask him things like: tell me about tempo training? He would tell me what it was, how it worked, and what changes he thought there should be. Then after the sessions I went to my room and wrote down all the information he gave me. That was gold to me! The next day I asked him about strength training, and then I asked him about sprint training, distance training, etc...every day for thirty minutes. That's what kicked everything up for me (C3).

Being a Mentor. This property describes the participants' experiences acting as a mentor coach in Paralympic Sport. This included how they established mentoring relationships and the key lessons to being an effective Paralympic coach mentor. As a mentor, the participants described the importance of developing a mentee-centered learning environment in which tactical and technical information were communicated by providing coaches with extensive practical coaching experiences.

All six of the participants acted as a mentor to at least one developing Paralympic coach during their career. At the beginning of the mentoring relationship, it was crucial to set clear guidelines in terms of the role, expectations, and goals of both the mentor and mentee:

> The first thing I do is clearly define the nature of the relationship. Such as, "I'm here to be your mentor, and you're my mentee. This is how we are going to go about it; these are the things we are going to talk about". Having a clear description of the relationship really helps. There were differences between my relationships with my mentees and my assistant coaches. My mentees came to me in those roles. It was clear from an organizational stand point that I was their mentor. I was going to be the one to be there to teach them where they needed to go. It was very specifically stated that way (C5).

Once the relationship began, the participants created a mentee-centered learning environment that involved encouraging the mentee coach to drive their own learning process by initiating questions, comments, and activities:

> Most of the time when coaches come to me to be mentored, I'm the first one to tell them I don't want to make it a classroom environment. I want them to listen and observe and ask me questions on why they think the athletes are doing something or why I talk to the athletes a certain way. That's how I like to pass on the information. Normally, if they start asking questions then that begins a learning process (C4).

> The coach I mentored always wanted to learn and soak up information. She knew what was going on a regular basis day to day and would ask "why are you doing this match up today? What did you see that gave you that idea for the game plan?" She would literally be there daily asking me questions. She drove her learning by asking what she didn't know. That's something that I did a lot while I was learning. If I was with a coach I would jot down a list of questions the night before, and then at practice I would say "hey, I have a few questions for you coach..." (C5).

Integrated into a mentee-centered learning environment, the participants discussed the importance of providing the mentees with as much practical, hands-on coaching experience as possible:

> I mentored a young coach for one year about physical preparation. Ideally I would go to a training session of hers a few times. I would let her do her stuff; I don't want to hammer her, just to see what she's doing. Then we would discuss tactics (C1).

> When I mentor coaches I attend their practices to watch. I set up the plan for them and explain why we were doing certain things. Then, they in turn, had to explain it to the athletes. I had a session telling them this is what we are going to do; this is why we are going to do it. Then I would leave them to explain and correct technical and tactical training things with the athletes. For example, I would tell them I want the athletes to do a tactical training session and then the coaches would have to set it up themselves (C3).

> My mentee roomed with me, we went to two-a-day practices together, and went to all the training camps together. So he ended up being close to everything I was doing. When a mentee spends that much time with a mentor they experience everything from the good times to the really rough times. My mentee saw athletes getting cut from teams; saw

> grown men cry because they got cut. He was there and witnessed everything. I think that is the perfect example of a real mentorship (C4).

The participants favoured a practical hands-on learning environment. They explained that when the participants were mentees themselves, the technical information they learned from their mentors was crucial. Therefore, technical information was taught to their mentees:

> As mentors, we must teach new coaches the technicalities first. For example, the way an athlete should execute a move to be successful. Because of their disability, there are specific things new coaches need to know. It depends on the individual you are working with but it is the basic technique of the sport that I teach coaches when I mentor. As a new coach you need to work with the athletes, positioning them differently with their equipment. Coaches need to be creative to make exercises for the athletes. They need to learn to develop posturing techniques that are related to disabilities that will help the athlete. New coaches are not always fully aware of how they can do these things or what they can do to help disability athletes perform their best (C2).

> When I mentored I was there with them for every type of training session because they needed to help the athletes understand how to train to be a top level athlete. For example, how to eat properly, what they need to do for tactical training, tempo training, strength training, etc. I did the skeleton of the program and they were putting the meat on. Then they had to figure out what adjustments should be made. They would come back to me and say "I think we need to do this". I would tell them if I agreed or disagreed (C3).

Despite expressing a desire to mentor again in the future, the participants highlighted one major barrier to mentoring. The participants explained that their mentees spent a very limited amount of time with them:

> The biggest frustration with mentoring is the short amount of time the coaches spend with me. If you are going to do a real good mentorship with someone, you would have to pay their salary to be my assistant. They are going to work with me and stay with me for a full year (C4).

Mentoring in the Future. This property describes the participants' suggestions for the development and/or improvement of mentoring in Paralympic sport. Because the majority of the participants had a mentor and all of the participants have acted as a mentor, they discussed

several key improvements for future mentoring practices. These suggestions included long-term mentoring placements in which mentees learn from multiple mentors in a practical, hands-on learning environment.

A major step towards building a successful mentoring relationship is the pairing of mentor and mentee over a long period of time to allow a personal relationship to develop:

> The best mentoring would be to have the new coaches working with me all the time for the whole season. We are talking in ideals here. It's not specific lessons they are going to learn but the general stuff, the day-to-day activity. And that needs to happen over a long time (C4).

Interestingly, four of the participants suggested pairing mentee coaches with multiple mentors:

> Coaches need to learn from several of the best coaches and then create their own style. If you only follow that one person all the time, you come to a point where you can't solve problems that are outside your comfort zone. So you need to learn from several different coaches. I think you box new coaches in by giving them only one mentor. If someone learns from me, they learn how I do it but that doesn't make them a good coach. They need to listen to others. They need to listen to what other people have to say and at the end they might come out with a mish mash of things that help them to be better (C3).

> I tell young coaches that one of the things they should do as they go on in their development is not get attached to or defined by the same person. Sometimes what happens, and I see this all the time, is a coach tries to coach like a famous coach too much. I don't think they should coach like that but, rather, learn something from the way they coach. There may be something that famous coach does that fits in the context of what you do, but you have to be the filter for that. Just because he does something that's great and works for him doesn't mean it will work for you. He's doing it in a different context than you are (C5).

One participant even suggested recruiting disability specialists such as physiotherapists and occupational therapists as mentors to provide mentees with a more medical perspective of coaching athletes with a disability:

> Coaches in a mentoring program should be in touch with physiotherapists or occupational therapists that can explain the complexities of an athlete's disability. I think I would actually do a course taught by these specialists about the effects of disabilities on the

> brain and body. Having specialists like neuropsychologists, physiotherapists, and occupational therapists involved in courses to explain specifically how coaches should react to such demands would be really great. However, every athlete's disability is different so providing this information wouldn't give coaches a universal solution but it would give them more tools to know what to expect or how to deal with certain situations in the future. I think this is something we miss in education, the specialities in science like neuropsychology. I would love to have worked more with neuropsychologists. So this something I think is missing in our coaching education (C2).

Participants suggested that mentors should increase the amount of practical, hands-on experience provided to mentees. Three of the participants highlighted that practical experience should be a core function of a mentoring program:

> Mentors have to give mentees the volume of time in practice. The way we interact with athletes continuously, we need to interact with new coaches with the same intensity. If we think about how many times we go up to our athletes during a practice and give them feedback and corrections, we should be doing that just as much with coaches in some way to improve their performance (C5).

Summary

The purpose of this study was to explore Paralympic coaches' perceptions of their learning and educational experiences, and specifically to examine formal and informal mentoring opportunities. Participants were individually interviewed and an inductive analysis of the data revealed four themes: *early career milestones, becoming an expert Paralympic coach, being an expert Paralympic coach,* and *mentoring in Paralympic sport*.

According to the participants, their personal evolution began with participation in a variety of able-bodied sports as youngsters and culminated in competitions at a national or international stage. Following their athletic careers, many of the participants began coaching able-bodied athletes. As a means of developing their coaching knowledge, the participants obtained formal education by completing university degrees in physical education and/or acquiring various levels of coaching certification in able-bodied sports. The participants' initial

exposure to disability sport varied. Two of the six participants gained exposure, knowledge, and experience about disability populations during their formal university education through adaptive physical activity courses and/or practical placements. Three of the six participants were coaching able-bodied sports and were contacted by an athlete with a disability requesting to become one of their athletes. One participant gained exposure to disability sport after experiencing a serious injury which resulted in him suffering a physical disability that left him in a wheelchair. Once the participants experienced their first exposure to disability sport, three of them transitioned to coaching athletes with disabilities immediately, while the other three coached both able-bodied and athletes with a disability for several years. Only one of the participants continues to coach both able-bodied athletes and athletes with a disability simultaneously.

