The Acquisition of Coaching Knowledge of a Unique Sample of Expert Team Sport Coaches

Adam D. Carter

A thesis submitted

in partial fulfillment of the requirements

for the degree of

Master of Arts

in the Department of Kinesiology and Physical Education

in the Faculty of Education

McGill University, Montréal

December, 2006

Your file Votre référence
ISBN: 978-0-494-32508-7
Our file Notre référence
ISBN: 978-0-494-32508-7

Abstract

The purpose of this study was to identify how coaches who have surpassed their athletic achievements acquired their coaching knowledge. Six University coaches from basketball, volleyball, and hockey, with a combined total of fourteen coach of the year awards were selected to participate. Each coach was coaching at a higher level (e.g., University level) than he had competed as an athlete, had a winning percentage greater than .500 at the University level, and had been the head coach at their current program for a minimum of five years. Semi structured, open-ended interviews were conducted using an interview guide created exclusively for this study and based on the tenets of Côté, Salmela, Trudel, Baria, and Russell's (1995) Coaching Model and Chelladurai's (1978) Multidimensional Model of Leadership. Data analysis followed the guidelines forwarded by Côté, Salmela, Baria, and Russell (1993). Results of this analysis revealed three higher order categories which indicated the path coaches had taken to reach their current positions including the many ways knowledge was acquired. These were (a) *career path* which discussed the journey of knowledge acquisition of these coaches, from their earliest sport participation to their current coaching position, (b) *personal factors*, which included how the coaches' journey of knowledge acquisition had been influenced by who the coaches were, and (c) *coaching knowledge*, which involved the participants' current level of coaching knowledge. Despite the idiosyncratic nature of each coach's career progression many common themes emerged, including the different ways knowledge was acquired, the coaches' personal characteristics, and the level of coaching knowledge accumulated. Many of the findings that emerged were similar to those highlighted in previous studies pertaining to expert coach development (e.g., Cregan, Bloom, & Reid, in press; Salmela, 1994; Schinke, Bloom, & Salmela, 1995) which suggests that while athletic experiences may be helpful in expert coach development, they are not essential. The results provided evidence that sources of knowledge acquisition are accessible to aspiring coaches to acquire the necessary coaching knowledge, regardless of their athletic background. The current findings could potentially enhance the quality and standard of formal coach education and training programs in Canada by illustrating how a unique sample of coaches acquired the knowledge to achieve success at the university level.

Résumé

Le but de cette étude était d'identifier comment les entraîneurs ayant été surpassés par leurs athlètes en terme d'habiletés athlétiques ont acquis leurs connaissances. Six entraîneurs de basketball, volleyball, et de hockey de niveau universitaire ainsi que quatorze entraîneurs ayant obtenu la mention d'entraîneur de l'année ont été sélectionnés pour participer à l'étude. Chaque entraîneur entraînait à un niveau supérieur (ex. : niveau universitaire) auquel il avait joué en tant qu'athlète. Chaque entraîneur avait également obtenu un pourcentage de partie gagnée supérieur à 0.500 au niveau universitaire, et avait été au poste d'entraîneur dans le programme en cours pour un minimum de cinq ans. Des entrevues ouvertes et semi structurées ont été conduites à l'aide d'un guide d'entrevue spécifiquement créé pour cette étude. Les principes du *Coaching Model* de Côté, Salmela, Trudel, Baria, et Russell's (1995) ainsi que le modèle de Leadership de Chelladurai's (1978) ont servi de base pour la création du guide d'entrevue. L'analyse de données a été faites selon les lignes directrices proposées par Côté, Salmela, Baria, et Russell (1993). Les résultats de cette analyse ont révélé trois catégories supérieures indiquant le chemin entrepris par les entraîneurs pour atteindre leur position en cours, tout en indiquant les différents moyens par lesquels leurs connaissances ont été acquises. Les catégories supérieures consistaient en (a) *chemin de carrière*, qui décrivait leur acquisition de connaissances en tant qu'entraîneur, et ce de leurs premières expériences dans le sport à leur position en cours, (b) *facteurs personnels*, qui incluait l'influence de l'identité des entraîneurs sur leur cheminement d'acquisition de connaissances, et (c) *connaissances des entraîneurs*, qui représentait le niveau actuel de connaissances de l'entraîneur. Malgré le caractère idiosyncratique de la progression de la carrière de chaque entraîneur, plusieurs thèmes communs ont émergés. Ces derniers incluaient les différents moyens par lesquels les connaissances étaient acquises, les caractéristiques personnelles des entraîneurs, et le niveau de connaissances accumulées reliées à l'entraînement. Plusieurs des résultats trouvés étaient similaires à ceux déjà notés dans la littérature concernant le développement des entraîneurs de haut niveau (ex. : Cregan, Bloom, & Reid, sous press; Salmela, 1994; Schinke, Bloom, & Salmela, 1995), ce qui suggère que malgré que les expériences athlétiques puissent être bénéfiques dans le développement des entraîneurs de haut niveau, elles ne sont pas essentielles. Ainsi, les résultats prouvent que les sources d'acquisition de connaissances sont accessibles pour les entraîneurs aspirant à acquérir les connaissances nécessaires pour entraîner à un haut niveau, et ce peu importe leur expérience athlétique antérieure. Finalement, les résultats de cette étude pourraient potentiellement améliorer la qualité et les standards de l'éducation formelle des entraîneurs et des programmes de formation au Canada en illustrant comment un échantillon d'entraîneurs a obtenu ses connaissances et a atteint du succès au niveau universitaire.

Acknowledgements

I would like to express my gratitude to the following individuals who helped me in the completion of this thesis:

- My advisor, Dr. Gordon Bloom, for his guidance, expertise, and most importantly patience in the conceptualization and completion of this study. You always supported me, even through the dark days of chapter one, and I truly appreciate your efforts towards my personal and academic development. You've taught me a new appreciation for ATD and have forever ended my love affair with the colour red. Thanks so much for everything!
- My colloquium committee, including Dr. Paul Stapley and Dr. Enrique Garcia for their insightful comments and helpful suggestions throughout my graduate career.
- Lisen Moore, for all your help reading through my first three chapters, attending my colloquium, and identifying appropriate participants for the study. This thesis would never have happened without your input and I am immensely grateful.
- The six coaches who willingly agreed to participate in this study. I am truly appreciative of their hard work and insights. I am very respectful of their personal and sporting accomplishments, and I hope to meet with them again in the future.
- To all my fellow grad students, you're the best! In particular, thanks to Catherine Duchesne for being a fabulous peer reviewer, and to Julie x 2,

Richard, Kerry, Erin, Amey, Laurie, Kristina, Krista, Jen, and Sandy for making my time at McGill unforgettable.

- Congregation Shaar Hashamayim, for providing me with a sanctuary to get away from it all. Thank you for enhancing my Canadian Shabbat experiences and ensuring that I never go hungry! A particular mention to Elliot Kramer for happily reading through many drafts of this document.
- My family, for supporting my decision to seek 'pastures new' for graduate school and (pretending!) to miss me. Mum, Dad, Joel, Charlotte and Dobs, I can not even begin to describe how much I love you all. Thanks Mum and Dad for all your support (monetary and otherwise), Joel for the football updates, Charlotte for keeping him in 'check', and Dobs for letting me steal her thunder!
- My Canadian family who have always supported my aspirations and helped me feel comfortable so far away from home. Norbert, MJ, Ron, and Jon, I couldn't have wished for any more support during my graduate studies.
- Messodie, I simply couldn't have done this without you. Thank you for making my time in Canada amazing, for being my best-friend, and for showing me the true meaning of selflessness. You are my everything and this is for you.

Table of Contents

Abstract ii

Résumé iii

Acknowledgements iv

Table of Contents vi

List of Tables x

Chapter 1 1

Introduction 1

Purpose of the Study 5

Significance of the Study 5

Delimitations 6

Limitations 6

Operational Definitions 7

Chapter 2 8

Literature Review 8

Analysis of Coaching Science 8

Coaching Model 10

Primary Components 12

Organization 12

Training 12

Competition 13

Peripheral Components 14

Athletes' Personal Characteristics . . 15

Coach's Personal Characteristics . . 15

Contextual Factors 16

Leadership 18

Trait Approach 18

Situational Approach 19

Behavioural Approach 20

The Multidimensional Model of Leadership . . 21

Leadership Scale for Sport 23

Antecedent Variables on Perceived and Preferred Leadership 24

Congruence Between Perceived and Preferred Leadership 26

The Development of Expertise 27

Deliberate Practice 27

Expert Development in Sport 29

Chapter 3 34

Method 34

Participants 34

Data Collection Process 36

Interview Tools 37

Interview Type 37

Interview Guide 37

Type of Questions 39

Building Rapport 39

Data Analysis 40

Trustworthiness 41

Training in Qualitative Methodology . . . 41

Persistent Observation 42

Prolonged Engagement 42

Peer Review 42

Member Checking 44

Chapter 4 45

Results 45

Nature of the Data 45

Career Path 50

Sport and Coaching Background . . . 50

Sources of Knowledge Acquisition . . . 53

Support of Non-sport Personnel . . . 59

Personal Factors 61

Individual Makeup 61

Commitment to Coaching 66

Coaching Knowledge 69

Coaching Facts and Information . . . 69

Coaching Tasks and Duties 72

Training 77

Summary 82

Chapter 5 87

Discussion 87

Career Path 87

Personal Factors 94

Coaching Knowledge 99

Summary of Study 106

Conclusions 109

Practical Implications 113

Recommendations for Future Research . . . 114

References 117

Appendices 128

Appendix A – The Coaching Model (CM) . . . 128

Appendix B – The Multidimensional Model of Leadership . 129

Appendix C – Interview Guide 130

Appendix D – Consent Form 132

Appendix E – Demographic Questionnaire . . . 133

Appendix F – Frequency of Topics Discussed by Each Participant 138

Appendix G – Ethical Acceptability 140

List of Tables

Table 1: Background and Accomplishments of each Coach . . . 35

Table 2: Alphabetical Listing of the Frequencies as Expressed by Each Participant 138

Table 3: Properties and tags with Frequencies as Expressed by Each Participant 47

Table 4: Categories and Properties with Frequencies as Expressed by Each Participant 49

CHAPTER 1

Introduction

Since the early 19th century, coaches have played an important role in helping athletes succeed in the sporting world (McNabb, 1990). Coaches perform various duties such as guiding the practice of skills, providing instruction and feedback, and monitoring learning and performance; all of which are designed to help athletes realise their potential. Furthermore, coaches fulfill multiple roles such as teacher, motivator, strategist, and character builder (Gould, 1987). For these reasons, it is not surprising that coaching has received extensive empirical attention in the sport literature. Some of this research has examined aspects of their growth and career development. In general, the research results indicated that expert coaches relied on their education, preparation, experience, and knowledge to further their coaching careers and to successfully perform their job at the highest levels.

A number of researchers (e.g., Bloom, Crumpton, Anderson, 1999; Bloom & Salmela, 2000; Côté, Salmela, & Russell, 1995a; Côté, Salmela, Trudel, et al., 1995; Erle, 1981; Gallimore & Tharp, 2004; Garland & Barry, 1998; Gilbert & Trudel, 2000; Vallée & Bloom, 2005) have attempted to identify the characteristics of expert coaches. There is overall consensus that expert coaches possessed certain leadership styles and organizational skills and adapted to different environments. For example, democratic or socially supportive leadership styles helped expert coaches enhance performance in athletes (Erle, 1981; Garland & Barry, 1988). Likewise, expert coaches demonstrated excellent organizational skills when planning daily, short term, and long term activities (Côté & Salmela, 1996; Gallimore & Tharp, 2004; Vallée &

Bloom, 2005). The identification of these characteristics has contributed to the understanding of what expert coaches are and what is expected of them.

Beyond identifying the characteristics of expert coaches, it is important to establish an understanding of how they developed. A small body of research has examined coach development and identified possible sources of knowledge and skill acquisition (e.g., Gould, Giannini, Krane, & Hodge, 1990; Miller, Bloom, & Salmela, 1996; Salmela, 1994; Schinke, Bloom, & Salmela, 1995). For instance, Salmela analysed 21 team sport coaches and identified a relationship between coaches' athletic experiences and sport specific knowledge. Coaches used their own athletic experience to shape how they developed their athletes. In particular, it has been demonstrated that coaches adopted training exercises and tactics that were learned from individuals who coached them while they were athletes (Schinke et al., 1995).

Salmela's (1994) findings were furthered by Schinke and colleagues (1995) who examined the career stages of six elite basketball coaches, and proposed that coach development involved a progression through seven stages. As in Salmela's findings, the results indicated a relationship between athletic experiences and coaching progression and development. In addition, results revealed that coaches developed fundamental coaching knowledge and skills while still competing as athletes, an idea that had previously not been considered. Schinke and colleagues also suggested that being mentored by significant others helped coaches acquire the knowledge and skills necessary for furthering their careers. In general, Schinke et al.'s findings illustrated how a collection of expert coaches progressed up the

coaching ladder, and identified potential sources of knowledge and skill acquisition in their profession.

Although valuable to the study of coach development, it is important to note that all the aforementioned studies were based on coaches who achieved comparable levels of excellence as an athlete. While it may seem reasonable to postulate that most expert coaches were once expert athletes themselves, it certainly does not represent all expert coaches. For example, Ken Hitchcock (hockey), Bill Parcells (football) and Jose Mourinho (soccer) have all coached at a higher level (i.e., professionally) than they reached as an athlete. Currently, no empirical research has investigated the development of coaches who have surpassed their athletic achievements. This is unfortunate since coaches who have exceeded the level of excellence they achieved as athletes may share the same knowledge and skills as coaches who were once expert athletes, but may have acquired them in different ways. Thus, studying coaches who have surpassed their athletic achievements would add information on an overlooked aspect of coaching development and provide a fuller outline of the development of coaching knowledge for aspiring coaches to follow.

In order to identify the knowledge and skills expert coaches need to develop, it is important to understand how they behave. With Côté, Salmela, Trudel, et al.'s (1995) Coaching Model (CM), a theoretical framework exists that allows for the examination of expert coaches' knowledge. The CM suggests that coaches construct a mental model of their athletes' and teams' potential. This mental model dictates how the coach applies the primary components of organization, training, and competition to their athletes. The mental model is influenced by three peripheral components: the

athlete's characteristics, the coach's characteristics, and contextual factors. These primary and peripheral components need to be compatible in order for a coach to provide the optimal environment for athletes to fully develop (Côté, Salmela, Trudel, et al. 1995).

Another framework that can be applied when examining expert coaches is the Multidimensional Model of Leadership (MML) (Chelladurai, 1978). The MML is the most commonly applied leadership theory in the coaching literature (Chelladurai & Riemer, 1998). Conceptualized by Chelladurai, the MML combines behavioural, trait, and situational approaches to leadership to form one comprehensive leadership theory. It suggests that member satisfaction and team performance are influenced by the congruence between three states of leader behaviours (required, preferred, and actual) and their antecedents (characteristics of the situation, the leader, and the members) (Chelladurai, 1993). This ultimately affects the overall performance and satisfaction of the athletes.

For the current study, a qualitative approach, consisting of semi-structured, open ended interviews was used. While the use of quantitative methodology in the area of coach development has yielded some interesting findings, such as illustrating the importance of learning from experience in coach development (Gould et al., 1990), there are advantages to using qualitative data techniques, such as interviews. In particular, it has been suggested that interviews are one of the most accurate and commonly used measures of human behaviour (Fontana & Frey, 1994). In the current study, using interviews allowed for an accurate representation of how coaches acquired their knowledge to emerge. Furthermore, semi-structured, open ended

interviews allowed the researcher to initiate a topic of discussion, while giving the interviewee the chance to respond freely with few restrictions (Rubin & Rubin, 1995). Using this format permitted the coaches to openly share information on the development of their coaching knowledge. This information shed light on a previously overlooked aspect of coach development by illustrating how coaches who surpassed their athletic achievements developed their coaching knowledge.

Purpose of the Study

The purpose of this study was to provide further insights into the development of knowledge of expert coaches. Specifically, it explored the development of knowledge of coaches who surpassed the level of expertise they achieved as an athlete. The study investigated the experiences of these coaches, starting from their earliest sport participation to their current coaching position. These experiences helped identify the process by which expert knowledge in the coaching domain was acquired.

Significance of the Study

Participants in previous studies on expert coach development have been coaches who achieved expert levels of performance as an athlete (e.g. Salmela, 1994; Schinke et al., 1995). In the current study, all the participants achieved higher levels of expertise as a coach than as an athlete. An understanding of how these coaches developed their coaching knowledge may enhance coaching science as a whole, providing more information on coach development. In addition, the present study provided valuable information for coach education programs, illustrating some of the key factors in the development of knowledge of expert coaches that may have

previously been overlooked. Furthermore, the current study provided a blue print for the many aspiring coaches who hope to achieve higher levels of expertise as a coach than they had as an athlete.

Delimitations

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

1. The participants had a minimum of five years head coaching experience at the University level of sport competition, and had not competed at this same level as an athlete.
2. Coaches had a winning percentage of more than fifty percent while coaching at the University level.
3. Coaches were from team sports.
4. The interviews only considered the coaches perceptions of their own development.
5. All the coaches were Canadian.
6. All the coaches were male

Limitations

Based on the delimitations, the following limitations occurred:

1. Results were only relevant to coaches of team sports.
2. Cultural differences may have gone undetected as all the coaches were Canadian.
3. Gender differences may have gone undetected as all the coaches were male.