Once they began working with athletes with disabilities, the participants were met with many challenges to acquiring disability specific coaching information. Most notably was the lack of formal coach education resources and empirical research for coaching Paralympic athletes. These barriers led the participants to acquire information through self-directed, informal learning processes such as the athletes themselves, trial-and-error practices, and other disability sport coaches. More specifically, athletes were a major source of information for the participants because they were so knowledgeable about their own physical strengths and limitations. It was with their athletes that participants engaged in trial-and-error practices as an informal way of discovering how to effectively coach athletes with a disability. In addition, communication and collaboration with other coaches, often from other provinces and countries, was helpful because Paralympic sport was still in its infancy and there were few expert coaches to learn from. As an additional learning resource, the participants attended a variety of professional development conferences in business, strength training, psychology, and able-bodied sport coaching contexts.

Mentoring was a very impactful learning resource for these participants. Four of the six participants were guided by a mentor coach and spoke about its importance as a critical part of their coaching evolution. One participant met his mentor through an informal introduction at a coaching conference, while the other three participants sought out opportunities to learn from expert coaches. The two participants that did not have a mentor sought information from a variety of influential individuals in their lives and also relied heavily on the informal learning resources previously mentioned. The participants that had a mentor gained extensive knowledge on the bigger picture of being an elite Paralympic coach. Mentors also taught them a variety of coaching skills including communication, how to provide feedback to athletes, as well as specialized technical knowledge essential for coaching athletes with physical disabilities.

Acknowledging the fact that disability specific knowledge is not easily accessible, the participants believed that part of their responsibility is to further develop Paralympic sport. All of the coaches have provided mentoring services for aspiring Paralympic coaches as a way to give back to their sport. Participants discussed the importance of establishing a relationship between the mentor and mentee that is based on mutual goals, preferred learning and teaching environments, as well as the personal career goals of the mentee. Once the foundation of the relationship has been established, participants focused on teaching aspiring coaches many of the lessons they learned from their mentor coaches. These lessons included communication skills, planning, and technical skills. Additionally, the mentors provided a vast amount of practical coaching experience while utilizing a mentee-centered approach to teaching. More specifically, mentors encouraged the mentees to demonstrate initiative and take control of their own learning process while providing guidance, support, and feedback. All of the participants enjoyed the role of being a mentor; however, they did discuss barriers associated with the role. For example, if

and when the participants had the opportunity to mentor, the placements were often too short to establish a comfortable, constructive, and successful relationship with their mentee.

The coaches provided several suggestions for future coach mentoring development. They suggested allowing mentees to work with other experts, such as physiotherapists. Participants felt it is essential to provide aspiring coaches with more in-depth information about the medical and physical aspects of coaching athletes with a disability. Finally, coaches suggested that mentoring placements be long-term, preferably over a full competitive season, and emphasize practical, hands-on coaching experience that focus on developing the technical skills specific to coaching athletes with disabilities.

In conclusion, the participants' evolution to becoming expert Paralympic coaches involved a combination of formal education, informal learning experiences, and mentoring opportunities. The participants felt that formal resources such as coach education programs and empirical research were limited and therefore utilized a myriad of informal learning resources to acquire Paralympic specific knowledge. The most influential of these informal resources was having a mentor coach, from whom the participants learned highly specialized technical, tactical, and communication skills. These mentoring experiences were so integral to the participants' development that once they became elite Paralympic coaches, they began to provide formalized mentoring opportunities for the next generation of Paralympic coaches. Interestingly, the participants taught their mentees many of the same lessons they learned from their mentor coaches, along with additional lessons and suggestions based on their career experiences. The participants provided their mentees with a mentee-driven learning environment that involved in-depth, disability specific technical knowledge. They felt that future mentoring programs should

emphasize and try to cultivate a long-term mentor-mentee relationship that will help advance both athletes and coaches who are involved in Paralympic sport.

Chapter 5

Discussion

The purpose of this study was to explore Paralympic coaches' perceptions of their learning and educational experiences, and specifically to examine formal and informal mentoring opportunities. This chapter will begin by discussing the participants' career pathways as they pertain to previous literature. Then, the study's findings will be organized under three headings that align with the three central research questions: *acquiring knowledge through formal education, acquiring knowledge through informal learning experiences,* and *mentoring relationships*. These topics will be discussed as they pertain to previous research.

Career Pathways of Paralympic Coaches

The current study provides information on the career development of coaches in the context of Canadian Paralympic sport. While each coach had a distinct pathway that led to their current coaching position, common themes emerged amongst them. These will be discussed in relation to previous literature.

The participants in the current study followed career paths that were similar to the seven stages of coach development for elite Canadian able-bodied basketball coaches outlined by Schinke, Bloom, and Salmela (1995). Schinke and colleagues' results revealed that coaches generally experienced seven chronological stages of career development which were divided into three pre-coaching stages and four coaching stages. The pre-coaching stages were called *early sport participation*, *elite sport,* and *international elite sport*. Results from the current study indicated that Paralympic coaches experienced similar pre-coaching career development. For example, all six of the participants began in the *Early Sport Participation* stage by each engaging in a variety of sports during their youth. Three participants specialized in a sport at the *Elite*

Sport stage, and the final three participants reached the *International Elite Sport* stage, representing their country as National Team athletes. Schinke and colleagues found that common characteristics of successful coaches included several thousand hours of athletic participation, across several sports for an average of at least 13 years. Interestingly, all the participants were able-bodied athletes during their athletic careers. DePauw and Gavron (1991) stated that few coaches of athletes with a disability were disabled themselves. This is further supported by research showing that athletic participation benefits coaches' career progression but is not necessary for their success (i.e., Carter & Bloom, 2009). For example, Carter and Bloom found that University coaches of able-bodied sport were able to have successful coaching careers despite not having competed at the University level as athletes. Furthermore, they concluded that although elite athletic experiences were an important resource for acquiring technical and tactical coaching knowledge, their coaches achieved success without drawing upon expert athletic experiences in the contexts in which they coached. In a disability sport context, Cregan, Bloom, and Reid (2007) demonstrated a similar coaching pathway to the current study where all but one of their elite coaches of swimmers with a disability were able-bodied athletes themselves and went on to become highly successful disability coaches. These results indicate that athletic experience in elite disability sport may be beneficial but not necessary in becoming a highly successful Paralympic coach.

Following the pre-coaching stages, Schinke and colleagues (1995) described four coaching stages which were called *novice coaching, developmental coaching, national elite coaching,* and *international elite coaching*. Five of the participants in the current study began coaching in able-bodied sport contexts. Schinke and colleagues described a coach's initial exposure to sport coaching, the *Novice Coaching* stage, as coaching in a variety of sports at a

non-competitive level. However, participants in the current study essentially bypassed the *Novice Coaching* stage and entered the coaching profession at Schinke and colleagues' second coaching stage, the *Developmental Coaching* stage. Schinke and colleagues' *Developmental Coaching* stage differentiated from the *Novice Coaching* stage in two ways. First, positions were at a competitive level as opposed to previous recreational or primary school levels. Second, coaching responsibilities now included higher level competitive tournaments where results of performance involved an evaluative form of assessment. Participants in this study started their coaching careers at a competitive high school, or club level in able-bodied sport. Many of the participants reached the *National Elite Coaching* stage as able-bodied sport coaches, which, according to Schinke and colleagues included working with university teams or coaching provincial teams at national championships. Two of the participants even reached the *International Elite Coaching* stage as able-bodied sport coaches.