Operational Definitions

For the purpose of this study, the following operational definitions were used:

Expert coaches: Coaches who have a minimum of five years head coaching experience at the University level and who have achieved a winning percentage greater than .500 at this level.

Coaching process: "The purposeful, direct and indirect, formal and informal series of activities and interventions designed to improve competition performance" (Lyle, 2002, p. 40).

Qualitative research: A method of data collection that seeks to understand the experiences of the coaches and how these fit together to make a whole (Thomas & Nelson, 2001).

Qualitative interviewing: Interviews based on semi-structured conversations, where the emphasis lies on the researcher listening and asking questions, and the participants answering (Rubin & Rubin, 1995).

Leadership: The behavioural process of influencing the activities of an organized group toward specific goals and the achievement of them (Stogdill, 1974).

CHAPTER 2

Literature Review

This literature review will consist of four sections. The first section will provide an overview of Gilbert and Trudel's (2004) annotated bibliography of coaching science, with particular emphasis on research pertaining to coach behaviours, cognitions, and development. The second section will describe the Coaching Model (CM) (Appendix A), including how it was created and later applied in a variety of studies. The third section will provide an overview of leadership literature, with special attention paid to Chelladurai's Multidimensional Model of Leadership (MML) (Appendix B) and the Leadership Scale for Sport (LSS). Finally, the fourth section will present an overview of research pertaining to the development of talent. This will primarily focus on expert coach development, as well as research on the development of expertise in other domains.

Analysis of Coaching Science

The last fifteen years has seen an increase in empirical research concerning coaching science (Gilbert & Trudel, 2004). Despite this, the scope of the research has often been overlooked (Abraham & Collins, 1998). In an attempt to remedy this problem, Gilbert and Trudel completed a comprehensive review of 611 studies published on coaching science in English language journals between 1970-2001. They conducted an exhaustive search of on-line encyclopaedias, computerized databases, and physical copies of published research pertinent to coaching science.

Gilbert and Trudel's (2004) report provided a broader picture of coaching science by creating categories that highlighted aspects of coaching which have been

studied. Furthermore, their findings forged a connection between coaching science and coaching practice, helping researchers appreciate their own accomplishments within the larger context of coaching science, and contributed to the organization of coaching as a discipline (Abraham & Collins, 1998; Gilbert & Trudel, 2004). Moreover, the formation of this database established a basis for coach training and education programs by highlighting some of the key elements of successful coaching, as well as increasing professionals' understanding of the coaching process.

Gilbert and Trudel (2004) coded coaching research into five categories: behaviour, cognition, demographic, development, and measurement. These categories were not exclusive and some articles appeared in more than one category. By categorizing the research, Gilbert and Trudel illustrated those areas of coaching science that had been researched and those which had not.

Of relevance to the current study were the behaviour, cognition, and development categories. The behaviour and cognition categories contained research that explained what coaches did and why they did it. For this reason, research in these categories can be used in the study of coach development, as it is important to understand how coaches behave in order to identify which skills coaches need to develop. The development category incorporated research on how coaches developed their athletes and how coaches developed their own sport knowledge.

Of these three categories, the most extensively researched was coach behaviour, which included research relating to leadership, instruction, athlete satisfaction, and interactions between coach and athlete. In total, 69% of coaching research was dedicated to coach behaviour – an unsurprising figure given that these

tasks were those a coach performs most frequently. Research regarding cognitions amounted to 33% of all coaching studies, and incorporated work on coach knowledge, attitudes, and perceptions, as well as the motives of a coach such as the development of the athlete. The development category contained 39% of coaching research and included studies which looked at career opportunities, coach burnout, coach development, and talent development. It can be concluded that the large amount of research dedicated to behaviour and development vindicates their importance in coaching science.

Just as Gilbert and Trudel's (2004) analysis of coaching science has assisted the coaching research, so too has the study of coaching been assisted by two models. These are the Coaching Model (CM), created by Côté, Salmela, Trudel, et al. (1995), which examines what coaches think and do, and the Multidimensional Model of Leadership (MML), conceptualized by Chelladurai (1978), which concentrates on the interaction between a leader (e.g. the coach) and the group members. Both will now be discussed, followed by a review of research pertaining to their use on coaches.

Coaching Model (CM)

In an attempt to create a comprehensive framework for explaining the coaching process, Côté, Salmela, Trudel, et al. (1995) studied the knowledge base of 17 elite gymnastic coaches, and used the findings to create the CM. Their coaches each had at least 10 years experience and had developed at least two national or one international level gymnast. Côté, Salmela, Trudel, et al. applied a qualitative approach (interview-based), which allowed the coaches to openly express what they felt was important. This helped the researchers gain a clear understanding of the

philosophies and principles of each coach. The CM connected the knowledge on how and why coaches work the way they do (Bloom, 2002; Côté, 1998), and has since been used as the main theoretical framework for much of expert Canadian coaching research.

According to the CM, coaches approach their job by developing a mental model of their team's and athlete's potential. This mental model is the basis on which the coach evaluates the athlete/teams' potential for success. Based on this evaluation, the coach will act accordingly to utilize the full potential of the athlete/team. The CM states that this mental model is influenced by three peripheral components which are labelled the *athlete's and team's characteristics*, the *coach's personal characteristics*, and *contextual factors*. These three peripheral components are employed by the coach to identify which rudiments of the primary components must be used to enhance the development of the athlete/team – the ultimate goal of the coach. These primary components consist of *organization*, *training*, and *competition*. Overall, the CM is an incorporation of the peripheral and primary components, which allows the coach to achieve the ultimate aim of developing the athlete.

Early support for the CM has been shown in a single case study of a university hockey coach (Gilbert & Trudel, 2000). A multi-method design was used that combined semi-structured interviews and observations, and results showed support for all six components of the CM. Moreover, the results implied that in addition to the development of the athlete, expert team coaches emphasised the goal of qualifying for the play-offs.

Primary Components

The next section will focus on the primary components of the CM. These are organization, training, and competition. Coaches apply each of these components in an effort to provide the optimal environment for athletes to fully develop (Côté, Salmela, Trudel, et al., 1995).

Organization. Organization is the process by which coaches apply their knowledge to structure and coordinate coaching tasks in order to create the optimally competitive environment, including an optimal training regime, for their athletes (Côté, Salmela, Trudel, et al., 1995). Research has shown organization to be crucial for the success of both individual athletes and teams (Côté & Salmela, 1996; Desjardins, 1996; Vallée & Bloom, 2005). Côté and Salmela examined the knowledge base of expert gymnastic coaches, and found that organization included: (a) working with parents, (b) working with assistants, (c) helping athletes with personal concerns, and (d) planning training. This was later expanded to a team context, where organization was suggested to entail eight factors (Desjardins, 1996): (a) vision, (b) planning, (c) setting goals, (d) team selection, (e) setting team rules, (f) building team cohesion, (g) working with support staff, and (h) dealing with administrative concerns. By organizing in such a way, coaches created a solid foundation for the season, and were able to construct effective training sessions which provided a positive learning environment for their athletes (Bloom, 2002).

Training. Training encompasses the knowledge coaches use to maximize their athlete's ability to acquire and perform various skills during practice (Côté & Salmela, 1996). This has been shown to include the application of technical training,

physical training, mental training, tactical training, and intervention style (Bloom, 2002; Côté, 1998; Côté, Salmela, Trudel, et al., 1995; Durand-Bush, 1996). Côté, Salmela, and Russell (1995b) showed that expert gymnastic coaches most frequently used technical training. This was consistent with some research on coaches from team sports - Gallimore and Tharp (2004) identified that the majority of cues used by John Wooden, an expert University basketball coach, were technical cues. However, Bloom et al. conducted a systematic observation of an expert basketball coach, and found that the most commonly used variable was tactical training. Pertinent to physical training, coaches stated that the needs of each individual athlete determined the nature of physical training they received (Durand-Bush, 1996). This suggested expert coaches needed to develop the ability to successfully allocate the appropriate level of training to meet the needs of their athletes.

Some coaches have been shown to place less emphasis on mental training (Durand-Bush, 1996). In contrast, Côté, Salmela, Trudel, et al. (1995) showed that expert gymnastic coaches valued the role of mental training. These coaches often used sport psychologists to carry out mental training tasks, such as motivational training and visualization. This implied that expert coaches might have started to develop an appreciation for the value of mental training, in addition to other forms of training, in the development of their athletes.

Competition. Researchers have suggested the success of expert coaches and athletes was influenced by the tasks that occurred prior to, during, and after competition (Bloom, 2002; Bloom, Durand-Bush, & Salmela, 1997; Côté, Salmela, & Russell, 1995b). Côté, Salmela, and Russell investigated the nature of competition in

expert level gymnastics and suggested competition involved three components: the competition floor, trial competition, and the competition site. Côté, Salmela, and Russell noted that expert coaches were able to foresee potential distractions, create preparatory routines, and understood when to leave the athlete alone - skills that arguably developed through the coach's own athletic experiences in the sport.

These findings were furthered by Bloom and colleagues (1997) who investigated the pre- and post- competition routines of expert coaches of team sports. Their results revealed that prior to competition coaches mentally rehearsed their game plan, held team meetings, and occupied themselves while the warm-up occurred. Directly before the game, coaches used words that stressed only key points. After competition, coaches stressed the importance of controlling their emotions and adopting behaviours that represented the best interests of the team given the outcome of the game. On the whole, it was suggested that detailed analysis should be saved for the next practice (Bloom et al., 1997). In sum, while expert coaches differed in their general coaching philosophies, they appeared to have developed similar approaches to pre- and post- competition routines.

Peripheral Components

The next section will focus on the three peripheral components of the CM. These are athlete characteristics, coach characteristics, and contextual factors - all of which are considered by the coach when shaping the mental model of athlete potential. Each component impacts on this mental model and alters the strategies adopted by the coach for the three primary components (Côté, Salmela, Trudel, et al., 1995).

Athletes' personal characteristics. Athletes' characteristics include variables of an athlete's personal demands, philosophy, knowledge, passion for the sport, and physical and mental stage of learning (Côté, Salmela, Trudel, et al., 1995). Each of these factors impacts the coach's overall assessment of how to utilize the primary components of organization, training, and competition, to develop the athletes' full potential and achieve success (Côté, Salmela, Trudel, et al., 1995; Salmela, 1996). This was highlighted by Bloom (2002), who suggested that coaches needed to assess the athletes' ability to develop and grow, in order to establish the ideal environment to set for them.

More specifically, recent research has found that drive, commitment, and coachability were key determinants of athletic success and were considered by coaches to be the most important psychosocial characteristics for a successful athlete (Kulikov & Gilbert, in press). This was consistent with a previous study on 10 NCAA division I coaches, where results showed that athlete characteristics, such as player coachability and motivation, led to athletic success (Giacobbi, Roper, Whitney, & Butryn, 2002). Coaches need to be aware of an athlete's characteristics in order to foster the right environment for them, for example, when to push the athlete and when to back off (Giacobbi et al., 2002).

Coach's personal characteristics. Coaches personal characteristics include the coaches' philosophy towards coaching, the personal demands they set themselves, and their overall knowledge of the sport (Bloom & Salmela, 2000). Coupled with the coaches' own style, experience, and physical and mental investment, these characteristics affect how the coach employs the three components of the mental

model to enhance athlete potential (Côté, Salmela, Trudel, et al., 1995; Salmela, 1996). Therefore, coaches need to develop a perception of their own ability and role, before they can act upon any of the primary components in the mental model.

Research has shown that coaches often consider their role to be that of nurturing athletes, with the athletes' well being of paramount importance (Vallée & Bloom, 2005). A study with Canadian University coaches found that the coaches' main interest lay in the personal and athletic accomplishments of the athletes (Vallée & Bloom, 2005). This was consistent with a study of 68 expert coaches from Finland, which revealed that both the needs of the athletes and their development of a positive self-image were of paramount importance (Salminen & Liukkonen, 1996).

In addition, Bloom and Salmela (2000) conducted a study on expert team coaches and showed that coaches viewed learning to coach as part of an on-going developmental process throughout their careers. They suggested that coaches learned from their interactions with peers, communication with athletes, and hard work. Since this implied that coach development was dynamic, it could be argued that a coach's characteristics changed over time and affected the mental model of athlete potential in different ways throughout a coach's career.

Contextual factors. Contextual factors are considered to be "unstable factors...such as working conditions that need to be considered when intervening in the organization, training, and competition components" (Côté, Salmela, Trudel, et al., 1995, p.12). Some contextual factors that have been identified include training resources, competitive environments, family context, and financial resources (Côté,

1998). Coaches need to adapt to these conditions under which they must utilize organization, competition, and training, in order to achieve success.

Only a few studies have focused on contextual factors of expert coaches (Davies, Bloom, & Salmela, 2005; Draper, 1996). For example, Draper identified that University coaches in Canada felt they were falling behind American Universities due to financial constraints. These coaches noted that they could not compete financially when offering scholarships to athletes, and were unable to purchase the appropriate equipment, which prevented them from providing the optimal training and competition environment for their athletes to fully develop.

Furthermore, Davies et al. (2005) conducted interviews with six Canadian University basketball coaches to examine their job satisfaction. Results revealed that financial constraints and excessive administrative duties placed on Canadian University coaches increased job dissatisfaction. Moreover, these coaches derived job satisfaction from their athlete's personal development, which may have been attributed to the lack of general campus interest and budget devoted to Canadian University sport when compared to American Universities.

Contextual constraints have also been shown to exist for coaches outside of Canada. For example, Saury and Durand (1998) indicated that expert French sailing coaches benefited from adapting to inclement weather, to facilitate more successful training sessions. These results suggested that expert coaches developed an adaptive coaching style, to create a successful coaching environment, regardless of potential contextual constraints.

In summary, the CM has allowed researchers to structure their work with a view to determining the most important components of the coaching process, and their relationship to one another (Côté, Salmela, Trudel, et al. 1995). However, while the model can indicate the knowledge expert coaches must acquire, by illustrating how coaches behave and why, it is also important to highlight the characteristics expert coaches need to develop. One key characteristic that has been identified is leadership (Wooden, 1988), and therefore, will now be discussed.

Leadership

Extensive research has been conducted on the role of leadership in coaching. Indeed since 1970, only coach-athlete relationship, coach effectiveness, and coach behaviour have received more attention in coaching science literature than leadership (Gilbert & Trudel, 2004). Therefore, a review of this research will now be presented, beginning with trait, situational, and behavioural theories of leadership.

Trait Approach

Trait theories suggest leadership is an innate quality possessed by certain individuals but not others. This implies that people are either born leaders or unable to become leaders (Murray & Mann, 1993). Dunette (1965) studied the leadership traits of business executives and found these individuals were self-confident, assertive, dominant, and on the whole, had been successful throughout their lives. Likewise, Ghiselli (1971) showed that leaders in the business domain tended to share the following traits; self-perceived intelligence, self-assurance and good supervisory abilities. With regard to sport, elite level coaches have traditionally been seen as controlling, domineering, and inflexible leaders who rarely demonstrated emotions

(Hendry, 1974; Ogilvie & Tutko, 1966). Murray and Mann indicated that while this may be a largely incorrect assumption, in certain situations a coach may benefit from using such an authoritarian style. Yet as an overall trait it impacts negatively on a team or individual (Murray & Mann, 1993).

In general, research on leadership "traits" has proved ambiguous (Murray & Mann, 1993). Although leaders have been found to share similar characteristics, it remains unclear whether these were learned or innate characteristics. It may be that leaders learned the traits they shared (Dunette, 1965; Ghiselli, 1971), rather than acquired them at birth. As such, researchers have focused their attention more on situational and behavioural theories of leadership (Murray & Mann, 1993).

Situational Approach

Situational theories were those which suggested that various situational factors aid or obstruct the ability of any person to lead. Some examples of these factors were the demands created by the situation, the individual members of the group, and the organization that owns or controls the group. Fiedler (1967) was the first to suggest a situational theory of leadership known as the contingency model. This model claimed that two factors affected leadership – the leader's own characteristics and the nature of the situation at hand. Therefore, the congruence between the personality of a leader and the situation into which they were placed provided the optimal environment for the leader to flourish (Fiedler, 1967).

The life-cycle theory of leadership proposes that leaders must be able to account for the life-cycle needs of the organization, the fans, and the athletes (Hershey & Blanchard, 1969, 1977). This implies that subordinates (members of a

team for example) are the crucial factors affecting a person's ability to lead. As such, the appropriate leadership behaviour style is determined by the maturity of the followers (Murray & Mann, 1993). In this instance, maturity is defined as "the ability and willingness of people to take responsibility for directing their own behaviour" (Murray & Mann, 1993, p.151). This was illustrated by Case (1987) who demonstrated that coaching styles were affected by the followers – coaching a nine-year old athlete involved different skills to those required when coaching an expert professional athlete.