Similar to Schinke and colleagues (1995), as the participants gained coaching experience, they pursued post-secondary education in physical education. It was during their University education that four of the participants were first exposed to athletes with a physical disability. Similar to previous disability sport research, the participants in the current study did not intend to coach athletes with disabilities but were informally introduced to this specialized sporting context (Cregan et al., 2007; Tawse, Bloom, Sabiston, & Reid, 2010). For example, Tawse and colleagues found that three of their four participants did not initially intend to coach wheelchair rugby but either fell into the coaching role out of obligation when the current coach resigned or to fulfill a job requirement. Furthermore, Cregan and colleagues found that coaches did not intend to coach swimmers with a disability but worked with able-bodied athletes until a swimmer with a disability arrived at a practice and asked to participate. In the current study, introduction

to athletes with a disability occurred in similar ways including through adaptive physical activity classes, practicum placements with adaptive populations, informal introductions outside of the sport context, or by being approached by an athlete with a disability requesting to be coached. At this point in their careers, the participants were coaching athletes at Schinke and colleagues' *National Elite Coaching* stage. Contrary to Schinke and colleagues, the participants in the current study shifted coaching contexts to disability sport during this stage, and therefore could not rely on previous coaching experience in this specific coaching context. The results of the current study differ from research on elite able-bodied coaches, which found that many personally sought out coaching careers in a particular sport (e.g., Carter & Bloom, 2009; Gilbert, Côté, & Mallett, 2006; Rathwell, Bloom, & Loughead, 2014; Vallée & Bloom, 2005). For example, Vallée and Bloom found that successful university female basketball coaches were passionate about the game and had a strong desire to excel in that particular profession. The current results contrast those of able-bodied sport research as participants in the current study did not initially seek out coaching roles in elite disability sports, but came into the positions mostly by chance.

In summary, this section highlighted the unconventional career pathway of these participants and how they became disability sport coaches. While each coach had a distinct pathway to their current coaching position, common trends emerged. Most notably, the participants began coaching in able-bodied sports at the *Developmental Coaching* stage (cf. Schinke and colleagues, 1995). The participants continued to develop as able-bodied coaches until the *National Elite Coaching* stage. It was during this stage that participants were introduced to elite athletes with a disability. Unlike previous research on elite able-bodied coaches, the majority of the coaches did not intend to coach athletes with a physical disability but were

motivated to become successful disability sport coaches, despite not having previous athletic experience in disability sport.

Acquiring Knowledge through Formal Education

This section will discuss the participants' formal education experiences once they began coaching elite athletes with a disability. These experiences included the challenges the participants associated with the lack of formal coach education for disability sport coaches and how they addressed these challenges in order to accumulate coaching knowledge and skills.

Once the participants began coaching elite athletes with a disability, they needed to acquire disability specific coaching knowledge such as the physiological aspects of disability sport, the classification system of disability sport, and the equipment modifications of their athletes. To learn this knowledge, the participants sought out formal education resources. According to Trudel and Gilbert (2013), formal education consists of learning situations where the delivery of information is controlled by other experts and consists of teaching coaches fundamental technical, tactical, and planning skills. In able-bodied sport research, coaches typically acquire this fundamental knowledge from formal coach education programs such as coach certifications and post-secondary degrees in sport-related fields (i.e., Carter & Bloom, 2009; Rathwell et al., 2014; Schinke et al., 1995). The participants in the current study discussed the use of formal coach education as important to their development. However, formal education specific to elite disability sport was not available. The lack of formal coach education for coaching elite athletes with a disability is consistent with prior research (i.e., Cregan et al., 2007; DePauw & Gavron, 2005; McMaster, Culver, & Werthner, 2012; Reid & Prupas, 1998; Tawse et al., 2012). For example, Cregan and colleagues found that a lack of disability specific coach education for coaches of swimmers with a disability led coaches to turn to formal coach training

designed for able-bodied sport to acquire general coaching knowledge. Similar to Cregan and colleagues, the participants in this study pursued coach certification training in able-bodied sport for general coaching knowledge and skills. In order to acquire basic disability sport knowledge, the participants turned to their post-secondary adapted physical activity experiences. Similar to the current study, Duarte and Culver (2014) found that the development of a Paralympic coach was intimately related to her post-secondary education in adapted physical activity. Additionally, two of the participants in the current study pursued graduate research on spinal cord injuries to acquire information to help them coach their athletes with a disability more effectively.

It appears that disability sport coaches utilize a combination of able-bodied coach certification and adaptive physical activity courses in order to cope with the lack of specialized formal education for disability sport coaches. These findings suggest that acquiring a university degree in physical education with an emphasis on adaptive populations may provide formal exposure and initial coaching knowledge about athletes with physical disabilities. Therefore, it can be suggested that new coaches entering disability sport may consider pursuing post-secondary training in adaptive populations in addition to formal coach certification for them to both acquire general coaching knowledge and fundamental information about adaptive populations.

Acquiring Knowledge through Informal Learning

To compensate for the lack of formal coach education in elite disability sport coaching the participants in the current study sought out informal learning environments to acquire disability specific knowledge. This section will discuss the informal learning resources that participants utilized, which included learning from other coaches, their athletes, athletes' caregivers, and trial-and-error practices.

A major source of knowledge acquisition for the participants was the observation of other expert disability sport coaches. In particular, they observed competition strategies, training techniques, and communication skills of expert Paralympic coaches. Observation of other coaches occurred during their early experiences in disability sport, and took place in a variety of contexts. More specifically, the participants expressed attending training camps, competitions, and exhibition tournaments as spectators in order to observe successful Paralympic coaches. These findings are consistent with prior research in able-bodied sport coach learning situations (i.e., Bloom, Durand-Bush, Schinke, & Salmela, 1998; Carter & Bloom, 2009; Gould, Giannini, Krane, & Hodge, 1990; Werthner & Trudel, 2006, 2009). For example, Werthner and Trudel (2006) suggested that an important source of informal learning was observing other team practices and competitions. Werthner and Trudel (2006) further suggested that interacting with expert coaches, including sharing of training techniques and practices was a valuable informal learning situation. The participants in the current study discussed the importance of interacting with other expert coaches in a practical coaching context and described how these experiences were important for individuals new to disability sport (cf. Tawse et al., 2012). For example, five of the participants were able-bodied with no previous experiential knowledge of elite disability sport. They discussed how practical learning was crucial to their development, and highlighted that interacting with other expert coaches taught them detailed information about how to transfer their athletes between pieces of equipment in the weight room, how to modify an athlete's equipment, and how to assist them in their daily functioning. When talking about interactions with other coaches, the participants emphasised the openness of other disability sport coaches to sharing their knowledge. This finding was in accordance with previous research in disability sport (i.e., Duarte & Culver, 2014; McMaster et al., 2012; Taylor, Werthner, & Culver, 2014).

For example, McMaster and colleagues found a collegial attitude with disability sport coaches compared to elite sport settings in able-bodied sport. Perhaps unique to the current study, these interactions with other coaches often extended internationally and to different sports within the disability sport community. The participants explained that the Paralympic community in Canada was quite small which resulted in a limited number of expert coaches to learn from. Therefore, the participants actively sought out expert coaches at international sporting events to connect with in order to broaden their network. International networks and communities of practice are common among other professional domains, such as business. Similar to international communities of practice in Hildreth, Kimble, and Wright (1998), the participants communicated with expert coaches by telephone and email to maintain connection, whenever face-to-face interactions were not possible. These findings suggest that international communities of practice are beginning to emerge in the disability sport context and highlight the importance of this collaboration as an informal learning resource.

In addition to interacting with other coaches, the current participants acquired knowledge from their athletes, a finding that has been found with prior research in elite disability sport (i.e., Cregan, Bloom, & Reid, 2007; McMaster et al., 2012). For example, Cregan and colleagues revealed that coaches experienced a shared relationship in which both the coach and athlete since the athlete often had intimate knowledge of his or her disability. Likewise, McMaster and colleagues found that coaches of athletes with a physical disability strove to develop a highly personal relationship with their athlete in order to understand each athlete's unique disability. The results of this study revealed that the participants relied on their athletes' input into the coaching process to learn the limits of their physical capabilities, their mobility capacity, and their preferred training practices. Research in able-bodied sport coaching indicates that building

a coach-athlete relationship requires closeness (e.g., feelings of trust and respect), commitment (e.g., attachment and intention to maintain athletic relationship), and complementarity (cooperation and reciprocal behaviours) (Jowett & Lavellee, 2007). Furthermore, research has shown that both coaches and athletes believed that having a strong coach-athlete relationship built on closeness, commitment, and complementarity was vital to the successful performance of the athlete (Jowett, 2003; Philipe & Seiler, 2006). Perhaps unique to the Paralympic sport context, this coach-athlete relationship is not only vital to the athlete's success but also to the successful knowledge acquisition of the coach. These findings suggest that further research into the coach-athlete relationship within elite disability sport, specifically investigating the relationship as an informal coach learning resource is timely.