Behavioural Approach

Behavioural theories of leadership focus on the actual behaviours elicited by the leader (Murray & Mann, 1993). As a result, the theories identify what a leader does rather than what a leader is. Within the sport domain, Neil and Kerby (1985) found that young rowers preferred coaches who possessed person-skills (the ability to interact well with other people). Yet, the behavioural approach has been found to be incomplete when assessing leadership behaviour (Murray & Mann, 1993), since it can not adequately describe the effect of genetics or situational variables on leadership behaviour. Therefore, as with trait and situational approaches, the behavioural approach is unable to cover the full extent of leadership behaviour.

However, one leadership theory has been able to combine factors pertaining to situational, trait, and behavioural influences to adequately describe the process of 'being a leader'. This model was entitled the Multidimensional Model of Leadership and was able to overcome the problems that arose when using a theory grounded

within only one of the approaches described above. The MML has since been used in a wide variety of domains, and will now be discussed.

The Multidimensional Model of Leadership

The Multidimensional Model of Leadership (MML) was created by Chelladurai in 1978. Although the model was created to describe the process of leadership in general, it was the earliest model used to illustrate the process of leadership behaviour in a sport context (Chelladurai & Riemer, 1998). The MML is a linear model that describes how the antecedents of leadership impact on the subsequent behaviours of the leader, which ultimately affects the level of performance and satisfaction of the athlete.

There are three main antecedents of leadership behaviour: situational factors, leadership characteristics, and member characteristics. Situational factors are those factors created by the situation, which impact on the leader of the team. Some common situational factors include financial constraints, sponsorship money, and equipment availability, as well as constraints laid out by the organization that owns or runs the sports team. Leader characteristics include the ability to bond a team together and drive them towards a common goal. Member characteristics refer to the demographics of the group, such as age and gender. As mentioned, the MML suggests that these antecedents influence the types of behaviour that may be exhibited by the leader (Chelladurai & Riemer, 1998). This ultimately implies that the antecedents of leadership behaviour must have a direct impact on the behaviours elicited by the leader.

There are three main leadership behaviours suggested by the MML. The first of these is known as the required leader behaviour. Examples of this type of behaviour are those which are made essential by situational constraints, such as limited resources or in-group incongruity. The MML suggests that required behaviours are impacted both by situational factors and by member characteristics. Situational constraints cause the leader to act in a particular way. Likewise, constraints resulting from the particular characteristics of the members will result in the leader behaving in a certain way. A second type of leadership behaviour is the preferred behaviour – the behaviour that is deemed acceptable by the organization and the members. These behaviours are also influenced both by situational factors and member characteristics (Chelladurai & Riemer, 1998). Bloom (2002) suggested that head coaches of professional sports teams appreciated and understood that owners and team managers will have a say in team matters at some time. A third type of leader behaviour is the actual behaviour. This is the behaviour of the leader irrespective of the standards set by the organization or the members. It is this behaviour that demonstrates the impact that the antecedents have placed on the leader (Challedurai, 1980). As such, this behaviour is the one likely to alter across different situations, for example, coaches may be more relaxed when dealing with recreational teams as opposed to professional teams. However, all three behaviours will affect the final satisfaction and performance levels shown by the subordinates.

The final component of the MML is athlete performance and satisfaction which is the consequence of both the antecedents and leader behaviours. Performance and satisfaction are enhanced when all three antecedents are congruent with one

another (Chelladurai & Riemer, 1998). Developing this point further, athletic performance and satisfaction are maximized when athletes are task orientated, and the coach (leader) is receptive to these needs and creates a task orientated environment using an autonomous style and positive feedback (Chelladurai & Carron, 1983). As a general conclusion, it can be stated that the greatest levels of satisfaction and performance are achieved when the leader (coach) and the subordinates (athletes or organization) share the same beliefs, aims, and goals (Chelladurai & Riemer, 1998).

Leadership Scale for Sport

Shortly after completion of the MML, Chelladurai and Saleh (1980) developed the Leadership Scale for Sport (LSS) to allow researchers to test the components of the MML and their relationship to one another. The LSS is a 40 item inventory consisting of five dimensions (Chelladurai & Riemer, 1998). The first of these is training and instruction (13 items), investigating the coaches' approach to instructing and training the athlete to achieve their optimal physical and skilled level. The second dimension is democratic behaviour (9 items). These items identify the extent to which a coach supports the autonomy of the athletes. This is demonstrated by assessing whether the coach allows the athletes to share their opinions or offer their own suggestions. Social support is a third dimension examined by the LSS (8 items). Here, the nature of the coach's concern for the welfare of the athletes and promotion of a warm and positive group atmosphere is assessed. The fourth dimension of the LSS is autocratic behaviour (5 items). These are behaviours demonstrated when a coach offers opinions, training, and instructions, exclusively using his/her own knowledge of the domain. No other person's help is used in

formulating these ideas or instructions. The final dimension is positive feedback/rewarding behaviour (5 items). This measures the way coaches reward good performance and offer feedback. The majority of studies on leadership behaviour in sport have since used this scale (e.g., Beam, Serwatka, & Wilson, 2004; Chelladurai, 1984; Chelladurai, Malloy, Imamura, & Yamaguchi, 1988; Dwyer and Fischer, 1990) and can be categorized into two different parts – the antecedent variables on perceived and preferred leadership, and the influence of congruence between perceived and preferred leadership relating to consequences (Chelladurai & Riemer, 1998).

Antecedent variables on perceived and preferred leadership. The antecedent variables on perceived and preferred leadership can be grouped into individual differences and situational variables. Individual differences include age, experience, gender, maturity, personality, and ability (Chelladurai & Riemer, 1998). Age and experience have been shown to affect preferred leadership behaviour (Chelladurai, 1993). For example, Erle (1981) found that experienced athletes in competitive sport preferred more positive feedback and social support than intramural athletes. In addition, Serpa (1990) showed the need for social support was greater in younger women basketball athletes (12 to 15) than in older women athletes (17 to 29). Both these studies demonstrated how the age and experience of the group members (i.e. athletes) affected preferred leadership behaviours. This suggests that elite athletes tend to favour positive feedback and social support, especially in the early stages of their careers.

With regard to gender, Chelladurai and Saleh (1980) showed that autocratic and supportive coaches were preferred by males, which was also shown in a study on the leadership preferences of intramural female hockey players (Erle, 1981). Garland and Barry (1988) studied collegiate football players to assess the effect of ability on perceived and preferred leadership behaviours. Their results indicated that skilled players identified the coach as less autocratic, more socially supportive, and better at giving positive feedback than less skilled players. These skilled players also felt that the coach concentrated on instruction and training more than the lower skilled athletes (Garland & Barry, 1988). In sum, these results indicate that as athlete ability increases, so too does the preference for a more autocratic environment which promotes social support.

Situational variables mostly consist of culture, task type, and organizational goals. Chelladurai et al. (1988) performed a cross-cultural investigation of preferred and perceived leadership behaviour and satisfaction of Canadian and Japanese University athletes. The results revealed that Japanese athletes preferred more autocratic behaviours and increased social support, whereas Canadian athletes were more interested in training and instruction. In an earlier study, Terry (1984) had shown no difference across the sporting cultures of Great Britain, the US, and Canada. Salmela (1996) further noted that coaches from those three countries were similar and that their sports cultures were largely homogenous. Therefore, the cross cultural comparison with Japan was required to reveal the extent to which culture impacts preferred leadership behaviour. This suggests that culture may have an impact in determining the components of a good leader.

Congruence between perceived and preferred leadership. The influence of congruence between perceived and preferred leadership proportionate to consequences (Chelladurai & Riemer, 1998) can be subcategorized into three sections; athlete satisfaction, athlete performance, and athlete-coach compatibility. With respect to athlete satisfaction, Chelladurai (1993) suggested that athletes were generally satisfied with leadership if positive feedback was forthcoming and rewarding, and if training was geared towards task accomplishment and increasing ability. This was further illustrated by Dwyer and Fischer (1990), in their study on wrestling coaches. They showed that skilled athletes preferred coaches who acted as teachers, keeping autocratic leadership to a minimum.

The second subcategory relates to the consequence on athlete performance. In a study conducted by Weiss and Friedrichs (1986), it was revealed that social support was the only variable which impacted significantly on team performance. Of particular interest was the fact that higher levels of social support actually resulted in a lower winning percentage. However, Weiss and Friedrichs maintained that research must be carried out to identify whether these results were accurate, or whether something else contributed to these unexpected findings.

The final consequence deals with the compatibility of athletes and coaches. Horne and Carron (1985) conducted a study on university-level athletes. They demonstrated that athletes who felt highly compatible with the coach felt the level of positive feedback they received was adequate for their needs. This study was supported by Kenow and Williams (1999) who showed that collegiate basketball players who felt highly compatible with the coach viewed them as more supporting,

and believed the coach evaluated their behaviour more favourably. Both these studies were in agreement with Chelladurai (1984), who stated that the athletes' and coaches' aims, goals, and personality needed to be congruent to achieve optimal performance and compatibility.

As can be seen, the LSS has been shown to be an accurate tool with which to assess leadership behaviour in sport. However, knowing the characteristics of a good leader is not sufficient in explaining the process of leadership. It is also important to understand how leaders (i.e. coaches) developed their talents. Thus the final section of this chapter will examine the development of expertise, with particular focus on the sport literature.

The Development of Expertise

Up to this point, the literature reviewed in this document has pertained to the coaching process and factors that impacted it, such as a coach's leadership style. The focus of this review will now move away from how expert coaches/ leaders behave, and will examine research on how expertise in the coaching domain was acquired. In particular, this section will highlight the main sources of knowledge and skill acquisition in coach development.

Deliberate Practice

Ericsson, Krampe, and Tesch-Römer (1993) suggested that expertise develops through a process of "deliberate practice." They claimed that the development of expertise followed the Monotonic Benefits Assumption – the level of expertise attained was a direct result of the number of hours spent in deliberate practice. It was suggested that deliberate practice must be undertaken for a minimum of ten years or

10,000 hours to develop expertise in a domain. Ericsson and colleagues studied expert and amateur piano players and showed the extra abilities demonstrated by experts, could be accounted for by an increased amount of deliberate practice.

Deliberate practice was described as the engagement in practice activities that were effortful and purposeful, yet were not inherently enjoyable. It consisted of highly structured activities with the explicit goal of improving performance. The tasks were specific with the intention of overcoming weaknesses. In a study on young violinists, it was shown that activities such as practice (alone or with others), music lessons, or learning musical theory were not viewed as significantly pleasurable, yet the violinists valued the relevance of these activities in helping them develop expertise (Ericsson et al., 1993). As a general conclusion, the theory of deliberate practice implied that the majority of people could develop expertise in any domain, so long as they engaged in the required ten years of deliberate practice.

However, in order for deliberate practice to be successful, three constraints had to be overcome (Ericsson et al., 1993). First, subjects must have an inherent motivation to attend to the task and exert the appropriate amount of effort to improve performance. Second, deliberate practice must be based on prior knowledge of the learners' skill and knowledge level. Third, a feedback loop to the learner must be present to allow deliberate practice tasks to be altered in response to the needs and improvements of the subject. If these three factors were met, deliberate practice should improve accuracy and speed of performance on a wide variety of cognitive, perceptual, and motor tasks, all of which separated an expert from a novice (Glasser & Chi, 1998).

Although deliberate practice has been used to explain the development of expert talents, there is a lack of research pertaining to the use of deliberate practice theory in expert coaching. In part, a number of factors may have complicated the empirical testing of deliberate practice in coaching. For example, it has yet to be established what constitutes deliberate practice for a coach. Also, coach development has been shown to start during the coach's athletic career (Schinke, Bloom, & Salmela, 1995), which makes it difficult to calculate when deliberate practice began. As such, further examination is required before conclusions can be made about the role of deliberate practice in coaching.

Expert Development in Sport

While deliberate practice forms the general theory of talent development, there have been a few studies that have focused on the stages of development in sport (e.g., Bloom, 1985; Côté, 1999; Schinke et al., 1995). In a pioneering study, Bloom interviewed 120 experts from the science, art, and athletic domains, and identified three stages in the development of talented individuals: the early years, the middle years, and the later years. Côté examined the influence of family in the development of three national rowers and one national tennis player, and also concluded that athletes developed through three stages; the sampling years, the specializing years, and the investment years. While these two sets of stages were similar, they differed in two ways. First, the time span of Côté's three stages was shorter (ages 6 to 18), and hence provided a more accurate representation of talent development in sport. Second, Côté's stages were specific to sport and were grounded in the theoretical concept of deliberate practice. As the athletes moved from each stage, they noticed a

steady increase of time spent in deliberate practice. In sum, while Bloom's stages illustrated how talent developed across different domains, including sport, Côté's stages focused exclusively on the development of talent in athletes. Taken together, the research from both of these studies helps to provide a clear representation of how expertise was developed in the sport domain.

In an attempt to identify the developmental process in expert coaching, Salmela (1994) conducted a topical analysis of 21 expert coaches from four team sports. Salmela postulated that there were also three stages in coach development beginning with early involvement in sport, leading to early coaching positions, and concluding with university or national coaching positions. Importantly, these results indicated that there was a developmental relationship between early athletic participation and coaching knowledge. Coaches used knowledge and experience gained as an athlete to develop their coaching knowledge, philosophy, and beliefs.

Salmela's (1994) study was furthered by Schinke and colleagues (1995) who interviewed six expert Canadian basketball coaches with the aim of identifying the process of their coaching development. They conducted semi-structured, open-ended interviews to examine the development of each coach from their earliest athletic sport participation until they had reached the status of expert coach. They highlighted how expert coaches had developed throughout their careers, and their findings formed a foundation on which the current research was based.

In total, seven stages were identified in the development of expert coaches (Schinke et al., 1995). The first stage was called *early sport participation*, where the athletes first competed at the recreational and community level, before advancing to a

more competitive level (provincial, state championships). At this stage, a combination of a love for the sport with help from parents and families, facilitated the development of the athlete. The next stage was entitled *elite sport participation.* During this stage, the athletes competed at either the university or national level. Schinke and colleagues suggested that at this time, sport participation became an obsession for the athlete. Unlike the first stage where love and devotion was exhibited by the athlete, this stage combined a love of the sport with an ability to excel in the physical component of their given sport. The third stage was named *international elite sport* and involved competing at the international level, either for a National Basketball Association team or an Olympic team. Although only two out of the six coaches reached this level, it is interesting to note that they were the two coaches who reached the highest level in coaching – Olympic and World Championship level. As a general conclusion, these first three stages highlighted the athletic experiences of these participants, which arguably helped their progression into coaching.

The next four stages examined the coaching experiences of each participant. The fourth stage was called *novice coaching*. Similar to early sport participation, this stage covered experiences at the recreational or community level. Schinke and colleagues (1995) suggested the time spent as a novice coach was sufficient for the coaches to acquire enough knowledge to specialize in their given sport. The fifth stage was named *developmental coaching*, where coaches began taking coaching positions with high school teams and the competitive nature of the games became more intense. Interestingly, half the coaches completed a master's degree in sport related topics during these early stages of their coaching development. It was also

during this stage that coaches started identifying the importance of mentoring. As the majority of participants were acting as assistant coaches at the time, the bulk of mentoring came from coaches with whom they were working. The sixth stage was entitled *national elite coaching*. During this stage the coaches were working with national level teams, having been either selected for the position, or 'graduating' to it. At this point the coaches made a distinction between their talents and those of lower level coaches. The final stage was called *international elite coaching*, and involved coaching at the international level. Five of the six coaches reached this level, and each said this was an opportunity to further their professional coaching careers. The coaches also noted that they had become outcome-centered. Each coach understood that even though the development of the athlete was crucial, success was viewed through positive outcomes more than athletes' personal development, which Schinke and colleagues postulated was the crucial difference between national elite coaching and international elite coaching. Overall, stages four to seven highlighted the process by which these coaches' progressed up the coaching ladder.

As mentioned previously, the findings of Schinke and colleagues (1995) provided a foundation on which the current study was based. In their findings, two factors were consistently shown to be significant in the development of expert coaches. Firstly, they identified the relationship between athletic experience and coaching knowledge, which supported other studies on coach development (Gould et al., 1990; Salmela, 1994). Secondly, they introduced the idea that mentoring from significant others enhanced the development of expert coaches.

Mentoring occurs when a non-romantic relationship develops between the experienced mentor and the inexperienced protégé whereby the mentor counsels, supports and guides the protégé within the specific context (Kram, 1988; Merriam; 1983). In sport, Bloom, Durand-Bush, Schinke, and Salmela (1998) looked at the role of mentoring in the development of expert coaches. Their results revealed that most coaches were mentored by more experienced coaches during both their athletic career and their early coaching career. Additionally, Bloom, Salmela, and Schinke (1995) showed that young coaches considered mentoring to be an extremely important factor in their development. In general, mentoring allowed coaches to acquire information, define their coaching philosophies, and augment all aspects of their performance.

In summary, a small body of research has illustrated the process of expert coach development (e.g. Salmela, 1994; Schinke et al., 1995). Although the findings demonstrated how a collection of expert coaches developed, all these studies were based on coaches who achieved comparable levels of excellence as an athlete. However, it is equally important to examine the development of expert coaches who surpassed their achievement as athletes. Not only will this increase professionals understanding of the process of coach development by examining a previously overlooked aspect of development, it will also provide a more complete understanding of development for aspiring coaches to follow.

CHAPTER 3

Method

In this chapter, the participants, procedure, interview technique, data analysis, and trustworthiness components of this study will be examined. Due to the exploratory nature of this study a qualitative methodology was used; data analysis followed the guidelines set forth by Côté and colleagues (Côté, Salmela, Baria, & Russell, 1993; Côté, Salmela, & Russell, 1995a).

Participants

The participants in this study were six male University team sport coaches from Basketball, Volleyball, and Hockey. Three of these coaches were coaching men and three were coaching women. Each coach was from Universities across the provinces of Quebec and Ontario. An expert in University team sports was available to provide insight and contact information on coaches considered suitable for the study.

A number of criteria were used to choose participants. First, the participants must have been coaches who had surpassed their athletic achievements. To meet this criterion the participants needed to have been coaching at a higher level (e.g., University level) than they competed as athletes. Second, the participants must have accumulated at least five years experience as a head coach at the University level. This varies from other studies on expert coaches, where at least ten years head coaching experience has been the criterion (e.g., Bloom, Durand-Bush, & Salmela, 1997; Schinke, Bloom, & Salmela, 1995). The reason for this discrepancy was that the total number of University coaches who have surpassed their achievements as

athletes appeared to be fewer than University coaches who achieved comparable levels of success as athletes. Third, participants need to have had a successful overall record in their career as a head coach at the University level. In the current study, a winning percentage over .500 was sufficient to meet this criterion. Table 1 provides a detailed summary of the six coaches' history and accomplishments prior to this season.

Table 1

Background and Accomplishments of Each Coach

	C1	C2	C3	C4	C5	C6
Highest level played as athlete	Recreational	High School	Recreational	High School	High School	Recreational
Highest level coached as assistant coach	University	National	University	National	National	Junior B
Number of provincial/ national championships won as assistant coach	0	0	8	1	0	0
Highest level coached as head coach	National	National	University	University	University	Professional
Number of years coaching at university level	7	29	11	14	12	8
Number of coach of the year awards at university	0	6	1	6	1	5
Number of provincial/ national championships won as head coach	5	5	3	10	0	8

Data Collection Process

Participants were contacted by e-mail, informed of the nature of the study, and asked to participate. Each participant was sent a copy of the interview guide (Appendix C) one week prior to their interview in order to help them prepare. This helped maximise the retrieval of in-depth and rich data (Lincoln & Guba, 1985). The coaches were interviewed individually for a period of time varying from one to two hours. These interviews were conducted at mutually convenient locations across the provinces of Quebec and Ontario.

Semi-structured, open-ended interviews were carried out following a predetermined format. The pre-interview routine began with the interviewer building a general rapport with the participant by initiating an informal discussion on topics pertinent to the current study (Lincoln & Guba, 1985). Next, the interviewee was asked to complete a consent form (Appendix D) in accordance with McGill University ethics policy, and a demographic questionnaire (Appendix E). Once these forms were completed, the recorded interview began. This interview process consisted of a debriefing of the study and its purposes, followed by a discussion between the researcher and participant using the questions and probes outlined in the interview guide (Appendix C). The interview was then concluded with the opportunity for participants to ask questions and suggest other relevant comments they felt were not covered in the interview. Finally, the participants were thanked for their insight, time, and cooperation.

Interview Tools

This study implemented an interview-based qualitative data collection technique. Therefore, the next section will discuss the different procedures employed during interviews. These include the type of interview used, the formation of the interview guide, the types of questions asked, and the ways rapport was built with the participants.

Interview Type

Semi-structured open ended interviews were conducted with the current participants. In recent times, semi-structured interviews have been the main technique used for studying expert coaches and have been employed by many researchers (e.g. Bloom, Durand-Bush, Schinke, & Salmela, 1998; Côté, Salmela, Trudel, et al., 1995; Davies, Bloom, & Salmela, 2005). In part, this popularity may be due to the flexibility semi-structured interviews afford the participant. For example, Rubin and Rubin (1995) wrote that semi-structured interviews allowed the researcher to initiate a topic for discussion, while giving the interviewee the opportunity to answer freely with few restrictions. In addition, semi-structured interviews permit participants to discuss or emphasize what they feel is most important, without being influenced by the interviewer's notion of relevancy (Dexter, 1970). The use of semi-structured, open-ended interviews also creates an environment which resembles an ordinary conversation with the interviewee doing most of the talking (Lincoln & Guba, 1985).

Interview Guide

An interview guide (see Appendix C) consisting of four sections was created for this study by the current researcher and a faculty member with extensive

knowledge of interviewing expert coaches. The first section included an opening question designed to introduce the main topic of the study and to help initiate discussion (e.g., 'Tell me about your evolution into coaching'). This question also extracted information regarding the coaches overall background and level of experience in sport. The second section consisted of key questions based on Côté, Salmela, Trudel, et al.'s (1995) Coaching Model (CM) and Chelladurai's (1978) Multidimensional Model of Leadership (MML). Each of these key questions had two parts. The first examined the participant's current knowledge on a certain aspect of coaching. For instance, several key questions focused on how coaches apply the three primary components of the CM to their athletes (e.g., 'What role do you play in competition?'). Other key questions, created using the MML and the three peripheral components of the CM, focused on factors that affect how coaches behave (e.g., 'What characteristics do you feel are important in university athletes?'; 'Describe the leadership role you adopt in coaching?'). The second part of each question was designed to gather information on how this particular aspect of coaching knowledge developed (e.g., 'How did you learn this?', 'How did you develop this leadership role?'). This format followed the notion that in order to identify how coaches developed their knowledge, it was important to understand what knowledge coaches have. The third section of the interview guide included a summary question which recapped the topic of the study and validated the previous answers given (e.g. 'In your opinion, what were the key factors in helping you acquire knowledge to become a head coach at the University level?'). Lastly, the fourth section consisted of two

concluding questions which gave the participant an opportunity to add any comments they felt were relevant.

Type of Questions

Throughout the interview, three different types of questions were asked: main, probe, and follow-up. Main questions allowed the participant to expand on their knowledge relating to specific topics in the study (Rubin & Rubin, 1995). They tended to prompt responses that gave an overview of a specific topic. In contrast, probes allowed the researcher to explore the comments provided by the participant (Patton, 2002). Rubin and Rubin suggested that probes increase the richness and depth of responses, and allow for further expansion of those areas considered relevant. Some probes were non-verbal cues such as clarification, head nodding, and conversational repairs (Lincoln & Guba, 1985). In particular, conversational repairs were useful to help clarify any misunderstood questions or responses (Rubin & Rubin, 1995). Finally, follow-up questions attempted to clarify areas of the participants' experience and knowledge which may have been overlooked (Rubin & Rubin, 1995).

Building Rapport

Prior to the interview, the researcher strived to build a rapport with the participant. Lincoln and Guba (1985) noted this helped create a comfortable environment, where participant's can respond honestly and openly to questions and probes. In the current study, a rapport was attained by the researcher initiating an informal discussion on topics relating to the study which gently led the participant in the direction of the interview, and by explaining that information gathered during the

interview will be analyzed confidentially (Rubin & Rubin, 1995; Lincoln & Guba, 1985). This rapport was maintained throughout the interview by the researcher showing emotional understanding, such as nodding or offering words of praise to augment the interviewee's responses and encourage truthful, in-depth answers.

Data Analysis

The goal of the data analysis was to build a system of categories, which emerged from the unstructured data, regarding the knowledge of expert coaches who have surpassed their athletic achievements. These categories were created from the "bottom-up" rather than the "top-down" (Bloom, Durand-Bush, & Salmela, 1997), since they were generated from data gathered in the interviews rather than predetermined before analysis. This inductive approach which will be explained, followed the guidelines suggested by Côté and colleagues (Côté et al., 1993; Côté, Salmela, & Russell, 1995a).

Each verbatim transcript was analyzed line-by-line and divided into different pieces of information, known as meaning units. Tesch (1990) describes meaning units as a segment of text comprised of words, phrases, or entire paragraphs that convey the same idea and relate to the same topic. NVivo 7.0, a computer program designed specifically for qualitative data collection, was used to create a computerized index system through which all these meaning units were easily retrieved. Each meaning unit received a name, known as a tag, according to its content. Meaning units that describe similar topics received the same tag. Once tags have been given to each meaning unit, they were examined for similarities and grouped together in similar collective sets, named properties (Côté et al., 1993). Each property also received a tag

based on the common features shared by these meaning units. Lastly, the properties were examined and grouped into similar collective sets named categories, in a comparable manner to the creation of properties. However, when grouping together categories, a higher level of abstract analysis was required (Côté, Salmela, & Russell, 1995a). The data was examined until a saturation of information was achieved (Côté, Salmela, & Russell, 1995a).

Trustworthiness

Just as quantitative research strives for validity and reliability, qualitative research seeks to diminish the possibility for misinterpretation or mishandling of data through means that enhance trustworthiness (Lincoln & Guba, 1985). As such, the current study followed methods of trustworthiness suggested by a number of researchers (Lincoln & Guba, 1985; Patton, 2002; Sparkes, 1998). These included training in qualitative methodology, persistent observation, prolonged engagement, peer review, and member checks.

Training in Qualitative Methodology

In the current study, several respected scholarly sources (Lincoln & Guba, 1985; Patton, 2002; Rubin & Rubin, 1995; Sparkes, 1998) were used to assist in the researcher's training of qualitative research methods. In addition, two pilot interviews were conducted to allow the researcher to practice and enhance interview skills and validate the effectiveness of the interview guide (Maxwell, 1996). These pilot interviews were observed and evaluated by an expert interviewer, who provided feedback to the researcher regarding interview technique and the interview guide.

Moreover, at the conclusion of both interviews the participants were invited to provide feedback on the questions and format of the interview.

Persistent Observation

Persistent observation involved the researcher identifying pertinent elements of the participants' responses and pursuing them in detail to extract the most relevant information possible (Lincoln & Guba, 1985). In the current study, the coaches were probed on these relevant points to ensure that a clear representation of the knowledge of expert coaches was obtained (Patton, 2002).

Prolonged Engagement

Prolonged engagement is described as the investment of time by the researcher to become familiar with the culture of the participant, as well as build trust with them (Lincoln & Guba, 1985). In the current study, the researcher had competed at varying levels of team sport competition, and was aware of the culture of team sport coaches. In addition, the researcher had read biographies of a number of expert team coaches and had gained insight in to these coaches' experience. Consequently, the researcher has a good working knowledge of expert team coaching.

Peer Review

Peer review involved a neutral person examining the data analysis to ensure its credibility (Côté, Salmela, & Russell, 1995a). In total, 552 meaning units (MU) emerged from the data analysis. Of these, a random sample of 140 MU's (25%) were presented to a peer reviewer who placed them under the appropriate tags that best identified each MU using the complete list of 53 tags. A reliability rate of 81% was achieved for this phase of data analysis. Of the 27 discrepancies, only one occurred

more often than once. MU's that had been given the tag 'learning from experience' were occasionally placed under the tag 'initial coaching'. Following a discussion between this author and the peer reviewer it was agreed that a lack of clarity regarding the differences between these two tags led to the discrepancies. Both individuals agreed that the MU's should be placed under 'learning from experience' rather than 'initial coaching' as the ideas expressed in the MU's pertained to how the coaches had learned from their initial coaching experiences rather than what these initial coaching experiences were. Likewise, many of the other discrepancies that had occurred were also due to a lack of clarity regarding the definition of the tags. For example, a MU that had been given the tag 'intensity of coaching at the University level' was placed under 'high school coaching'. However, after a brief discussion the peer reviewer acknowledged that the idea expressed in the MU related more to the difference in intensity between high school and university coaching rather than the intensity of high school coaching alone. The same peer reviewer classified the 53 tags into eight properties achieving a 96% rate of reliability. The two misplaced tags were slightly more vague than the other tags, and the disagreements between the peer assistant and the researcher were discussed until an agreement was reached. In the end, no changes were required. Finally, the peer reviewer placed the eight properties into three categories and achieved a 100% rate of reliability. By conducting these peer reviews, it can be argued that researcher bias was reduced and a more accurate representation of the coaches' knowledge and experiences was formed (Sparkes, 1998).

Member Checking

Member checking involved ensuring the data that had been collected was correct (Lincoln & Guba, 1985). In the current study, member checking occurred at three different times. The first occurred at the end of the interview where each participant was given the opportunity to add or alter any comments from the interview. The second took place when the participant received a full verbatim transcript, and had the opportunity to eliminate, add, or clarify any comments made during the interview. The final check consisted of sending the participants a summary of the results which included the list of meaning units, properties, and categories generated from the participant's comments (Lincoln & Guba, 1985). At this point, the participant was asked to pose any questions, comments, or concerns with regard to the findings.

CHAPTER 4

Results

This chapter presents the findings of the inductive qualitative analysis of this study. To begin, a brief summary of the nature of the data will be provided including a description of the findings that emerged from the analysis. Following this, the three higher order categories that emerged from the data, *career path*, *personal factors*, and *coaching knowledge* will be reviewed. Throughout, quotes from the coaches will be used to illustrate their thoughts and opinions about topics, and these will be followed by a label (e.g., C1 – C6) to credit the coach that provided the quotation.

Nature of the Data

In total, 552 meaning units emerged from the six interviews of the study. From these meaning units, a total of 53 tags emerged. Table 2 (see Appendix F) provides an alphabetized list of topics discussed for each of the participants. The number of meaning units discussed by each coach varied from 68 by C2 to 113 by C1. It is not surprising that a large variety was found between the number of meaning units offered by each coach, given the open-ended and semi-structured nature of the interviews. Likewise, this does not signify that C1's interview was superior to C2's. Rather, it may be that some coaches were able to express their opinions and thoughts more concisely than others. For instance, C1 discussed the influence of personality more than the other participants. It may be that the other coaches did not believe that their personality had influenced their knowledge acquisition or perhaps they did not sense the need to highlight the influence of personality in much depth. Similarly, not all topics were discussed by each participant; therefore, the frequency of each tag

from the total sample ranged from 2 to 53. This variation may have reflected the significance of these topics to the coaches. For example, the tag *precompetition routine* was frequently cited by the participants. This may be due to the importance of a precompetition routine for these coaches, or it may have been a direct response to a question asked (i.e., What role do you play in competition?). By comparison, tags such as *team building* and *reaching out to the community* were discussed infrequently (n = 2) by the coaches. The 53 tags were then grouped together based on similarities of content into eight properties which are shown in Table 3.

Table 3

Properties and tags with frequencies as expressed by each participant

Properties and Tags	n	C1	C2	C3	C4	C5	C6
Coaching Facts and Information	**62**	**26**	**3**	**10**	**9**	**9**	**4**
Coach beliefs	17	8	3	1	3	1	1
Coach philosophy	11	1	0	4	1	3	2
Fundamentals of the game	4	4	0	0	0	0	0
Lack of general knowledge	3	3	0	0	0	0	0
Lack of tactical knowledge	3	2	0	0	0	1	0
Making decisions on knowledge	10	7	0	1	0	2	0
Similarities between coaching and teaching	14	1	0	4	6	2	1
Coaching Tasks and Duties	**65**	**9**	**6**	**14**	**14**	**16**	**6**
During-competition routine	7	1	1	2	3	0	0
Leadership style	25	3	2	5	4	9	2
Mentoring others	4	0	1	0	2	1	0
Post-competition routine	5	0	0	4	0	1	0
Pre-competition routine	22	5	2	3	4	5	3
Team building	2	0	0	0	1	0	1
Commitment to Coaching	**44**	**16**	**1**	**9**	**5**	**8**	**5**
Deciding to coach - at university	2	1	0	0	1	0	0
Deciding to coach - general	7	2	0	2	0	2	1
Deciding to coach - sport specific	3	3	0	0	0	0	0
Impact of never playing	13	1	0	4	3	1	4
Intensity of coaching at university level	5	5	0	0	0	0	0
Motivation for becoming a coach	2	2	0	0	0	0	0
Obstacles faced/ resource constraints	8	0	1	3	0	4	0
Sacrifices in coaching	4	2	0	0	1	1	0
Individual Makeup	**72**	**16**	**13**	**15**	**19**	**4**	**6**
Athlete autonomy	3	2	0	0	1	0	0
Athlete characteristics	21	4	4	7	4	0	2
Coach characteristics	27	3	5	5	8	3	3
Coach-athlete relationship	3	0	0	0	3	0	0
Influence of personality	7	4	0	1	1	0	1
Natural ability/ coaching strengths	11	3	4	2	1	1	0

Table 3 (continued)

Sources of Knowledge Acquisition	**178**	**30**	**28**	**35**	**32**	**22**	**31**
Learning as assistant coach	13	2	2	4	2	2	1
Learning from clinics	11	2	1	2	3	1	2
Learning from experience	41	4	7	8	4	5	13
Learning from observation	25	3	2	6	6	7	1
Learning from other coaches	53	8	7	12	13	1	12
Learning from reading	10	2	2	2	3	0	1
Learning from trial and error	4	1	2	0	0	1	0
Learning from university classes/ formal education	13	5	1	1	1	4	1
Learning from video	8	3	4	0	0	1	0
Sport and Coaching Background	**45**	**8**	**6**	**5**	**12**	**6**	**8**
Coaching accomplishments	5	2	0	0	2	1	0
High school coaching	6	1	2	1	2	0	0
Initial coaching	3	1	1	1	0	0	0
Involving oneself in coaching opportunities	20	0	1	2	6	3	8
National level coaching	2	1	0	0	1	0	0
Playing career	9	3	2	1	1	2	0
Support of non-sport Personnel	**28**	**4**	**1**	**6**	**5**	**6**	**6**
Parental influences	17	4	1	5	1	6	0
Reaching out to the community	2	0	0	0	1	0	1
Role of environment	7	0	0	1	2	0	4
Role of family	2	0	0	0	1	0	1
Training	**58**	**4**	**10**	**10**	**16**	**13**	**5**
Goals - athlete	7	0	0	3	2	0	2
Goals - coaching	3	1	0	0	2	0	0
Goals - setting	6	1	0	1	3	1	0
Goals - team/program	13	2	3	1	2	3	2
Training - general	23	0	7	5	4	6	1
Training - roles	3	0	0	0	2	1	0
Training - strength and conditioning	3	0	0	0	1	2	0
Totals	**552**	**113**	**68**	**104**	**112**	**84**	**71**

The final stage involved grouping these eight properties into higher-order categories. In total, three categories emerged from the data analysis entitled *career path, personal factors*, and *coaching knowledge*. The eight properties regrouped within the three categories are shown in Table 4.