In addition to learning from athletes, a unique informal learning resource utilized by three of the participants was the caregivers of their athletes. The participants expressed the importance of building a line of communication with an athlete's primary caregiver in order to gain insight into an athlete's home practices. Duarte and Culver (2014) similarly cited caregivers as a necessary learning resource for coaches. However, their participant's relationships were primarily developed with parents of youth athletes, as many of the children went to specialized schools and had an occupational therapist. Therefore, coaches relied on parents for updates on physiotherapy, rehabilitation, and school practices outside of the sporting context. In the current study, the majority of the athletes were over the age of 20. The current participants noted that caregivers were often an emotional touchstone for the athlete and therefore provided the coaches with valuable information about their athlete's emotional and physical states and how these impacted their daily training plans. Results from the current study indicate that in disability sport an athlete's daily life outside of the sporting context may impact coaches' decisions within the

sporting context. These results suggest that building trusting relationships with an athlete's primary caregiver may be unique to elite disability sport coaching. Therefore, the current findings build upon the limited research on the coach-caregiver relationship in disability sport by providing insight into the roles that caregivers play in the success of athletes with a physical disability.

Another informal learning resource sought out by the current participants was empirical research in disability sport. Much to their dismay, most of the available research investigating disability sport was not applicable to Paralympic coaching. Burkett (2013) explained that empirical research in disability sport is often designed by sport scientists and academics and therefore falls short of providing applied information for the practical Paralympic coach. In the current study, the participants expressed the desire to utilize empirical research to inform their coaching practices. However, much of the research they encountered examined the daily living of adaptive populations, physiology and biomechanics of disability sport, physical activity of persons with a disability, or disability sport participation. These findings support prior analyses of published research in disability sport which indicated that the frequency, percentage, and number of data-based publications on the selection and training of coaches of athletes with a disability decreased from 2001-2011 (Lee & Poretta, 2013). These results indicate a lack of applicable empirical research for elite disability sport and that there is a demand for the development of empirical research specific to Paralympic coaching.

Results from the current study revealed that participants were highly motivated to improve their coaching skills for the success of their athletes. They were constantly creating, implementing, and reflecting upon their own coaching practices, describing this 'trial-and-error' strategy as a valuable informal learning experience. This is consistent with previous research in

able-bodied sports (i.e., Carter & Bloom, 2009; Gilbert & Trudel, 2005; Irwin, Hanton, & Kerwin, 2004; Martens, 1997). For example, Carter and Bloom revealed that successful university team sport coaches, who excelled past their own athletic achievements, learned through their coaching experiences and this continuous learning process was necessary to maintaining their success. Furthermore, Irwin and colleagues found that trial-and-error experimentation was one of the most important learning resources among elite able-bodied coaches. The results of the current study are also consistent with recent disability sport research (Tawse et al., 2012; Taylor et al., 2014). More specifically, Taylor and colleagues revealed that one Parasport coach, who was able-bodied, constantly reflected on his coaching practice by purposely implementing new techniques and reflecting on their effectiveness on a continual basis. Therefore, the current study contributes to both able-bodied and disability sport literature which have shown that coaches who do not rely on past experience as an athlete with a disability acquired knowledge through experiential, trial-and-error, learning and reflection.

In summary, this section highlighted the participants' informal methods of acquiring disability specific coaching knowledge. Most notably, the participants relied on interactions with other expert coaches to acquire knowledge specific to coaching elite athletes with a disability. Unlike previous research in disability sport, these interactions included an international community of expert coaches. In addition, participants relied on a shared relationship with their athlete to gain insight into each athlete's unique disability. Perhaps unique to the elite disability sport context, athletes' caregivers were an important informal learning resource and an integral member of the athlete's support team. Lastly, this section highlighted that experiential, trial-and-error practices were valuable learning experiences and were utilized by participants in order to compensate for a lack of personal athletic experience in disability sport.

Mentoring Relationships

This section will discuss the mentoring relationships the participants' experienced throughout their Paralympic coaching careers. First, the importance on having a mentor in the early stages of their development will be described, as well as the knowledge they acquired from these relationships. Second, the participants' role as a mentor coach once they became expert coaches will be outlined. Finally, suggestions for future mentoring opportunities will be provided.

According to Schinke and colleagues (1995), a mentor has significant influence on the development of their mentee's coaching philosophies and behaviours. In the current study, four of the participants worked with a mentor coach during the early stages of their development as Paralympic coaches and described this relationship as their most significant learning experience. Two of the participants in the current study did not work with a mentor coach at any point in their careers. These participants were still able to become successful Paralympic coaches without having a mentor, but were forced to rely more heavily on their creativity and use of informal learning situations. In addition, the non-mentored participants experienced challenges in their career progression, which was partly attributed to not having the guidance of a mentor. These findings are consistent with prior research on mentoring in business (i.e., Allen, Eby, Poteet, Lentz, & Lima, 2004; Noe, Greenberger, & Wang, 2002; Wanberg, Welsh, & Hexlett, 2003). For example, Allen and colleagues compared the career outcomes between mentored and non-mentored employees. Their results indicated that non-mentored individuals did not experience the same salary growth, promotion rate, and career satisfaction as their mentored peers. Despite not having a mentor coach, both of the participants in the current study expressed the desire to have worked with a mentor, and said they would have benefited from such a relationship. These

results provide insight into the career development of both mentored and non-mentored coaches suggesting that, although not necessary, having the guidance of a mentor coach may be beneficial to the career progression of young coaches in disability sport.

The participants that had a mentor coach learned highly specialized skills specific to disability sport such as how to build a successful training program, communication and feedback skills, as well as the bigger picture of being an elite sports coach. These results are consistent with previous research on mentoring in contexts outside of sport, such as business (i.e., Aryee & Chay, 1994; Gonzalez-Figueroa & Young, 2005; Jones, 2012; Kirchmeyer, 1998; Tharenou, 2005). For example, Jones found that mentored employees acquired knowledge about the organization as a whole, as well as workplace culture. As previously mentioned, all of the participants in the current study were male. Research in business suggests that there are gender differences in relation to the career outcomes of having a mentor (Clutterbuck & Ragins, 2002; Tharenou, 2005). For example, Tharenou (2005) indicated that gender moderated the relationship between mentoring and career outcomes and that career support increased women's career advancement more than it did for men's career advancement. Furthermore, the employees learned new interpersonal skills and communication skills such as listening, questioning, and reflecting. These results are also consistent with previous research in able-bodied sport coaching (i.e., Bloom et al., 1998; Gould et al., 1990; Jones, Harris, & Miles, 2009; Koh, Bloom, Fairhurst, Paiement, & Kee, 2014; Rathwell et al., 2014). For example, Rathwell and colleagues found that University football assistant coaches were exposed to new coaching situations under the careful guidance of their mentor, and learned new tactics, styles of leadership, and coaching philosophies that would provide them with the knowledge necessary to succeed in elite coaching. The findings of the current study provide support to prior mentoring research in business and

able-bodied sport. Most notably, the participants acquired knowledge about being an elite coach in disability sport. Furthermore, future research should investigate gender of both the mentor and mentee in relation to career and personal outcomes.

Despite the benefits of having a mentor coach, Bloom and colleagues (1998) showed that finding a mentor coach among able-bodied sport coaches was a happenstance occurrence, a case of being in the right place at the right time. Perhaps unique to the disability coaching context, three of the four participants that had a mentor actively sought out a mentor coach to learn from, consciously deciding they needed the guidance of an expert coach. Taylor and colleagues (2014) also found that a Parasport coach actively sought out a mentor to learn from early in his disability coaching career due to the limited availability of more formal learning resources. The current study extends mentoring literature from business, able-bodied sport, and disability sport contexts by explaining how important mentoring relationships are for the knowledge acquisition of Paralympic coaches. Contrary to research in able-bodied research, the participants in the current study intentionally sought out a mentor coach. These results suggest that there is a demand for the development of mentoring opportunities in disability sport coach education, and provides support for the benefits of this informal source of knowledge acquisition.