Table 4

Categories and properties with frequencies as expressed by each participant

Categories and Properties	**n**	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**
Career Path	**251**	**42**	**35**	**22**	**34**	**24**	**28**
Sport and Coaching Background	45	8	6	5	12	6	8
Sources of Knowledge Acquisition	178	30	28	11	17	12	14
Support of non-sport Personnel	28	4	1	6	5	6	6
Personal Factors	**116**	**32**	**14**	**24**	**24**	**12**	**11**
Individual Makeup	72	16	13	15	19	4	6
Commitment to Coaching	44	16	1	9	5	8	5
Coaching Knowledge	**185**	**39**	**19**	**34**	**39**	**38**	**15**
Coaching Facts and Information	62	26	3	10	9	9	4
Coaching Tasks and Duties	65	9	6	14	14	16	6
Training	58	4	10	10	16	13	5
Totals	**552**	**113**	**68**	**104**	**112**	**84**	**71**

Career Path

The higher-order category of *career path* included 251 meaning units and represented 45% of the total data analyzed. This category pertained to the journey of knowledge acquisition of these coaches, from their earliest sporting participation to their current coaching position, including the ways in which knowledge was acquired and the influence other individuals had on their career progression.

Sport and Coaching Background

This property included the coach's participation or lack of participation in sport as both an athlete and a coach. More specifically, coaches talked about their early interest in sport, their lack of athletic experiences at the university level, their initial coaching positions, as well as their current coaching position. This property was the sixth largest with 45 meaning units and not surprisingly held information pertaining mainly to the opening question (i.e., tell me about your evolution into coaching).

All coaches began playing sport in their childhood either motivating themselves to play or receiving encouragement by their parents. In both cases, these experiences undoubtedly sparked the coach's long term interest in sport:

> First of all I have been playing some kind of sports or games all my life. When I was a youngster all I wanted to do was spend my days playing sport games. At the time I was mostly a hockey player. I played every sport possible but my first sport was hockey. (C1)

> I was actually born in England, and in doing so the first sports in my life were competitive soccer and cricket. I know it was part of that early upbringing [that initiated my interest] and when I came to Canada that's [soccer and cricket] what I came with. And for whatever reason, playing with balls and sport was just part of my personality even at a young age. So my first memories are in sport, it's not academics. Then in Canada my parents were

> very set on getting me to do whatever I wanted to do and sport was my choice. (C5)

Although each coach maintained this interest in youth sport, none of them played beyond the high school level. Some coaches felt they simply were not good enough, while others suffered injuries which prevented them from competing:

> The evolution from high school to university is that you go try out for a team where everyone trying out for the team was the best player from their high school. I came to University and I had injured myself but ultimately, I wasn't good enough. (C4)

> I got seriously injured in a practice before the season started and I couldn't play hockey at that level any more. I had a huge concussion and temporarily lost some memory. My vision was also impaired, and because I am not very big man, my main [attribute] was my rink vision, so [this] was really impaired and I was unable to play again. (C1)

While all six coaches studied at University, there were slight differences in their areas of study. For instance, four of the coaches studied kinesiology and physical education with a view towards a coaching career, while the other two coaches studied unrelated subjects:

> When it was time for me to choose a field of study at the university level, I originally thought about studying criminology because I wanted to help kids gain direction in their lives. Then when it was really the time to choose I decided that physical education would be a great place to work with kids and help them, but in the field [sport] that I had enjoyed being in for my entire life. It seemed a more natural way to do it. So, I start studying physical education, mostly with thoughts that I would be a coach. I went [to university] for three years. During those three years that I studied to be a physical education teacher, I related everything I learned to coaching hockey, then after that basketball. (C1)

> My father started coaching young, like me, and he was a philosophy major. I still get funny looks from people when I tell them I'm a history major. I don't think that in any way inhibits you as a coach; I think it can help in some ways, at least at the university level. (C3)

> My formal education had nothing to do with this. I got a sociology and geography degree. Maybe sociology helped me a bit because some of the

> courses dealt with dealing with other people, but I don't see any of what I did as an undergraduate helping me become a coach. (C4)

Each participant began coaching at either the high school level or as an assistant coach at the University level, with some coaches performing both jobs simultaneously. The time spent in these coaching positions varied from one to seventeen years. Some coaches began coaching prior to attending university, others started coaching as undergraduate students at University, and one coach started coaching after undertaking a Master's degree in coaching at University:

> I went to university and although I never played I started coaching. At the time, there was a high school strike in the area I was coaching in, and a buddy of mine asked me if I wanted to help coach. So I said yeah and I started there. So I was coaching senior high school boys while I was in university. Then in my 2nd year of university I talked to the women's coach at University and I asked her if she wanted an assistant and she said sure. So I became an assistant coach there. I was also coaching high school boys and high school girls at the time, in addition to the assistant coaching, so it was really busy. (C2)

> A coach I had worked with as a manager became the head coach at University, and he offered me a position as an assistant coach. So I started there as an assistant coach. I then left the year after, and the coach at another University offered me a position. He realized that I was a young guy and they wanted a young guy on their staff so he offered me a position there, and I stayed as an assistant coach for 3 years. (C4)

> So as I arrived at University my plan in fact was to only be here at this University for like a year and then go play soccer at Dalhousie. In that first year some weird things happened and I ended up working with the volleyball team here as I took a coaching class with that coach at the time. The coach had obviously seen my extreme interest in coaching and teaching even though I had a limited knowledge about volleyball. And he just happened to need some help and asked me if I wanted to get involved. At the time I had started coaching a competitive high school soccer team and was involved in club soccer and in my mind I wanted to make it to provincial team level coaching for soccer. So I was doing two or three teams at the same time, I was doing a club soccer team, a high school soccer team, and assistant coach here. (C5)

At this stage in their careers, the coaches sensed they needed to involve themselves in many different coaching opportunities. In particular, the participants believed this allowed them to network with other coaches, and allowed them to acquire experiences that enhanced their coaching development:

> When I first started coaching I coached every team under the sun, during my summers etc. That was my breeding ground for making me a better coach. (C2)

> I just kept putting myself in a place to get opportunities to coach more things, whether it was camps or clinics. All summer long I would go to a lot of camps and offer my services, network, and develop my coaching skills. By doing it that way, I ended up coaching for the Ontario provincial team and the Canada Games team for a four year cycle. (C5)

Following their high school or assistant coach positions, the coaches advanced to head coaching positions at the University level. At this point in their careers many of them felt they needed to test themselves at a higher level of competition than they were currently coaching. By taking this step into University coaching, the coaches accumulated a number of significant accomplishments:

> So after seven years at the University level, I am very happy with the situation. We won the provincial championship in my second season and from there we have won four in a row, having lost last year in the final. And for part of this year we have been ranked first in the country. (C1)

> In my first year, we had a Cinderella year. Having been in 4th place the previous year, my first year everything just went right and we made it to the national finals, with me as a rookie coach. So here I was as a rookie coach making it to the national finals. In the next year we went to the national finals again and that's when it started. I was able to maintain that and in my 14 years here we have been there 12 times. (C4)

Sources of Knowledge Acquisition

Whereas the previous property discussed the journey coaches had made from their earliest sport participation to their current job, the current property highlighted

how coaching knowledge was acquired along their journey. For instance, the coaches discussed learning from other coaches, from observations, and from clinics and formal education. This property was the largest containing 178 meaning units.

Although they never competed beyond the high school level, many of the coaches felt their playing careers played a role in their acquisition of coaching knowledge. In particular, coaches sensed these experiences helped shape their coaching philosophy and gave them general awareness of the tactical aspects of their sport:

> And playing the game at high school [was a source of knowledge acquisition]. I played Lacrosse right up to Junior A and I developed really good court awareness because of that [those experiences]. (C2)

> I think that a lot of the coaching philosophy that I have, or in terms of how I carry it out is about what I've done, what I've become or what I've learned in my experiences. Many of the things that I do now are the result of the experiences I had through my time as a youth in sport (C6)

As mentioned previously, all participants attended university as undergraduate students. Not surprisingly, the four coaches who studied kinesiology and physical education attributed their knowledge acquisition to their university classes and experiences. More specifically, they learned about kinesiology, psychology, and fundamentals:

> I was able to learn the fundamentals of the game from my physical education teacher training. (C1)

> I graduated with a kinesiology degree and from a training standpoint, the things that I learned were huge and definitely helped me [become a coach]. We also took sport psychology as undergraduate students. My University was the center for the men's national wrestling team and there was a gentleman who worked with them who was also a sports psychology professor and he was absolutely outstanding. So I really benefited from having a good core of coaches to learn lots of things from during my undergraduate degree. My education really helped me. (C2)

> I can say though that my human kinetics degree has had an impact on my knowledge base. Certainly from the biomechanics, kinesiology, and biology side of things - the science part of it. That [University education] provided me with a really good foundation to become a coach. (C5)

While four coaches felt they had acquired coaching knowledge through their University courses, all six coaches suggested that valuable knowledge was acquired from their initial coaching experiences. The coaches felt these experiences helped them acquire important tactical knowledge and exposed them to different coaches each with different coaching styles, as evidenced in the following quotes:

> What is most important for me as a coach right now is that I was asked to be an assistant coach on the University basketball team. It was a great opportunity and really opened my eyes to a lot of different things, especially in terms of the tactical aspect of the game. And since I hadn't played at a good level and at that time there were no videos, there was no ESPN, no sport networks, the highest level I knew was the level I had played at. Coming here [to be an assistant coach] was a great thing in my career. (C1)

> I had a lot of success as a head coach at the high school level and with provincial teams. I was very fortunate to be part of an outstanding program at the university level when I was an assistant coach. We had fabulous teams and did really well, so I was able to learn a lot from my own successes at high school and from the success of the program that I was an assistant with. I've been very fortunate that I forgot more about basketball today than I know. I've worked with some really great coaches and I've learned, both from what they've taught me, and from their own mistakes. Being an assistant coach is a great opportunity to watch how to do and how not to do things. (C3)

Additionally, the coaches agreed that the process of learning from coaching experiences was ongoing and did not end once the coaches had established themselves at the University level. Specifically, coaches felt that aspects of their coaching, such as giving players more rest and controlling emotions, had changed because of the coaching experiences and knowledge they had accumulated:

> It's interesting to me because when I first started coaching a day off was unheard of in my regime. There was no damn way that I would have a day off but eventually you get smarter through your experiences, because you realize that you can't bury the kids. (C2)

> When I was a young coach I had a temper, I was not a very nice person to be around when things weren't going my way. I still have a temper, I still express myself directly to my athletes, but there's a way to do it and a way not to do it. And there's a way to keep it into perspective. So, it's my own experiences at different levels [of coaching] and learning the hard way. (C3)

> Well I think experience is totally underrated. If you're a coach wanting to get better, you'll get better based on experience. I found some things out through experience. I found through coaching that rest has a higher priority now than it ever had before. Like if I go back to my practice plans, and time-off I gave my guys [in the past], it's changed. We've come a long way and it's very different. I find that I'm delegating more [than I used to] to people. So I just find experience is important. (C4)

Aside from learning from experience, there was consistency amongst the coaches regarding the other sources of knowledge acquisition. For example, all six coaches mentioned acquiring knowledge from other coaches. In particular, coaches believed that being mentored as young coaches was important for their development:

> When I started coaching, I was a teenager and a lot of the people that I worked with would take the time to sit down and talk to me about what I was doing right and what I was doing wrong. I was mentored very well, I was very fortunate in that regard. (C3)

> My former coach here whom I worked with as an assistant, we've got an incredible relationship; he has taken on the responsibility of being my mentor. He taught me, so I'm still his student. He's now in financial planning but I'm still his student. And he would call me, not after big wins, but after tough losses. And that's pretty important. (C4)

The participants also felt that talking to other coaches allowed them to acquire specific knowledge pertaining to a wide variety of coaching tasks. This included learning about aspects of training, as shown in the following quotes:

> If you want to be successful you've got to steal from good people [coaches]. Here's a perfect example. I went to see a coach two weeks ago. This coach has won 4 national championships, despite losing kids to graduation every year, and I was thinking what is it you're doing that other people [aren't], you've got to be doing something different. And he said some really good things. He doesn't let the kids in practice get away from anything and every drill they do is competitive. We don't do every drill competitive, so again there's a situation where I'm stealing something. I'm confident enough in my knowledge but I'm not that naïve that I believe I don't need to learn more. (C2)

> Two years ago, I was fortunate enough to coach the Canadian team at the World University Games. By doing so I had the opportunity to say to another of the coaches 'hey - you do the pre-game meeting today instead of me', which allowed me to see how he would operate and I would think 'hey – that's a good idea', or 'oh I wouldn't do it like that' and I'm sure they [the other coaches] would do the same thing. They would see me running a practice and they would say 'have you thought about this'. So there is an axiom amongst coaches called the CSB rule which means copy, steal, and borrow anything you can. That's how we do things, you copy what somebody else does, you borrow their idea, you steal something from somewhere to make your program better, nothing ever fits exactly but maybe you can take part of their square and make it to your square. (C6)

Observing other coaches was another way in which many of the coaches felt they had acquired knowledge. Coaches would often attend other teams' practices and games and observe the coaches' behaviour, with the aim of acquiring valuable information on how expert coaches carried out their coaching tasks:

> At the time, I was young and single, without anything else to do so I just went to national team tryouts, I went to provincial team tryouts, I helped with teams, and I hung out in gyms. I didn't care where I was, I was always watching and that's a major source of my education of [coaching]. (C5)

> When I would go to a game, I would always have a special eye on the way the coach was behaving, what he was doing, and looking for a lot of the non-verbal cues that you can pick up. And I just put that in my knowledge base and shortly afterwards I would incorporate what I had seen with the rest of my knowledge to draw up a model of how I wanted to coach. (C1)

> I once went to watch my nieces at their practices, they are really young, and the coach comes out and throws all these bean bags all over the gym floor. The kids are bending down, picking up bean bags with both hands. I watched

> this and thought 'great defensive drill, great defensive drill.' So I took that, because I really liked that and felt we could really use that stuff. But you have to be looking to learn. There is so much availability out there to help. (C2)

> When I was an assistant coach, the national women's volleyball team was based at our school, and I spent a lot of time observing their practices. Not because there is any real technical similarity between the sports but because the 2 or 3 coaches that were involved in that program were all very experienced university coaches. I was able to learn a lot from watching them. (C3)

Another source of knowledge acquisition that emerged was coaching clinics. All six coaches had attended clinics but their opinions regarding the effectiveness of clinics as learning tools was mixed. Over half the coaches felt they had acquired knowledge by attending clinics, while a small number of coaches believed clinics held no educational value. These differences are illustrated by the following quotations:

> I'm not a person who is big on clinics; I've been to a few. The problem I have with most standardized basketball clinics is what tends to happen is Miss America coaches come in and tell stories. It's more about funny anecdotes than it is about basketball. (C3)

> You're always learning, especially from coaching clinics, at least I am. I always tell people that. I just ran a coaching clinic here last week, because I believe that if you think you know the game, you're a fool. Because there is always something new coming up that needs to be learnt. I am a sponge when it comes to finding something new and neat. I go to clinics every year. (C4)

Finally, the coaches discussed the role reading books and analyzing videos had on their acquisition of knowledge. While all six coaches mentioned reading coaching books, only five specifically felt this had helped them acquire knowledge. With regard to video, three coaches mentioned using videos to both acquire and refine

their coaching knowledge. Evidence of learning from books and videos is highlighted in the following quotes:

> I think watching tape helped me learn a lot. If we lost during my first years coaching I would go into the dressing room and I would just go crazy. And then I would go home and I would watch the tape and I would say 'you know what we really weren't that bad.' Or there were times when I thought we were really, really great and I would go home and watch the tape and we were really, really bad. So video tape for me was probably the number one thing that really helped me become a better basketball coach because you can stop it, you can rewind it etc. So for me that was and still is one of the things that I learned lots from. (C2)

> I often read stuff on coaching, things that interest me. It could be a basketball book; it could be something else pertaining to coaching, just another coach who wrote it. I like to see what they did or what the book suggests someone should do in any given situation and ultimately how I might be able to learn from it. (C4)

Support of Non-sport Personnel

Support of non-sport personnel pertained to the influence of external elements and individuals who provided social support to coaches. This property was the smallest containing 28 meaning units. In this property, coaches discussed the impact of family, friends, University presidents and athletic directors, and the environment on their journey of knowledge acquisition.

All coaches talked about the role family had played in their development. In particular, many coaches discussed the role parents had played in the careers. Coaches believed their upbringing had highlighted the manner in which they hoped to coach and helped shape their coaching philosophy:

> My father was my role model. What I picked up most from him was that when he needed to do something he did it. There was no reasons, no excuses, he would do it, and that taught me a lot about responsibility. The example he set for me highlighted the kind of coach I wanted to be. (C1)

> And I think the number one thing looking back that was different, or helpful, was that my parents were very supportive and yet uninvolved. So they were the non-typical hockey parent. They allowed me to go to some very high level competition teams but they would go cheer and support, that's it. And they didn't meddle and they didn't get involved. So what I got out of it was never 'well you didn't score enough' or 'you didn't play well enough' it was about enjoying the process and that whether I played or didn't play, my discipline had to be high. My commitment to the team was more important than whether or not I was getting ice time. So the things they [parents] wanted me to notice about my sporting experiences are definitely reflected in my coaching. I think my parents, just the way they approached it was a little bit different to the way everyone else was and I liked that and that seems to have stayed with me. (C5)

Several coaches referred to the support given to them by their wives and children. They felt this support had been a positive influence on their careers, and gave them the confidence to be successful:

> Coaching is a job where divorce rates have to be incredibly high. If you are a single coach then perhaps you are at an advantage because you are married to the game. But if you are a married coach it becomes a family obligation, your job becomes [a family obligation], it really does. And my family have been so supportive of that. (C4)

> Having a tremendous family support is crucial. I might say 'let's go to Norway because it's either coaching pro in Norway or coaching junior B in Canada for a thousand dollars.' And it is really important knowing I have their support in making that type of decision. (C6)

Finally, a small number of coaches discussed the influence of the University's president and athletic directors on their coaching progression. On the whole, coaches believed they received positive support from their University president and athletic directors, as evidenced by the following quote:

> The environment was absolutely huge for me. In my first 4 years coaching I knew what our president's car looked like because it was a limousine. I never saw her and never really dealt with her. And then we got this other president who's been here for the last 11 years, and he's more like a high school Principal. He's at games, he's a fan, he's supportive, and that's really important Likewise, our AD [athletic director] who's been my AD since I've been here has grown into her job. I mean we've both kind of grown into our

> roles. She used to be a person who was hands-on to everything – micromanaging type of things. And she's grown from it and I've grown from it and now it's almost like she leaves me alone and trusts that I'm taking care of basketball. And so I think that's important. I've never felt that my job's at risk, that something was going on behind my back. I always felt they've been supportive all the way through. But having your president supporting you, coming out to events, and being part of it, that's great; especially because I know it's fresh and not phoney. (C4)

Personal Factors

The higher-order category of *personal factors* included 116 meaning units and represented 21% of the total data analyzed. While the previous category pertained to the journey of knowledge acquisition these coaches took, the current category was concerned with *how* this journey was influenced by who the coaches were. More specifically, this category pertained to the coaches' personal characteristics and how these impacted their thoughts and interactions with their athletes and their dedication to coaching.

Individual Makeup

This property was concerned with the coaches' personal characteristics and the influence of these on their interactions with their athletes. More specifically, coaches discussed the characteristics they felt were vital for them to be successful; they also discussed the influence of their personality on coaching, as well as their thoughts regarding their athletes. This property was the second largest with 72 meaning units, in part because the responses pertained to one of the key questions asked in the interviews (i.e. What characteristics do you feel are important in being a university coach?)

While it must be stated that each coach likely had their own set of characteristics, several common themes emerged. For instance all six coaches discussed the importance of communication. More precisely, they felt effective communication skills were crucial when speaking to their athletes:

> Communication is huge. If I had to think of the number one priority in coaching I would have to think it would be communication. If you can not communicate with your athletes, I don't care what your knowledge is, you will fail. You have to be a really good communicator. (C2)

> If there was one thing I would say is crucial for expert coaches, it's being able to communicate effectively with different kinds of people. I mean my dad is a brilliant technical coach, but doesn't communicate well with people. If the athlete can't understand what you're saying, or doesn't want to listen to what you're saying, it doesn't matter how much you know, because you're not going to be able to get the information across. I would have to identify that as the single most important thing. (C3)

In addition to communication, all the coaches suggested that flexibility was another crucial characteristic for coaching success. For example, some coaches suggested that the needs of athletes varied from year to year and that they needed to adapt to these changes:

> Kids are kids but their needs change. The kids I used to recruit constantly came from a married family, but suddenly I've got a lot of single family kids. I've got a lot of issues that I didn't have before to do with that. I've got kids with children. I've got Muslim kids which means that during Ramadan I've got to practice at 5 o'clock and they've got to break their fast at 4.59. You have to be able to adapt to these changes and do what you think is right for the athletes. (C4)

> If you are just one way and rigid you are in trouble, you have to be very flexible. For example, you have to accept that perhaps one of your guys has class till 5, and therefore can't get to practice until 10 after 5 even though you want to start at 5. It is important to be adaptable like that. (C6)

All coaches postulated that being open-minded was another vital component of being a successful University coach. The participants consistently stated that as

coaches it was wrong to assume they knew everything, and that they should never close their minds to new learning opportunities:

> You've got to be open-minded. There are some kids coaching who are 33 years old who think they're John Wooden. They really think they've learned it all. And because they've been successful for two years, they think 'man - they've got it all.' Well they're going to crash and burn, so you've got to be open-minded. (C4)

> I have a graduate assistant every year and I say don't just sit there, if you're not asking three questions a day something's wrong. To be successful as a coach, you need to be open-minded and be prepared to ask questions of [coaches]. I'll pick up the phone and call an NHL coach here, and if they don't call me back, hey they don't call me back, but they do sometimes and we have great conversations about different aspects of coaching. (C6)

The participants also emphasized the importance of being passionate about coaching. Interestingly, while many coaches felt being passionate led to job satisfaction, other coaches felt being passionate helped them survive at Canadian Universities where there was a lack of resources. These differences are evidenced in the following quotes:

> I am really passionate about coaching and honestly believe there is not a better profession in the world. People always ask me what I do and I say 'I coach'. They say that's great but 'What else do you do?' Once again I reply 'I coach.' I love it, I really do. If you ask my wife she'll tell you. I am really passionate about the whole thing. I've been doing it for 30 years and yet it's still a challenge that I enjoy. I don't even look at it as a job. (C2)

> I am a huge fan of the game and believe that to be successful you have to be passionate about the game. I know if I wasn't coaching basketball I would go watch a lot of games next year anyway. If I wasn't coaching basketball and I didn't have to go recruit high school kids, I'd still go watch high school kids play. I'm just a fan of the game. I'll be up tonight watching the Phoenix Suns play until 2 o'clock and then get up in the morning and be ready for work. I think you have to be passionate about the game, more so than anything. (C4)

> I am also really passionate about coaching. I believe a good university coach is passionate about it, because the reality of our environment is that if you are not passionate you're going to fail. There are not enough resources and you're going to burn out. (C5)

A small number of additional characteristics were consistently highlighted by the participants as important for expert coaches, including patience and diligence. Many coaches felt patience had allowed them to maintain faith in their own ability at times when success had not been immediately forthcoming. Likewise, coaches' sensed diligence helped them achieve an edge over their competition and helped them gain the respect of their athletes. Evidence for the importance of both these characteristics is shown in the following quotations:

> I think as a coach I have to be really patient as well. I think that's a really huge thing. I've got to be patient in order to have enough faith in my ability at all times. You have to understand that becoming a successful coach is a long process. And each season is 8 months long, no matter what level you are competing at. (C2)

> You have to be willing to work. I have to be competitive and motivated, not by what I achieved last year, but by the new guys [coaches] coming in who are going to push me. Like I've got to be ready to compete with the [University] coach who worked his socks off last year recruiting a freshmen team, that's going to get better every year. If I don't want to get knocked off the top, I have to work hard every year. I don't want to get comfortable. And my athletes respect that I work hard every year and respond by working hard themselves. And we need to maintain that work ethic if we want to be successful. (C4)

Several coaches also discussed the influence of personality on their coaching progression. In particular, coaches felt their personality dictated their coaching style and that trying to coach in a different manner would result in failure:

> The way I coach is largely a reflection of my own personality. It's certainly not based on my experiences as an assistant coach at University, because the coach there was an autocrat who had control over virtually everything. I'm just not that kind of person. I'm not a cheerleader, I don't like yelling at people unless it's necessary, and even then I still don't like it. I think it's [my coaching style] just about my own personality. (C3)

> My general personality is that I'm not somebody who will yell and scream. I'm not that type of person. And I'm not the type of person who is unorganized. I could never coach like that. I could never be a coach who is fiery all the time and yelling and screaming because that's not my personality. I firmly believe you have to stay within who you are when you are coaching, and if you don't you're going to be in trouble. (C6)

In addition to sharing similar characteristics, the coaches also seemed to share similar thoughts pertaining to their athletes. In particular, coaches felt it was their responsibility to teach athletes to be autonomous and learn to take care of themselves. Likewise coaches also wanted to teach their athletes to be good people with a high moral standard:

> What I really want my athletes to take out of sport is to be a strong person that can take care of themselves. I won't be there supporting them after they will leave here. It's like with my children. I love them but I want them to take care of themselves. Autonomy is what I want to teach my players. (C1)

> We certainly try to teach the athletes about being good people as much as we teach them how to shoot. We really try to help them learn how to be a good citizen, to be a good person, to be a good team-mate, to be a good student, and generally to have good morals. These are all things we look at. (C6)

Finally, several coaches felt athletes needed a number of characteristics in order to succeed under their tutelage. In particular, coaches suggested that athletes needed to be hard working in order to be successful:

> I try to get the kid's to understand that there is no point training, if you are not going to do it 100%. If you are going to spend all week in training not doing the maximum it's not worth it. So I push them, I push absolutely. And I don't do it with milk and cookies. But if they are not prepared to work hard they won't be successful. (C2)

> I've recruited players that were tremendous players that just turned out to be tremendous pains in the butt and did more damage to the team than good because they weren't reliable and were lazy. When I recruit I'm far more interested in recruiting an average athlete who's going to work like a fiend for me than a really great athlete who's lazy or unreliable or a bad student or whatever because in the long run that is counterproductive. (C3)

Commitment to Coaching

Commitment to coaching pertained to the coach's desire to become a coach, including the sacrifices made and barriers overcome. This property contained 44 meaning units and was the second smallest. In this property coaches discussed what motivated them to coach and the obstacles they faced in becoming a successful University coach.

There were discrepancies between the participants motivation for choosing a coaching career. Many suggested they became coaches as a way to stay involved in sport, while other coaches entered the profession by chance and enjoyed their initial experiences enough to make it into a career. Some of these points are highlighted in the following quotations:

> And I remember the conversation I had with my high school coach when I found out I didn't make the University team. He asked me if I was going to quit. I said I'm not quitting, I didn't make the team, there's a difference between quitting and not making the team and he said 'No, don't quit'. His idea was you have to be around the game. So I found ways to stay involved in the game, by becoming an unofficial manager to the University team. And in so doing I was able to get coaching experience which kick started my coaching career. So coaching allowed me to stay involved in the game as my coach had said. (C4)

> I had started to think about what I wanted to do with my life and I thought that coaching would be very interesting. I knew deep down that I was not a great player, and so I thought coaching could be my way to remain involved in sport. So all of a sudden I knew I wanted to coach. (C6)

> Yeah, [coaching] was not something that I ever thought of doing competitively. I mean, I was at the gym all the time, and I would play around with my dad's players or with my dad, shoot baskets etc. I got into it as a volunteer coach. My high school program required some kind of community activity, and I thought, well if my Dad can do this, how hard can it be? I thought I'd give it a stab, and I found I started to enjoy it. In particular I enjoyed the teaching aspect and the tactical aspect of it so I decided to pursue it. (C3)

Despite their reasons for becoming a coach, each participant faced several obstacles. In particular, given the sporting background of the coaches, it is not surprising that many cited not playing as an athlete as an obstacle. Some coaches believed they lacked tactical awareness, while others suggested they lacked an instinctive understanding that coaches who played possessed. In both instances, coaches felt that the lack of elite-level playing experience was a weakness:

> It wasn't easy [to coach without having played] because I didn't instinctively understand things that coaches who were players do. And I still get into conversations, with other coaches in the conference who played at University, and have had a good deal of success. And we'll sit around over a beer and be talking about basketball and some times I don't understand what they're talking about, because they have innate terminology that they got from their coaches as players. And I don't have that. (C3)

> I certainly think there is a down fall to that, I certainly think that there are some valuable experiences and insights that you would have as a university athlete that perhaps you could bring to coaching. I think that's very important. That would be something on my weakness side. That would be one of my weaknesses because I've never done that. (C6)

Interestingly, several coaches suggested that while not playing had proved to be an obstacle for them, it had provided them with a unique perspective of coaching that they used for their advantage:

> The advantage to not playing is that I've learned basketball from every position. A lot of coaches who played at high levels focus on coaching from their own position, be it a post player, or a forward, or a guard. Likewise I've known a lot of very, very good players who have tried to be coaches and have just been abysmal at it, largely because they can't understand at a visceral level, why someone can't do what they themselves were able to do really, really easily. So not playing on the one hand I think has been an advantage. (C3)

All the coaches felt they needed to work harder to either learn or overcome the gap in knowledge caused by not playing. This included practicing drills to gain an

appreciation of what they were asking their athletes to do. Likewise, some coaches worked hard on getting feedback from the athletes to understand how University athletes felt:

> I started playing more when I started coaching at the University level because I wanted to test what I was teaching the athletes, both in terms of skill execution and decision making. When I did start to play, after I had been a coach for a while, I developed a new appreciation for how difficult it is to actually do what your coach is telling you, while you are playing. So now if I try to do something a little bit differently, if I try to do a different individual workout I take it on the floor myself and I try it. Not because I expect to get better at anything but because I want to see if it physically makes sense. I'll walk through offences with my players. I'll play a little bit. (C3)

> I still can't get over the fact that there is a feel to the game that I don't have. In my career I played a little but not at the level I'm asking the kids to play at. So I have tried to make up for that. For example, I went to the training sessions of a men's league team with one of my assistant coaches. I was not at their calibre but I said can I play anyways because I wanted to have a sense of some of the speed and the feel of the things my athletes were telling me weren't so easy. (C5)

> But I think perhaps because I recognize that I never played I work extra hard, and try to often put myself in the athletes' position. I often think about how the athletes might feel. For example, let's say we have just gone through exam time and traveled to Montreal for two games. I don't know what that feels like for University athletes so I'll try to consult the guys to see what they are thinking, how are they feeling, what their thoughts are. And maybe we'll give them Sunday and Monday off based on what they said (C6)

Several coaches revealed that assistant coaches were consulted because they had an instinctive knowledge of tasks having completed them as athletes, an understanding the coaches felt they lacked. This is shown in the following quote:

> The fact of the matter is I hire some assistant coaches on purpose to make sure I have coaches who have been University athletes, who have done what I'm asking my athletes to do. And they will have a unique perspective on something's I can never offer. (C5)

Finally, one participant discussed how the intensity of coaching at the university level had impacted him as a coach. In particular, this coach sensed that having not played, he needed to increase his tactical knowledge in order to be successful at this level:

> But at the University level the tactical aspect is very, very important. So, I really had to learn a lot of new things in my first few weeks over here and I knew it would be that way. So I think since I've been here I've really worked hard to learn a lot about the tactical aspect, which in turn has helped develop some diversity in my coaching as far as offences and defences are concerned. I won't say that I learned or I picked up that much, I think I knew about 80 or 85% of what I know now. But the difference between knowing 85 or 95 is really big at the University level. I think that's very, very important and coming to that the University level I really needed to learn that. (C1)

Coaching Knowledge

The higher-order category of *coaching knowledge* included 185 meaning units and represented 34% of the total data analyzed. This category pertained to the participants' current level of knowledge and thus may be viewed as the result of the journey of knowledge acquisition discussed in the previous two categories. More specifically, the current category highlighted the coaches overall beliefs and philosophies, as well as their approach to elements of competition, training, and goal setting.

Coaching Facts and Information

This property discussed the knowledge or lack of knowledge that helped shape the participants overall philosophies and beliefs on coaching. More specifically, the coaches talked about how their beliefs and philosophies were influenced by the decisions they made regarding their knowledge, and the similarities between coaching and other professions. This property was the fourth largest with 62 meaning units.