As the participants' assumed more prominent coaching appointments in their sport, they began to give back to their profession. All six of the participants offered to act as a mentor thereby providing formal access to mentoring opportunities for aspiring Paralympic coaches. Interestingly, even the two participants that did not have mentoring opportunities during the early stages of their career development were aware of the benefits of mentoring and subsequently decided to act as a mentor to young coaches. These results are consistent with research in able-bodied sport coaching (i.e., Bloom et al., 1998; Koh, et al., 2014; Schinke et al., 1995). For

example, Bloom and colleagues found that once elite able-bodied coaches reached a certain level of expertise, they were honoured and willing to serve as mentor coaches due to the positive mentoring experiences they lived early in their careers. These results are also consistent with recent research in elite disability sport coaching (i.e., McMaster et al., 2012; Taylor et al., 2014; Duarte & Culver, 2014). For example, Duarte and Culver found that after an adaptive sailing coach had been a head coach for eight years and involved in disability sport for 16 years, she became responsible for developing new coaches by acting as a mentor. Similarly, McMaster and colleagues found that an expert para-swimming coach mentored aspiring coaches once they became an expert coach themselves. As a mentor, their participant provided the mentee with information on specific disabilities and resources that would help get them started as a para-swimming coach. Similar to McMaster and colleagues, the participants in the current study also provided their mentees with fundamental information specific to coaching athletes with a physical disability. Grant, Dorgo, and Griffin (2014) suggested that mentoring relationships should be framed in a formal, reflective structure. Contrary to Grant and colleagues (2014), the participants in the current study preferred to maintain an informal structure when mentoring aspiring coaches in disability sport. These findings suggest that the development of the mentoring relationship may require formal introductions between mentees and mentor coaches but once the relationship has been established, the structure and content of the relationship should remain informal. Therefore, our results extend the current literature in disability sport that has shown that expert coaches are actively seeking aspiring coaches to mentor them, and highlights the value of an informal structure in the mentoring relationship in the disability sport context.

The results from the current study indicated that not only do mentees benefit from working with a mentor coach, but mentors benefit from the relationship as well. More specifically, the current participants utilized the role of being a mentor as an opportunity to reflect on their own communication skills, coaching philosophies, and training tactics. These results are consistent with prior research in able-bodied coach mentoring conducted by Koh and colleagues (2014). Their results indicated that expert able-bodied basketball coaches that acted as mentors during a formalized mentoring program utilized their pedagogical knowledge and skills, engaged in meaningful self-reflection practices, and improved their interpersonal and communication skills. The results of the current study suggest that being a mentor to aspiring Paralympic coaches provided an informal learning resource for coaches in the later, more experienced, stages of their coaching careers. Recent research investigating the learning experiences and educational needs of disability sport coaches has suggested there was a demand for formalized mentoring opportunities (i.e., Giacobbi, Stancil, Hardin, & Bryant, 2008; McMaster et al., 2014). In the current study, the participants agreed that developing mentoring opportunities for future coach development was important at this time of the Paralympic movement. Based on their life mentoring experiences, the participants suggested that formalized mentoring opportunities should aim to provide in-depth fundamental knowledge about coaching athletes with a physical disability. Furthermore, this fundamental knowledge should be communicated in an interactive learning environment which provides extensive hands-on, practical coaching experience. McMaster and colleagues (2012) found that elite disability coaches also expressed the desire for hands-on learning experiences that provided information on disability-specific coaching knowledge. In addition, the participants in the current study suggested that new coaches should have access to multiple mentors within the disability sport

community. Taylor and colleagues (2014) found that a Parasport coach desired learning environments that provided access to a network of experts among the disability community. Therefore, the results of the current study extend the current literature in disability sport coaching by highlighting the importance of providing formalized mentoring opportunities that focus on communicating disability specific coaching knowledge in a practical, hands-on learning environment under the mentorship of multiple expert coaches within the disability sport community.

In summary, this section highlighted the participants' mentoring experiences throughout their Paralympic coaching careers. Most notably, the participants discussed their early experiences of having a mentor as their most influential learning experience. Once the participants became expert coaches, they provided mentoring opportunities for aspiring coaches due to the positive long-term effects of their early experiences of having a mentor. As mentors, not only did the participants help develop young coaches, but they also viewed the relationship as a learning experience for themselves, engaging in self-reflection and improving their communication skills. Finally, based on their personal mentoring experiences, the participants suggested that future mentoring opportunities should focus on communicating disability specific coaching knowledge while providing extensive practical coaching experience under the mentorship of multiple expert coaches within the disability sport community.

Chapter 6

Summary

Research on disability sport has increased since the United States Olympic Committee created the Committee on Sport for the Disabled in 1985. However, much of this research has focused on the physiological and biomechanical aspects of disability sport (Lee & Poretta, 2013). To date, only a handful of studies have investigated elite disability sport coaching. The purpose of this study was to explore Paralympic coaches' learning and education experiences, including their formal and informal mentoring opportunities throughout the development of their Paralympic coaching careers.

Six coaches were purposely selected based on three criteria. First, they were current head coaches of national Paralympic sport teams. Second, they have been a Paralympic head coach for a minimum of two years. Finally, they were recommended by a panel of experts that included current and former members of the Canadian Paralympic Coach Council advisory board as being among the best in Eastern Canada. All the participants were interviewed over a period of 60-120 minutes at various locations at mutually agreed upon locations and times of their choosing.

This study collected data using a semi-structured open-ended interview that followed a pre-determined interview guide created by the primary investigator and members of the research team. Four themes emerged from the interview data that described the participants' career development, knowledge acquisition practices, their roles and responsibilities as Paralympic coaches, and the relationships they had with coaches, athletes, and influential others. The themes were called *early career milestones, becoming an expert Paralympic coach, being an expert Paralympic coach,* and *mentoring in Paralympic sport*. Despite having different athletic and coaching backgrounds, the participants expressed many similarities in their career development,

challenges, learning experiences, and relationships. Specifically, the participants began their careers in sport as able-bodied athletes, and began coaching able-bodied sport. Furthermore, the participants experienced similar barriers to acquiring Paralympic specific coaching knowledge once they began coaching elite athletes with a physical disability. In addition, the participants utilized similar informal learning resources, such as a having a mentor, to acquire valuable coaching knowledge and skills. Finally, all the participants actively participated in the future development of Paralympic sport by acting as a mentor to aspiring coaches. The findings of the current study provided preliminary empirical support for mentoring as a valuable learning environment for disability sport coaches. Furthermore, these findings build upon the limited body of research investigating the learning pathways of elite disability sport coaches.

Conclusions

Early Career Milestones

- All of the participants were able-bodied as youth and played a variety of sports from a young age and reached elite levels of competition ranging from provincial level to national team members.
- One participant began his athletic career as an able-bodied athlete but sustained a life-changing injury as a teenager. Subsequently, he began competing in disability sport and reached the pinnacle of his athletic career as a Paralympian.
- Five of the participants began coaching in able-bodied sport contexts. They were exposed to disability sport through post-secondary adaptive physical activity courses or by having an athlete with a disability approach them about coaching services.

- One participant began their coaching career in disability sport. He had intended to become a physical education teacher, but was exposed to disability populations during his post-secondary education. This led him to pursue coaching in disability sport.
- The participants were exposed to disability sport in various ways. Four participants were coaching elite able-bodied athletes and were asked by an athlete with a physical disability to coach them. Two participants were exposed during their post-secondary adaptive physical activity courses.
- All six of the participants acquired post-secondary experience in physical education. Additionally, two completed Master's degrees and one began his PhD but did not complete.
- Influential people such as coaches, professors, and other athletes provided valuable teaching and coaching skills, as well as fundamental information on persons with a disability.

Becoming an Expert Paralympic Coach

- Lack of formal coach education for disability sport coaches was a major barrier to acquiring disability specific knowledge.
- Limited availability of empirical research on Paralympic sport was a major barrier to acquiring disability coaching knowledge. Four of the participants acquired coach certifications in able-bodied sport. One coach was accredited with certification in disability sport after he created the coach certification program for his sport. One participant did not acquire coach certification.

- Coaches sought disability specific coaching knowledge through informal learning resources such as trial-and-error practices, reading books and manuals, and adapting able-bodied coaching knowledge to disability populations.
- A rich source of knowledge acquisition was the coaches' athletes themselves. Participants developed a personal relationship that characterized a shared-learning environment where both coach and athlete had equal input into the coaching process.
- Communities of practice, often extending internationally, were valuable learning relationships. Interactions with expert coaches, novice coaches, physiotherapists, and occupational therapists helped the participants gain disability specific coaching knowledge.
- Participants believed that learning was an ongoing, lifelong practice.
- Participants attended conferences in a variety of domains to acquire skills such as organization, psychology, physiology, biomechanics, and coaching.

Being an Expert Paralympic Coach

- The participants' primary role as a Paralympic head coach was to identify and develop talented athletes in their sport.
- Participants spent significant time planning, scheduling, and working with their athletes to organize daily, weekly, and season training programs.
- Participants communicated with regional and provincial coaches across the country in order to promote the development of elite sport as well as show support for local programs.
- Because the Paralympic community is small, the participants held a broad role of administrative responsibilities including equipment management and modifications,

coordinating traveling accommodations for training camps and competitions, program funding, and program budgeting.

- The physical demands of high performance disability sport and day-to-day time management required specialized coaching skills from the participants.
- Relationships with the athletes' caregivers were essential to gaining insights into the athletes' home practices such as rehabilitation, recovery, sleep, and daily routines which impacted the daily training plans.
- Relationships with disability specialists are important because every athlete's disability is unique and requires individualized care and attention.

Mentoring in Paralympic Sport

- Four of the participants had a mentor coach during the early stages of their careers.
- Mentoring relationships were difficult to develop because there were few expert coaches to learn from at the time.
- Many of the mentoring relationships were developed informally. One participant met their mentor at a coaching conference and two were hired as assistant coaches that developed into a mentoring relationship over their time together. One participant had a mentoring relationship that developed formally when he participated in a formal mentoring program.
- Two of the participants did not have a mentor coach and relied more heavily on informal learning resources.
- Participants learned valuable coaching skills from their mentors. They learned to envision the bigger picture of being an elite coach, how to communicate feedback, and highly technical knowledge about coaching athletes with a disability.

- The relationship with their mentor evolved into a peer relationship over time.
- Once the participants were expert coaches themselves, they provided mentoring opportunities to aspiring coaches.
- At the beginning of the mentoring relationship, it was crucial to set clear guidelines in terms of the role, expectations, and goals of both the mentor and mentee.
- Participants taught their mentees fundamental technical and tactical skills of coaching elite disability sport.
- Participants created a mentee-centered learning environment that involved encouraging the mentee coach to drive their own learning process and experience extensive hand-on coaching experience.
- Mentees only spent a short amount of time with the participants which limited the richness of the mentoring relationship.
- Participants suggested that future mentoring opportunities should provide extensive practical coaching experience with access to multiple mentor coaches over a long-term period (e.g., one full competitive season).

Practical Implications

The current study is of interest to the Paralympic community, and especially the disability coaching community. More specifically, the current study can be utilized by the National Coach Certification Program (NCCP) and the Coaching Association of Canada (CAC) who oversee the development of coach education. As the development of disability specific certifications are in their early stages, this study could provide information on the educational needs of this specialized group of sport coaches. These results can be used to address current barriers of knowledge acquisition expressed by Paralympic coaches and develop strategies and resources to

overcome these barriers. This knowledge could assist with curriculum development of the CAC and NCCP for a variety of disability sports. In particular, providing practical and experiential learning, in addition to collaborative learning environments where novice coaches can observe and interact with expert coaches.

The results of the current study described the mentoring relationships of the Paralympic coaches This study is one of the first accounts detailing the mentoring relationships in disability sport. This information may be valuable to sport governing bodies in charge of developing coach education programs across the country. For example, developing a formalized mentoring program for aspiring Paralympic coaches which can complement currently existing coach education programs can provide a structured educational resource for this sport context.

Additionally, the current study described the highly personal relationship that Paralympic coaches developed with their athletes and athletes' caregivers. Athletes may benefit from these results by understanding the importance of their roles to their athletic performance success. Furthermore, caregivers of athletes can benefit from these results by understanding their roles as contributors to the success of their loved ones by providing valuable non-sport related information to coaches.

Finally, the current results may be used to enhance researchers understanding of coaching in disability sport. The results described the unconventional nature of Paralympic coaches' career paths. Furthermore, future researchers can use the current study's findings to further the development of knowledge in coaching science literature about elite disability sport coaches.

Limitations and Recommendations

Although the study enhanced the understanding of how Paralympic coaches acquired disability specific knowledge, some limitations need to be addressed. First, the current study

investigated the learning pathways of coaches who worked with athletes with a wide range of physical disabilities. The Parasport classification is vast and provides opportunities for athletes with a visual impairment, a spinal cord injury, amputations, cerebral palsy, spinal bifida, multiple sclerosis, or other disabilities to participate. Therefore, the type of the disabilities which coaches are exposed to may require more specific coach education to meet their needs. As a result, future research can investigate the learning and educational experiences of Paralympic coaches across the various disability classes in order to gain a more detailed understanding of how coaches acquire disability specific knowledge. Second, the interviews focused solely on the perspectives of the coaches. Acquiring the perspectives of other members that are personally involved in a Paralympic coach's environment could provide a more comprehensive understanding of their career evolution and learning practices. For example, the views of the participants' mentor coaches could be acquired. Mentor coaches may have different interpretations of the participants' learning practices and may be able to provide more detail to the events and topics discussed by the participants. Similarly, gaining the perspectives of the participants' athletes on their coach's learning practices may provide different interpretations than the participants themselves. As athletes are directly impacted by a coach's knowledge, athletes may be able to provide more detail towards the effectiveness of the application of their coach's knowledge acquisition. Future research could also examine the perspectives of a coach's support staff including assistant coaches, physiotherapists, and management. Gaining the prospective of other members of the support staff and team would provide a more global understanding of Paralympic coach development. Because the participants were already provincial and national level coaches and had acquired coaching knowledge before they began coaching disability sport, other studies may want to investigate the educational, learning, and mentoring experiences of coaches beginning

their coaching careers in disability sport. Furthermore, this study examined some of the most expert coaches in the country. Therefore, future research may want to replicate this study with recreational, regional, and provincial level disability sport coaches to examine whether the same challenges and resources are experienced in these populations. Furthermore, the participants in the current study have become expert coaches and are now acting as mentors for other coaches. Given that parasport seems to be evolving so rapidly, future research may investigate the evolution in training and mentorship opportunities with new, up-and-coming coaches who may have different experiences. Finally, all of the participants in this study were male. It would be interesting to research the small number of female Paralympic coaches to see if they have similar or different responses to their male counterparts.

Although much remains to be explored to fully understand the career development and learning practices of Paralympic coaches, the current study has provided some insight in to this previously unexplored domain. The results of this study positively contribute to the small body of literature on the learning pathways of Paralympic coaches, including the importance of mentoring throughout a Paralympic coach's development.

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Appendix A

Recruitment Script

Dear _____ ,

My name is Katherine Fairhurst and I am currently completing a Master's degree in sport psychology under the supervision of Dr. Gordon Bloom in the department of Kinesiology and Physical Education at McGill University. We are contacting you to invite you to participate in our research on the educational and learning experiences of current Paralympic coaches. If you chose to participant in our study, you will be asked questions about your present occupation as well as past and present learning and educational experiences.

The McGill University Ethics Board has reviewed and accepted this study for its adherence to ethical guidelines. Any information you provide during this study will remain confidential. If you choose to participate, I will conduct a 1-2 hour interview with you at the location of your choosing. If more information is required, then a follow-up telephone conversation will occur.

Should you have any questions concerning this study, please contact myself of my supervisor using the information provided at the bottom of the page. The McGill sport psychology laboratory has a history of producing influential research on Paralympic sport coaching. If you would like to learn more about the research completed at the sport psychology lab, please visit: http://sportpsychology.mcgill.ca/index.html.

Thank you for your consideration of this research project, and I look forward to hearing from you.

Sincerely,

Katherine Fairhurst

Katherine Fairhurst, B.Sc.
MA Candidate in Sport Psychology
E-mail: katherine.fairhurst@mail.mcgill.ca
Or
Dr. Gordon Bloom
Associate Professor
Department of Kinesiology and Physical Education
McGill University
(514) 398-4148, ext 0516
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Appendix B

Informed Consent Form

This study is in partial fulfillment of the requirements for the degree of Master of Arts for Katherine Fairhurst, a graduate student in sport psychology, in the Department of Kinesiology and Physical Education at McGill University. The purpose of this study is to understand the learning and educational experiences of current Paralympic coaches, and to develop a coach mentoring program specifically for Paralympic sport. If you participate in this study you will be requested, without payment, to partake in a 90-120 minute audio-taped interview where you will be asked to discuss your past and present formal educational experiences, your past and present informal learning experiences, as well as any experiences having or being a mentor to other coaches. If more information is necessary, then a follow-up telephone interview may occur.