Although the journey of knowledge acquisition was different for each coach, it was interesting to note that many common themes emerged regarding their overall coaching beliefs and philosophies. For instance, all the coaches acknowledged the importance of supporting their athletes' academic aspirations:

> So every student here is a student athlete and I look at them as volunteers because that's what they are. They are not hired guns. I don't have any ownership on them. They're volunteers, and you've got to key onto the fact that they are passionate about getting better and being here. But at the same time you've got to constantly respect that they are volunteers. I am absolutely terrified of manipulating all their time. I am very conscientious about it. (C4)

> The reason [I think] I enjoy working in an academic environment is that I get to coach student-athletes and not just athletes. I have loved coaching the national team but I don't know if I would do it on a daily basis. What I love about where I am is I coach people and part of our goal is to help our athletes become better students, and to help them achieve academic success. (C5)

Likewise, coaches consistently suggested that they viewed sport as a vehicle for learning life lessons and improving personal discipline. Coaches felt that athletes should view winning as the goal, but personal development as the purpose of their sporting participation. This is highlighted in the following quotes:

> I teach them [athletes] the same values that you want to teach in education. I think sport is a great way to learn some of life's key lessons, because it's enjoyable but at the same time you learn about teamwork etc. I believe that sport is really a mean it's not the end, you know, it's a great education means, I really believe that. (C1)

> Because this is a university environment, the idea is that they're supposed to learn something from basketball other than just basketball. How to be part of a team, how to manage your time effectively, how to communicate effectively, a whole range of things. The philosophy is about trying to develop the entire human being, not just the basketball part. (C2)

> I teach my athletes that the opportunity of being on this team gives you a chance to heighten your personal discipline, heighten commitment, and heighten dedication. By playing here you find out what it's all about, the

> personal skills and the life skills needed to succeed later on. And that's the centre of how and why I do a lot of the things I do. (C5)

While it has been highlighted that the coaches' beliefs and philosophies were similar, several discrepancies occurred. In particular, the coaches appeared to measure success in different ways. Several coaches suggested that success came from consistent performance over a long period of time, while other coaches postulated that success was seeing that athletes had learned under their tutelage. This difference is highlighted in the following quotes:

> My definition of success is that over a long period of time we should have a consistency of performance. Although we don't have 12 conference championships we have an unparalleled record of high level success with the opportunity each time of blipping towards the championship. So for me I'm much prouder of that. For instance, we've never gone from here to the bottom of the heap to back up. So my definition of a success is maintaining a high level of performance, both on and of the field, for a long period of time. And of course the ultimate success would be to also consistently win championships. (C5)

> Success for me is to get better as a coach. I feel like I'm taking baby steps in that direction. But the real measure of success for me has become watching the light bulb come on over someone's head when they finally get something for the first time. Even if it's after they've graduated. "Oh I finally understand what you were saying about defence." That for me has become the yardstick of success - how many times I can make the light switch go on? I can always tell when somebody actually gets something, and for me it's the best sensation in coaching - that sense that someone has learned something. (C3)

Many coaches suggested that their beliefs and philosophies were shaped by the decisions they made regarding which aspects of their knowledge to use in a particular situation. More specifically, coaches felt they had amalgamated different facets of knowledge that had been learned to form one coherent belief, as evidenced by the following quotes:

> I believe that whatever you learn you have to be able to decide which parts are great, which are not that great, which are no good at all. You've got to make

> decisions. Unfortunately I think that people now are more inclined to say well this is no good, this is no good, this I don't like, and this doesn't fit. But I think that's the wrong attitude, you've got to accept everything before rejecting it, and then be able to make your decision. Every one of those small pieces fits into the overall picture of your coaching. (C1)

> I have taken what I've learned and said 'is there another way that I would like to put it all together?' So I don't think any of the pieces of what I do, I have invented. But how these small pieces have mixed together on a weekly basis to achieve success, that's my design. I might have done 10% of this, 20% of this, 30% of that etc. On Mondays we'll do it this way, on Tuesday we'll do it that way. So the evolution of my beliefs stemmed from these small pieces and how I put them together. (C5)

Lastly, many of the coaches felt that similarities existed between coaching and teaching. In particular, many participants believed that coaches needed to have excellent teaching skills in order to be successful. In some instances, coaches worked harder on improving their teaching skills than improving their sport specific knowledge:

> The complicated part of coaching is teaching the athletes to execute the principles, it's not in understanding what the principles are. So I wouldn't call myself a real X's and O's coach, because I think that's pretty rudimentary. Anybody can get a pretty decent grasp of that. The complicated part is teaching effectively and that's where I spend a lot of time trying to get better as opposed to learning new aspects of the game. (C3)

> What I learned from him [University coach] was he was a very brilliant basketball mind but he didn't like teaching. He liked coaching but he didn't like teaching. And I realized right there that if you want to be a coach you've got to teach. You're coaching during games on some occasions but you've got to teach, and that was the part he didn't like. (C4)

Coaching Tasks and Duties

The following property pertained to the various tasks, duties, and behaviours performed by a coach. In this property coaches discussed their routines for competition, the leadership style they adopted, and their role as mentors for younger coaches.

All coaches talked of having a routine for before, during, and after competition. In particular, similarities were found between the ways coaches acted prior to competition. For example, all coaches met with their players prior to the game. Coaches used these meetings to focus their athletes to repeat the game plan, and to get across some final key points:

> The kids have to be dressed and on the floor an hour before the game. I will go down to the floor 40 minutes before. We go into the dressing room 30 minutes before the game and have a short meeting, no more than I would say 8-10 minutes max. And it's just a quick replay on what we've already gone through. I mean if they're not ready then they're not going to be ready at all. And we might say certain key things but we won't meet for very long. (C2)

> 45 min before the match the guys come into the dressing room, and we'll talk to them, and write stuff on the board etc. They go through it and usually the stuff on the board is a repeat of what we've talked about last night but maybe with a little bit more detail, or with summary stuff etc. We just want to get them ready to play. (C4)

Coaches also find time to meet with their coaching staff and go over last minute preparations:

> I'll check with my assistant coach and we will do a final check of what our priorities for that match are so that our communication is on the same page during the match. For example, if this thing happens you know I'm going to go this direction or I going to go this direction or I'm going to make this decision and that kind of thing. (C5)

Consistency was also found between the coaches regarding their post competition routines. Several coaches believed that specific feedback should not be given immediately following a game. Instead, the coaches would give short and general feedback to the whole team, and wait until a later time to give the athletes specific feedback:

> So after the game I never ever make a comment about how we play. I will briefly talk about those things we needed to address during the game and I will address them. Did we do this? Did we do this? Did we do this? But I'm not going to say so and so didn't do this after the game. Because I learned a long time ago that my perception of what I think I see is maybe not what I see so I'm not quick to jump on people. (C2)

> When the match ends it's a pretty quick sum-up with my team. We kind of have a rule win or lose that we don't do more than about a two minute quick wrap-up at the end of the match. And if there is more to deal with we deal with it later. (C5)

While each coach's routines were similar for before and after competition, discrepancies were revealed between the coaches' behaviours during competition. Some coaches actually felt part of the game itself and would try to actively coach throughout, whiles others hoped to prepare the athletes sufficiently so that their input during a game could be minimal. This difference is highlighted by the following quotes:

> During a game, I don't believe that a coach should try to always change the game. It will happen at times, but if in every game the coach needs to have a direct influence on what's going on, I don't believe the players were properly prepared. That coach will always have to pull strings for the team and in the long term, you won't have a successful team. (C1)

> I don't sit during games; I'm quite demonstrative but I don't coach offence loudly, I only coach defence loudly. Because offence is concepts and defence is rules. The last thing you can do in basketball is tell a guy to shoot, you can't do that. But on defence I can tell you to rotate or to help someone else out. And I feel like I'm in the game by doing that. (C4)

In addition to discussing their routines for competition, the coaches also talked about the leadership role they have adopted in the coaching. On the whole several common themes emerged between the coaches. For instance, many coaches suggested

that at times they needed to be autocratic, such as during practice, but that their overall leadership style was predominantly democratic:

> I'm pretty much autocratic in terms of practices, execution, or in a practice setting. I want them to go from point A to point B, and that's the way it goes. There's not much dialogue in our practices. But outside of the practices I am really open. My players know that the door of my office is always open to them and that there's no problem in coming in there and talking to me about this and that. (C1)

> I'm not particularly interested in their [athletes] opinions if it's half-time of a game. If I'm giving them specific instructions their supposed to shut-up and follow my instructions. However, if I have a veteran player whose judgment I trust, I take their advice. I have no problem taking their advice. I have no problem with an athlete coming into my office, closing the door and telling me I'm stupid, it's happened. And you have to have a dialogue about why they think you're stupid. (C3)

Likewise, several coaches also postulated that it was important to stick up for their athletes. More specifically, coaches felt that they needed to fight for their athletes and shoulder the responsibility for the team's performance. The coaches believed this helped foster greater team cohesion:

> They [the athletes] have to know that I'm going to bat for them. It's not a gang mentality but it is 'we're here together guys.' And you try to sell them on the fact that very few experiences will be the same as a group of people giving all they've got and exposing their souls to each other. That happens in sport and some people have the opportunity to experience that and that's the ultimate. That's more important than winning the championship. Literally having the team sit there and knowing that no matter what 'you've got my back', those are relationships that will be maintained forever and ever and ever. That's what leadership is. (C4)

> I think the number one thing about the leadership role I adopt is that I accept full responsibility for everything that happens in our program. I may demand my athletes take responsibility for things as they happen but the minute it gets outside our circle I don't put the responsibility back to them. I take it. So if my athlete maybe does something that I think is 100% their responsibility and somebody outside our circle wants to then get involved or do something I won't put my athlete out there. (C5)

In addition, many of the coaches felt they needed to set a positive example for their athletes. They suggested that a coach must act in the way they hoped their athletes would, as evidenced by the following quote:

> I want to be an example of everything we want to teach, punctuality, professionalism, organization, being a good team-mate, being a good person, a good father/husband. You are always in somebody's eyes. The coach is unlike a player because they are always in somebody's eyes. And so I think you always have to do the right thing and act appropriately as much as possible because you are an example for your players and your staff at the university. So I think you have to act how you would expect your players to act in that situation. So I think that's critical and very important. You don't want to be just a good role model; you want to be a great role model. (C6)

Several coaches also cited they felt obliged to give back to coaching by mentoring young coaches. In some instances, coaches ran clinics or were contacted by other coaches seeking advice, while other coaches found themselves mentoring their assistant coaches:

> One of the things I insist on doing is offering my assistance to anybody, especially first year university coaches. There is a girl at this University that I mentor on a regular basis. She talks to me all the time; not that I have the right answers, but just asking from my experience what I would do. And I say, 'you may look at it this way' or 'you may deal with your athlete this way'. I'm not saying my way is the right way by any means but I think we have to do a better job of reaching out to young coaches (C2)

> I'm in my 12th year as a head coach and now I just love coaching coaches and teaching coaches and that's what I get a little more involved in. We run a ton of camps, and things ourselves. I consider myself a professional coach that happens to do volleyball and now I get involved on the teaching side and professional side of it. (C5)

> I think what I've done and where I've been very successful in coaching is I've brought through successful assistant coaches. I'm a big believer in that; I always brought on people to give them an opportunity. I was given an opportunity and I always try to bring on a young guy as a grad assistant who wants to be a coach because I want them to have an opportunity too. (C3)

Training

This property related to how coaches set targets for themselves and their athletes, and how they approached training. In particular, coaches talked about the use of four different types of trainings – physical, tactical, technical, and mental, how they utilized experts to assist in training, and how they set goals for themselves, their athletes, and their team.

Many of the coaches highlighted the importance of organizing each training session. This allowed the athletes to arrive at training already prepared for the practice:

> We have a flow chart for the whole week of training. Although our planning at times can be based on time and the fact they have other jobs, we may plan by phone, we may plan by email whatever, but when the athletes arrive they have a pretty good sense of what it is we are doing for that practice. At the beginning of practice the athletes will know the focus of the practice, and what our intention is in terms of how much split time, how much team time, and the things we are going to deal with that day. (C5)

> I am very detail oriented. I am very structured. Things are planned down to the T, in most cases of how we operate. I believe very firmly that focus and organization at training is critical. I would rather go 1 hour ten minutes very structured very organized getting as much out of that seventy minutes as possible than 2 hours doing it in a 'whatever' manner. Almost every 15 seconds in our training is accounted for. (C6)

Some coaches suggested that organizing training meant that their team was properly prepared for games and that gave them they edge over their opponents:

> Because of how we train I don't think there is a team in Ontario that is better prepared for games than us. I believe that and that's why we win games. This year we finished 11-11 and we got to the final, we should never have been to the final and we played teams that were much better than we were but not nearly as prepared. (C2)

In addition, coaches mentioned the need for athletes to undertake different types of training, such as physical, tactical, technical, and mental. In regard to physical and mental training, it was interesting to note that coaches would often hire experts to carry out these tasks, rather than attempt to teach the athletes themselves:

> The personal side of it, so the sport psychology, nutrition, personal well-being and balance I would say on average we would spend about an hour a week maximum throughout the year. And it generally tends to be in educational workshop format run by support staff early on in the initial stages of the season. Then as the athletes go on through their career it tends to be more individualized, a resource they are getting on their own with some of our support people. (C5)

> We've always had strength and conditioning personnel involved that work on both an off season program and an on season program. My job is to make sure the athletes follow it. I know that their [the experts] knowledge is ultimately better that mine. So they meet with me, they tell me what their expectations are, what they want to do and then I pass that on. (C4)

Furthermore, while some coaches were happy to hand over complete control to these experts, other coaches felt they needed to remain involved. This discrepancy is highlighted in the following quotes:

> Now the other part of training is I've always been a believer that coaches coach, players play, and bus drivers drive the bus. By that I mean I have always reached out to people. I don't do stretching and stuff during my practice time; my guys do it before practice. And we'll have someone to do it with them, or some times somebody will teach them and the expectation is that they do it on their own. Likewise, we took the team to Ecuador and I'm not really crazy about taking a course in high altitude training so I went to a Prof here who was an expert on altitude training and asked for his help. (C4)

> I am a coach that wants to get involved in knowing about the therapy side and knowing about the training side. I do hire experts to do that sort of thing but I hire them and then plan with them and don't just totally turn it over to them. (C5)

The coaches also suggested that training needed to be adapted according to the current stage in the season and the team's game schedule. For example, the structure of training changed from the beginning to the end of the season. Likewise when the team was scheduled to play two games over a weekend, training would be structured differently than if they were scheduled to play one game. Evidence of this is shown in the following quotes:

> How we train depends on the stage of the season we are at. We tend to do a lot of defence at the beginning and offence at the end. Defence tends to be a little more physical and less cerebral, and offence in basketball tends to be a little less physical and more cerebral. So the intense part of practice is at the beginning, and as we start to cool down we start to do offensive stuff, and it also helps to do offence when you're tired, because then you're body is used to being able to executing things under fatigued conditions. At certain points in the season we'll alternate back and forth offence, defence, offence defence (C3)

> During the season we play sometimes on a Wednesday and sometimes on a Friday or a Saturday, and there are other times when you won't play on a Wednesday but you'll play Friday/Saturday. The schedule really dictates how we are really going to train. So let's say we are not going to play on a Wednesday we would go Monday, Tuesday, Wednesday, and Thursday with a practice. Thursday would be very light and all preparation. Monday and Tuesday would be pretty tough. Wednesday would be mediocre so we would taper down as we got nearer the end of the week. Now the irony and interesting thing about that is if you play the Saturday before it would be a little bit more opposite, I would lay back a little bit on the Monday and I would go harder Tuesday and Wednesday because again this is based on when our last game was. Playing on a Wednesday and playing on a Friday/Saturday is tough, and that's why pre-season is really important conditioning-wise, and the summers are huge for us. (C2)

There was also consistency between the goals that coaches set. Each coach discussed how they set goals for themselves, their athletes, and their team. With regard to setting goals, the coaches shared a similar understanding that goals needed to be realistic:

> I believe you can set the goal to win, but if you don't win it should not be seen as a disaster or that you haven't done anything good. Goals have to be realistic and perhaps a season here or a season there winning is not that realistic, so you've got to change you're goals accordingly. (C1)

> You've got to be realistic with your goals. And we've been fortunate here. Competing for a national championship has been a goal that we've had since my 1st year, and my 1st year we got there. I didn't realize how we did it, but we got there. (C4)

Coaches also shared similar goals for their teams. In particular, many coaches set the goal of becoming the best program in the country, and winning either provincial or national championships:

> I want us to be one of the best basketball programs in the country, which was one of my goals when I came here. I want us to win every game. I actually say to play high quality, disciplined basketball, to develop people to their athletic and personal potential, and I think these are all kind of interconnected. (C3)

> Ultimately when the team comes together and is formed then goals will be determined. But there is an understanding. When you come to a winning program, people come here because there is an understanding that you've won and you expect to win. And that expectation to win has a huge affect. (C4)

> From a long term point of view, we have a set of unwritten goals in this program. We are not an intramurals team, we're here to win provincial championships and put ourselves in a place to win a national championship. It's like we don't even discuss that. When we do goal setting for the year those things are always on the sheet. Maybe they are dream goals some years, and realistic goals other years, but they are just there. So that drives a lot of what we do. (C5)

While it was revealed that each coach set outcome oriented goals for their teams, it must be noted that many also set process orientated goals. Specifically, coaches wanted their teams to be highly efficient, highly disciplined, and to improve from game to game:

> Most of my goals are process orientated. In everything that we do I want us to be a highly efficient, highly disciplined, and a highly respected group of people in how we operate. I want us to be team above all else, that's probably

> one of my biggest goals. I also want us to be a high performing team. So in everything we do I want to be high performance. Whether that's how we manage our administration, whether that's how we raise funds, or whether that's how we operate as a group of coaches. I want us to be a high performance example. (C5)

> This year we are going to have 8 first year kids because we are caught in the cycle that we are losing many to graduation and we didn't get enough kids the year before. So this year our goal will be to get better every game. So the next question is how do you measure that because a goal has to be measurable. Well we have our team stats and our plus minuses; we're really into plus minuses. So we try to measure the improvement through these charts each week. We also chart free throws every week, so it's all about improvement for us. (C2)

Finally, coaches were consistent in the types of goals they set for their athletes. In particular, coaches were keen to set academic and personal goals for their athletes in addition to their sporting goals. Furthermore, several coaches also suggested that athletes had to believe that success of the team was more important than their individual playing time. This is evidenced in the following quotes:

> The environment we are in calls for educational goals. We need to make sure all our guys graduate, that all our guys are successful in school, that all our guys develop as people. Usually you end up working in an area that you do your degree in, which is formed by the degree you do. Usually you meet a lot of your life long friends at that institution; in many cases you meet your future wife at that institution as well. So a lot of the players futures are at university. So its not just athletic goals we worry about here, it's athletic, academic, [and] personal [goals] as well. (C6)

> With the athletes [goals], the emphasis really is on the personal development of the athlete, athletically, but also academically. None of my players are going to be playing in the WNBA, and very few of them will be playing in Europe at all. Therefore they have to keep firmly fixed in their minds that they're going to have a real life after this is all over. (C3)

> I recruit kids with the same types of goals I have. Is their goal to play or to win? Do they want to compete for the national championship, or do you want to play 20-40 minutes a game but not make the play-offs. If the kid says I'll come but I have to play, then they're not coming, they're just not going to work. (C4)

Summary

The purpose of the current study was to investigate the acquisition and development of knowledge of a sample of successful team sport coaches. The sample of participants purposely included coaches who surpassed the level of expertise they achieved as an athlete. Each coach in this sample had not competed above the high school level as an athlete, but had been coaching at the University level for between 7 and 14 years. Six University team sport coaches were interviewed and an inductive analysis of the data revealed three higher-order categories, which were called c*areer path*, *personal factors*, and *coaching knowledge*.