Once the interview is complete, you will have to opportunity to edit any comments you made during the interview at your discretion. You will also receive a typed transcript, which may be edited at your discretion. Prior to publishing, you will receive copies of the results and conclusions of the study. The information you provide will **remain confidential**. The principle investigator (Katherine Fairhurst) and the faculty supervisor (Dr. Gordon Bloom) will be the only individuals to have access to identifiable data. All data, audio recordings, and paper copies of questionnaires and consent forms will be securely stored in a password protected computer and locked cabinet for a period of five years. The data, audio recordings, and all paper copies will be destroyed five years after the study ends. The information disclosed during the interview will remain confidential and will be used for publication purposes and scholarly journals or for presentations at conferences. The researchers will not disclose names or identify the study participants at any time. This study has been reviewed and accepted by the McGill Research Ethics Board.

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 may refuse to continue participation at any time, without penalty, and all information gathered will remain confidential. Please contact the Research Ethics Officer at 514-398-6831, or lynda.mcneil@mcgill.ca if you have any questions or concerns 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

I agree to the audio-taping of the interviews with the understanding that these recordings will be used solely for the purpose of transcribing these sessions. Yes□ No□ _____ Initials

Katherine Fairhurst, B.Sc.
Master's Candidate, Sport Psychology
Dept. of Kinesiology & PE
McGill University, Montreal, Quebec
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Gordon Bloom, Ph.D
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Appendix C

Ethics Approval

McGill

Research Ethics Board Office
James Administration Bldg.
845 Sherbrooke Street West. Rm 429
Montreal, QC H3A 0G4

Tel: (514) 398-6831
Fax: (514) 398-4644
Website: www.mcgill.ca/research/researchers/compliance/human/

Research Ethics Board I
Certificate of Ethical Acceptability of Research Involving Humans

REB File #: 138-0913

Project Title: Exploring the Learning and Mentoring Experiences of Paralympic Coaches

Principal Investigator: Katherine Fairhurst

Department: Kinesiology and Physical Education

Status: Master's Student

Supervisor: Prof. G. Bloom

Approval Period: Sep. 23, 2013 to Sep. 22, 2014

The REB-II reviewed and approved this project by delegated review in accordance with the requirements of the McGill University Policy on the Ethical Conduct of Research Involving Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans.

Deanna Collin
Research Ethics Administrator

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* All research involving human participants requires review on an annual basis. A Request for Renewal form should be submitted 2-3 weeks before the above expiry date.
* When a project has been completed or terminated a Study Closure form must be submitted.
* Should any modification or other unanticipated development occur before the next required review, the REB must be informed and any modification can't be initiated until approval is received.

Appendix D

Demographic Questionnaire

1. Name: _____
2. Age: _____
3. Sex: Male ☐ Female ☐
4. E-mail: _____
5. Phone Number (work, cell, home): _____
6. Highest Level of Education: _____
7. Please list your past/present athletic experiences (i.e. former/current parasport or able-bodied sport activity, years played in each, highest levels reached, awards, etc):

   _____

   _____

   _____
8. Current Paralympic coaching position and duration:

   _____
9. Please list previous coaching positions held in parasport and duration:

   _____

   _____

   _____
10. Please list previous coaching positions in able-bodied sport and duration:

    _____

    _____

11. What is the highest level of coaching certification you have completed?

_____

_____

_____

12. What, if any, of your coaching training (i.e. certification, apprenticeships, etc) was specific to parasport?

_____

_____

_____

13. Please list any awards you have received as a Paralympic coach:

_____

_____

Appendix E

Interview Guide

Pre-interview Routine

Introduction ☐
Consent Form ☐
Demographic Questionnaire ☐

Opening Questions

1. Briefly describe your athletic career, including participation in able-bodied and/or parasport contexts.

2. Describe your evolution into coaching, both able-bodied and parasport.
    a. When, how, and why did you begin coaching?
    b. What levels of sport have you coached?

3. Briefly describe your current coaching position (i.e., hours per week of coaching, number of athletes, etc.).
    a. Describe your primary coaching duties in your current coaching position.
    b. Any parasport specific responsibilities?

Key Questions

4. Describe your coach education background (i.e., coaching certification(s)).
    a. Did you complete your formal training in able-bodied or parasport? Why?
    b. Do you feel that your formal education experiences prepared you for coaching Paralympic athletes?
        i. Why and in what ways?

5. Outside of coach education, how have you acquired knowledge specific to parasport and Paralympic sport?
    a. What resources did you have access to in order to acquire Paralympic coaching knowledge?
        i. How readily available were these resources?

6. Who has had the largest impact on your development as a Paralympic coach?
    a. In what ways did this individual influence you? Why?
    b. In what ways did you interact with this individual? Why?
    c. What lessons did you learn from this individual? Why?

   d. How has this individual shaped your coaching style? Why?

7. Have you ever mentored other coaches?
   a. If yes, what lessons did you pass on to this individual?
   b. What were the greatest barriers you faced as a mentor coach?

8. What factors would be essential to include if you had the opportunity to develop a coach mentoring program for aspiring Paralympic coaches?

Concluding Questions

9. Would you like to add anything else related to our interview?

10. Do you have any comments or questions?

Appendix F

Participant Demographic Information

Name	C1	C2	C3	C4	C5	C6
Age Range	50-59	40-49	60-69	50-59	40-49	50-59
Coaching Experience Range	30-34 years	20-24 years	30-34 years	30-34 years	30-34 years	25-29 years
Years coaching as Paralympic head coach	10 years	9 years	28 years	2 years	18 years	8 years
Highest Level of Education	BA Physical Education	BA Physical Education	MA Physical Education	CEGEP	MA Special Education	BA Physical Education
Highest Athletic Experience	Provincial Level Athletics and Soccer (Able-bodied)	Provincial Junior Level Hockey (Able-bodied)	National Level Speed Skating (Able-bodied)	National Level Canoeing (Able-bodied)	Paralympic Level Wheelchair Basketball (Disability)	Provincial Level Hockey/ Football/ Cycling/ Triathlon (Able-bodied)
Highest Level of Coaching Certification	4	CAC Accredited	5	4	None	4 (in progress)
Highest Level Able-bodied Coaching	University	None	Junior National Coach	National Team Coach	High School Team Coach	Provincial Team Coach
Highest Level Paralympic Coaching	National Team Head Coach	National Team Head Coach	National Team Head Coach	National Team Head Coach	National Team Head Coach	National Junior Head Coach

Tables

Table 1

Alphabetical Listing of the Frequency of Topics by Each Participant

Initial Codes	C1	C2	C3	C4	C5	C6	Total
athlete talent development	3	4	2	2	0	1	12
athletic experiences	4	2	5	1	2	1	15
barriers to knowledge acquisition	13	2	6	0	2	0	23
being a mentor - barriers	3	0	3	4	1	0	11
being a mentor - communication skills	1	0	1	1	1	4	8
being a mentor - defining the relationship	1	0	0	0	3	0	4
being a mentor - mentee-centered learning	6	0	4	5	5	1	21
being a mentor - planning	0	1	0	2	2	1	6
being a mentor - practical experience	2	0	2	2	1	5	12
being a mentor - technical skills	3	2	1	0	0	0	6
career progression	0	1	3	6	5	0	15
coach collaboration - acquiring new information	0	2	1	2	0	1	6
coach collaboration - international	4	4	0	3	0	0	11
coach to coach - working partnerships	0	3	0	1	1	1	6
coach education - certifications	1	1	3	1	2	4	12
coach education - conferences	7	0	0	5	1	2	15
coach education - from the athletes	6	0	1	0	0	0	7
coach education - self-taught	8	0	4	3	2	0	17
coach suggestions - long-term mentoring	2	0	0	3	0	0	5
coach suggestions - mentor-mentee matching	0	1	2	0	0	0	3
coach suggestions - multiple mentors	0	1	2	1	2	0	6
coach suggestions - practical experience	0	2	0	1	5	3	11
coach suggestions - technical skills	1	1	0	0	5	0	7
coaching - administrative responsibilities	5	3	3	2	1	0	14
coaching - athlete differences	10	1	2	2	0	1	16
coaching - disability specific	18	0	2	4	0	3	27
coaching - planning	5	2	1	2	0	4	14
current coaching position	1	2	1	2	0	2	8
developing new coaches	0	3	7	0	1	8	19
disability coaching courses - development	0	5	0	0	0	1	6
disability coaching courses - lackthereof	0	2	1	1	0	4	8
having a mentor	1	2	2	3	1	1	10
influential others - athletes	1	0	0	0	0	1	2
influential others - coaches	0	1	1	2	2	0	6
influential others - parents	0	0	0	0	1	0	1
influential others - professors	1	1	2	0	0	0	4
introduction to coaching	2	1	1	2	3	0	9
introduction to disability sport	5	3	2	2	2	3	17
Learning from mentor - coaching skills	0	0	2	6	1	0	9
learning from mentor - planning	0	2	0	1	0	0	3

learning from mentor - technical skills	1	0	1	1	0	0	3
lifelong learning	3	0	2	2	1	2	10
love of sport	1	2	3	0	1	0	7
Paralympic Sport	5	0	0	5	0	0	10
promoting/developing their sport	0	2	1	0	0	1	4
relationships - assistant coaches	4	0	0	0	1	0	5
relationships - athletes	3	3	2	3	0	1	12
relationships - caregivers	0	4	0	3	0	0	7
relationships - disability specialists	2	0	0	3	0	0	5
teaching athletes life skills	6	1	0	1	0	0	8
university education	1	1	2	0	2	2	8
Total:	**140**	**68**	**78**	**90**	**57**	**58**	**491**

Table 2

Mid-level codes and initial codes with frequencies as expressed by each participant

Properties and Tags	C1	C2	C3	C4	C5	C6	Total
Becoming a Coach	**13**	**10**	**16**	**11**	**15**	**6**	**71**
Athletic Experiences	4	2	5	1	2	1	15
Love of Sport	1	2	3	0	1	0	7
Introduction to Coaching	2	1	1	2	3	0	9
Introduction to Disability Sport	5	3	2	2	2	3	17
University Education	1	1	2	0	2	2	8
Career Progression	0	1	3	6	5	0	15
Influential Others	**2**	**2**	**3**	**2**	**3**	**1**	**13**
Influential Others - athletes	1	0	0	0	0	1	2
Influential Others - coaches	0	1	1	2	2	0	6
Influential Others - parents	0	0	0	0	1	0	1
Influential Others - professors	1	1	2	0	0	0	4
Challenges of Paralympic Sport	**18**	**14**	**15**	**6**	**3**	**14**	**70**
Paralympic Sport	5	0	0	5	0	0	10
Barriers to Knowledge Acquisition	13	2	6	0	2	0	23
Disability Coaching Courses - lack thereof	0	2	1	1	0	4	8
Promoting/Developing Their Sport	0	2	1	0	0	1	4
Developing New Coaches	0	3	7	0	1	8	19
Disability Coaching Courses - development	0	5	0	0	0	1	6
Acquiring Coaching Knowledge	**29**	**7**	**11**	**16**	**6**	**9**	**78**
Coach Education - certifications	1	1	3	1	2	4	12
Coach Education - conferences	7	0	0	5	1	2	15
Coach Education - from the athletes	6	0	1	0	0	0	7
Coach Education - self-taught	8	0	4	3	2	0	17
Coach Collaboration - international	4	4	0	3	0	0	11
Coach Collaboration - acquiring new information	0	2	1	2	0	1	6
Lifelong Learning	3	0	2	2	1	2	10
Coaching Responsibilities	**48**	**13**	**11**	**15**	**1**	**11**	**99**
Current Coaching Position	1	2	1	2	0	2	8
Coaching - administrative responsibilities	5	3	3	2	1	0	14
Coaching - planning	5	2	1	2	0	4	14
Coaching - athlete differences	10	1	2	2	0	1	16
Coaching - disability specific	18	0	2	4	0	3	27
Athlete Talent Development	3	4	2	2	0	1	12
Teaching Athletes Life Skills	6	1	0	1	0	0	8

Table 2 (continued)

Properties and Tags	C1	C2	C3	C4	C5	C6	Total
Coaching Relationships	**9**	**10**	**2**	**10**	**2**	**2**	**35**
Relationships - assistant coaches	4	0	0	0	1	0	5
Relationships - athletes	3	3	2	3	0	1	12
Relationships - caregivers	0	4	0	3	0	0	7
Relationships - disability specialists	2	0	0	3	0	0	5
Coach-to-coach - working partnerships	0	3	0	1	1	1	6
Lessons from Mentors	**2**	**4**	**5**	**11**	**2**	**1**	**25**
Having a Mentor	1	2	2	3	1	1	10
Learning from Mentors - coaching skills	0	0	2	6	1	0	9
Learning from Mentors - planning	0	2	0	1	0	0	3
Learning from Mentors - technical skills	1	0	1	1	0	0	3
Being a Mentor	**16**	**3**	**11**	**14**	**13**	**11**	**68**
Being a Mentor - barriers	3	0	3	4	1	0	11
Being a Mentor - communication skills	1	0	1	1	1	4	8
Being a Mentor - defining the relationship	1	0	0	0	3	0	4
Being a Mentor - mentee-centered learning	6	0	4	5	5	1	21
Being a Mentor - planning	0	1	0	2	2	1	6
Being a Mentor - practical experience	2	0	2	2	1	5	12
Being a Mentor - technical skills	3	2	1	0	0	0	6
Mentoring in the Future	**3**	**5**	**4**	**5**	**12**	**3**	**32**
Coach Suggestions - long-term mentoring	2	0	0	3	0	0	5
Coach Suggestions - mentor-mentee matching	0	1	2	0	0	0	3
Coach Suggestions - multiple mentors	0	1	2	1	2	0	6
Coach Suggestions - practical experience	0	2	0	1	5	3	11
Coach Suggestions - technical skills	1	1	0	0	5	0	7
Total	**140**	**68**	**78**	**90**	**57**	**58**	**491**

Table 3

Themes and Mid-level codes with frequencies as expressed by each participant

Themes and Mid-level Codes	C1	C2	C3	C4	C5	C6	Total
Early Career Milestones	**15**	**12**	**19**	**13**	**18**	**7**	**84**
Becoming a Coach	13	10	16	11	15	6	71
Influential Others	2	2	3	2	3	1	13
Becoming an Expert Paralympic Coach	**47**	**21**	**26**	**22**	**11**	**23**	**148**
Challenges of Paralympic Sport	18	14	15	6	3	14	70
Acquiring Coaching Knowledge	29	7	11	16	6	9	78
Being an Expert Paralympic Coach	**57**	**23**	**13**	**25**	**3**	**13**	**134**
Coaching Responsibilities	48	13	11	15	1	11	99
Coaching Relationships	9	10	2	10	2	2	35
Mentoring in Paralympic Sport	**21**	**12**	**20**	**30**	**27**	**15**	**125**
Lessons from Mentors	2	4	5	11	2	1	25
Being a Mentor	16	3	11	14	13	11	68
Mentoring in the Future	3	5	4	5	12	3	32
Total	**140**	**68**	**78**	**90**	**57**	**58**	**491**

Table 4

Phases of Thematic Analysis

Phase	Description of the process
1. Familiarising yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Adapted from:

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Reseach in Psychology*, *3*, 77-101.

Table 5

A 15-Point Checklist of Criteria for Good Thematic Analysis

Process	No.	Criteria
Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.
Coding	2	Each data item has been given equal attention in the coding process.
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for all each theme have been collated.
	5	Themes have been checked against each other and back to the original data set.
	6	Themes are internally coherent, consistent, and distinctive.
Analysis	7	Data have been analysed - interpreted, made sense of - rather than just paraphrased or described.
	8	Analysis and data match each other - the extracts illustrate the analytic claims.
	9	Analysis tells a convincing and well-organised story about the data and topic.
	10	A good balance between analytic narrative and illustrative extracts is provided.
Overall	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.
Written report	12	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13	There is a good fit between what you claim you do, and what you show you have done - i.e., described method and reported analysis are consistent.
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15	The researcher is positioned as *active* in the research process; themes do not just 'emerge'.

Adapted from:

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Reseach in Psychology, 3,* 77-101.