C*areer path* described the journey of knowledge acquisition coaches took from their earliest sporting participation to their current coaching position. All participants started playing sport during childhood. Many coaches motivated themselves to play, while others were encouraged by their parents. Regardless of the reason, these experiences sparked the coach's long term interest in sport. All six coaches studied at University, but there were discrepancies between the different University subjects each coach took. For example, four of the coaches studied either physical education or kinesiology with the intention of transferring those skills to coaching, while the other two studied topics unrelated to sport. It is not surprising that those coaches who studied physical education and kinesiology attributed part of their knowledge acquisition to their university education. Each participant began coaching at either the high school level or as an assistant coach at the University level, with some coaches performing both jobs simultaneously. The time spent in these coaching positions varied from one to seventeen years. Regardless of the time spent in each

position, all six coaches felt they acquired valuable knowledge from these initial coaching experiences. Aside from learning from experiences, there was consistency amongst the coach's regarding the other sources of knowledge acquisition. For instance, all six coaches acquired knowledge by talking with and observing other coaches. Likewise five coaches learned from either coaching clinics or reading coaching books and autobiographies. There was also agreement between the coaches regarding the role of parents and family. Many coaches referred to the support of their wives and children, while others cited the role of their parents. All the coaches stated that family had been a positive influence on their careers. Overall, it can be concluded that while the career path of each coach was unique, knowledge seemed to have been acquired in similar ways.

Personal factors explained the coach's personal characteristics and how these impacted their thoughts and interactions with their athletes and their dedication to coaching. All the coaches revealed that communicating effectively, adaptability, and open-mindedness, were important characteristics that helped them progress to their current position. Furthermore, many of the coaches postulated these characteristics had impacted their thoughts and interactions with athletes. For example, several coaches suggested they wanted their athletes to be autonomous, while others believed it was crucial to teach their athletes how to be good citizens with a high moral standard. In addition to sharing a number of characteristics, all the participants overcame similar obstacles in becoming a coach. For instance, many coaches cited not playing at the level they were now competing as coaches as an obstacle. Several believed they lacked tactical awareness, while others suggested they lacked the

instinctive understanding that coaches who had played possessed. All the coaches felt they needed to work harder to either learn or overcome this gap in knowledge. For example, several coaches talked about working harder on getting feedback from the athletes to understand how University athletes felt. Likewise, some coaches noted that assistant coaches were consulted because they had an instinctive knowledge of certain tasks having completed them as athletes, an understanding the coaches felt they lacked. In sum, it appears these coaches shared both similar obstacles in their careers and similar characteristics. Overall, coaches felt that these characteristics played an important role in their career progression, helping them overcome the barriers they faced.

Coaching knowledge included the coaches overall beliefs and philosophies, as well as their approach to competition, training, and goal setting. Many common themes emerged between the coaches. For instance, the coaches believed that their players were students before athletes, and part of their coaching job was to support their athlete's academic aspirations. Likewise, several coaches believed sport was a vehicle for learning life lessons and improving personal discipline. The results also revealed that many of the coaches shared similar philosophies. On the whole, coaches sensed that the harder athlete's worked, the more they benefited from participation. Each coach talked of having a routine before, during, and after competition. While these routines were similar, discrepancies were revealed between the coaches' behaviours during competition. Some coaches actually felt part of the game itself and would try to actively coach throughout, whiles others hoped to prepare the athletes sufficiently so that their input during a game could be minimal. However, the coaches

shared similar routines for before competition, such as meeting with the athletes in the locker room to discuss key points. Common themes were also found in the coaches' approach to training and goal setting. Coaches cited the need for tactical, technical, physical, and mental training for their athletes, with experts and assistant coaches employed to run each type of training. Similarly, all the coaches set goals for their athletes, their teams, and themselves. Specifically, coaches set outcome goals such as winning national or provincial championships and process goals such as improving skills from game to game. In general, these findings highlighted that the coaches shared similar beliefs and philosophies towards coaching. Likewise, similarities were also found between the knowledge coaches possessed and how they used it to fulfill their coaching responsibilities.

Taken together, these three categories highlighted how expert team sport coaches acquired and developed their coaching knowledge. C*areer path* provides arguably the most pertinent information to the current study, highlighting the journey of knowledge acquisition these coaches embarked on to reach their current level of coaching knowledge. This journey was influenced greatly by the coaches' *personal factors*, which helped them overcome the obstacles they faced. Finally, *coaching knowledge* can arguably be seen as the result of this journey, containing information pertaining to the knowledge the coaches have acquired and how they acted on it to successfully perform their coaching responsibilities. Interestingly, while each coach's own individual journey was unique, common trends emerged. Most notably similarities were found in the different ways knowledge was acquired, the key characteristics of each coach, and the level of knowledge the coaches acquired. Given

that these coaches were all coaching at a higher level than they had reached as athletes, this supports the notion that sources of knowledge acquisition are accessible to aspiring coaches to acquire the necessary coaching knowledge, regardless of their athletic background. This is evidenced by the following and final quote:

> I know that on many occasions, not having the experience as a player was tough, I mean for me, I just can't judge for anybody else. But overall you know, I hope I am a living proof that you can succeed" (C1)

Chapter 5

Discussion

The purpose of the current study was to investigate the acquisition and development of knowledge of a unique sample of successful team sport coaches. In particular, these participants purposely included coaches who were coaching at a higher level than they achieved as an athlete. Three higher-order categories emerged from the data: *career path, personal factors,* and *coaching knowledge.* The following chapter will discuss these categories as they pertain to previous research, particularly to expert coaches and how they have developed and acquired coaching knowledge. The final section of this chapter will summarize the current research and provide conclusions and implications of the study, as well as recommendations for future research.

Career Path

The higher-order category entitled *career path* pertained to the journey of knowledge acquisition of these coaches, from their earliest sport participation to their current coaching position, including the ways in which knowledge was acquired and the influence other individuals had on their career progression. Despite the idiosyncratic nature of each coach's career progression, several common themes emerged. These will be discussed with respect to previous empirical research.

Given that the current coaches had never competed as athletes beyond the high school level, it was surprising that similarities emerged between their career progressions and those of other coaches. For instance, the coaches' long term interest in sport was triggered by their early participation as children. Likewise, many studied

kinesiology and physical education at university with a view to acquiring valuable coaching knowledge. Finally, each coach began coaching at either the high school level or as an assistant coach at the University level, which culminated in becoming head coaches at the University level. Research examining the coaching evolution of expert coaches has illustrated similar findings (e.g., Cregan, Bloom, & Reid, in press; Salmela, 1994; Schinke, Bloom, & Salmela, 1995). In particular, Schinke and colleagues suggested that coaches progressed through seven stages of development, which were quite similar to the career path of many of the current coaches. For example, the current coaches initial playing experiences can be compared to the stage *early sport participation* (Schinke et al., 1995) where coaches accumulated athletic experiences at an early age which enthused their long term interest in sport. Likewise, the *developmental coaching* stage (Schinke et al., 1995), where coaches were working at the high school level while pursuing a degree in a sport related topic, mirrored the current participants initial coaching experiences, many of which occurred while the coaches were studying kinesiology and physical education. Along the same line, the coaches' progression to the university level paralleled Schinke and colleagues' *national elite coaching* stage. Since Schinke and colleagues' second and third stages (*national elite sport*, and *international elite sport*) involved elite athletic experiences, it seems obvious to note that the current coaches did not pass through them and thus progressed straight from stage one – *early sport participation* – to stage four *novice coaching.* Overall, this suggests that despite not accumulating expert athletic experiences, the participants' career progression appears to share some commonalities to coaches who were once expert athletes.

Having said this, several aspects of the current coaches' career progression were found to be different from other studies on elite coaches (e.g., Cregan et al, in press; Gilbert, Côté, & Mallett, 2006; Salmela, 1994; Schinke et al., 1995). While it was not the central focus of these studies, it was found that elite athletic experiences were an important aspect of expert coaches' career development and perhaps even career success. For example, Salmela suggested that expert coaches had drawn upon their expert athletic experiences to help develop their coaching knowledge, philosophy, and beliefs. Similarly, Gilbert and colleagues argued that becoming a successful University coach required a minimum threshold of several thousand hours of athletic experiences. Contrary to these findings, the current sample of coaches developed their coaching knowledge and achieved success without drawing upon expert athletic experiences. Thus it appears that while athletic experiences may be beneficial in the acquisition of coaching knowledge, they are not essential.

Besides highlighting the coaches' career progression, the many different ways knowledge was acquired also emerged. For example, results indicated that coaches learned from interactions with other successful coaches. In particular, observing and talking to other coaches allowed them to acquire specific knowledge pertaining to a wide variety of coaching tasks, such as training and competition. These findings were consistent with previous research (e.g., Bloom, Durand-Bush, Schinke, & Salmela, 1998; Bloom & Salmela, 2000; Werthner & Trudel, 2006). More specifically, Werthner and Trudel suggested that an important source of learning came through informal and unmediated learning situations, such as watching other teams practices' or discussions with other coaches. Likewise, Bloom and colleagues found that

mentoring by more experienced coaches allowed younger coaches to acquire knowledge and helped shape their coaching philosophies and beliefs. However, it is reasonable to suggest that given their lack of playing experiences, the current participants did not have the same access to expert mentors as those coaches who had played at elite levels of competition. As such, they may have needed to work harder to find coaches to develop a mentoring relationship with. For example, the current participants would incessantly call other coaches to ask for advice or attend the practices of other teams just to speak with the coach. Therefore, these findings appear to highlight the importance for young coaches to find expert coaches to observe and learn from, in order to acquire the necessary coaching knowledge to be successful.

In addition to learning from other coaches, results revealed that coaches had acquired knowledge through their coaching experiences. For example, while they acknowledged that the majority of experiential learning took place during their initial coaching experiences, they all agreed that the process of learning through experience was ongoing and did not end once they had established themselves as successful University coaches. Coaches believed they needed to continue to learn and acquire knowledge in order to stay ahead of the competition. This finding was in accordance with previous research (e.g., Abraham & Collins, 1998; Bloom & Salmela, 2000; Gilbert & Trudel, 2005; Martens, 1997) which suggested that coaches learned by reflecting on their experiences. In particular, Gilbert and Trudel suggested that coaches often examined their coaching behaviours and the subsequent consequences, which allowed them to determine which aspects of their coaching repertoire were successful and should be maintained. Likewise, Bloom and Salmela identified that

coaches viewed learning to coach as part of an on-going developmental process throughout their careers. As such, the current findings contribute to existing research which has shown that coaches acquire knowledge through experience, and that this process must be maintained throughout the coaches' career, regardless of previous athletic experiences.

Results revealed that all the coaches had attended coaching clinics, but their opinions regarding the effectiveness of these clinics differed. Over half the coaches felt they had acquired knowledge by attending clinics. These coaches felt that clinics allowed them to learn new aspects of their sport, network with other expert coaches, and evaluate their own coaching behaviours and beliefs. By contrast, two coaches felt that coaching clinics held no educational value. This discrepancy is mirrored in previous research pertaining to formal coach education. Several researchers (e.g., Cushion, Armour, & Jones, 2003; Jones & Wallace, 2005; Saury & Durand, 1998) have suggested that formal education is essentially flawed since learning is decontextualized. As such, it produces coaches who are "driven by mechanistic considerations but unable to comprehend and, as a result, adapt to the dynamic human context" (Cushion et al., 2003, p. 220). However, other researchers (Lyle, 2002; Werthner & Trudel, 2006) have postulated that coaches require a mix of informal and formal learning in order to be successful. For example, Lyle wrote that coaches acquire knowledge both through formal education and through the application of this knowledge in their day to day coaching. Thus it appears the current findings replicated the existing polarization between researchers regarding the effectiveness of coaching clinics.

Coaches revealed that learning also occurred from books and videos. Of the six coaches, five felt they had acquired knowledge from reading books. Some of the books they read included coaching autobiographies, coaching text books, and books pertaining to leadership both in sport and other domains. Similar to the other ways in which knowledge was acquired, books helped coaches learn new aspects of their sport and helped update and refine their coaching beliefs and behaviours. Half the coaches also thought video was an important tool for both acquiring and refining coaching knowledge. Coaches watched videos of their own and other teams' games, to gain a greater appreciation of the strengths and weakness of their team and their opponents. These findings support previous research (e.g., Cushion et al., 2003; Werthner & Trudel, 2006). In particular, Werthner and Trudel suggested that successful coaches often went above and beyond other less successful coaches by seeking out and creating learning opportunities for themselves, such as reading books and analyzing videos. Overall, the current findings suggested that although books and videos may not have been the most important factors in knowledge acquisition for these coaches, they were still viewed as potential learning tools.

The current results also alluded to the role of other individuals on the coaches' development and career progression. Overwhelmingly, coaches' highlighted that family had a positive influence on their coaching. In some instances, coaches discussed the support and role modelling they had received from their parents. In particular, many coaches felt the way in which they were raised was reflected in the way they now coached, such as emphasising process over outcome and giving autonomy to their athletes. Additionally, several coaches discussed how their wives

and children had supported their coaching aspirations and given them the confidence and support they required. These finding are consistent with empirical evidence on expert Canadian coaches (e.g., Davies, Bloom, & Salmela, 2005; Draper, 1996) which has highlighted the importance of family support in coaching. For example, Davies and colleagues' found that family support was utilized by Canadian University coaches to help combat job dissatisfaction and burnout. Overall, it can be concluded that coaches in the current study received support from their families and this had been an important factor in their career development.

In addition to discussing the role of family, several coaches talked about the impact of working in a University environment on their career progression. In general, coaches enjoyed working in an academic institution where they could help athletes achieve success in both academics and athletics. Previous research has shown that Canadian University coaches often stress the importance of developing the athlete academically as well as athletically (e.g., Davies et al., 2005; Miller, Salmela, & Kerr, 2002; Vallée & Bloom, 2005). Furthermore, the current participants felt supported by their athletic directors and University Presidents. This contrasted with limited empirical research that has suggested athletic directors at Canadian Universities placed excessive administrative duties on their coaches which contributed to job dissatisfaction (Davies et al., 2005). The emergence of such a contradiction suggests that further research may be required in this area before any definitive conclusions can be reached.

In summary, this category highlighted the journey of knowledge acquisition taken by these coaches, from their earliest sport participation to their current coaching

positions. While it was shown that these journeys were idiosyncratic, a number of common themes emerged. In particular, coaches seemed to pass through a number of the developmental stages forwarded by Schinke and colleagues (1995). Given the current coaches' paucity of athletic experiences, it would seem reasonable to argue that their developmental pattern would have been different to the pattern of coaches who had been expert athletes, but this was not the case. This implies that although athletic experiences are undoubtedly useful for acquiring coaching knowledge, they are not essential in the development of expert coaches. Specifically, the current coaches appeared to have acquired knowledge mainly through observation, coaching experience, and talking with other coaches. Therefore, these findings support the notion that sources of knowledge acquisition are accessible to aspiring coaches to acquire the necessary coaching knowledge, regardless of their athletic background.

Personal Factors

Whereas the previous category discussed the journey of knowledge acquisition taken by the current sample of coaches, the following category highlighted how this journey was influenced by who the coaches were. More specifically, *personal factors* pertained to the coaches characteristics and how these impacted on their interactions with their athletes and their dedication to coaching. This higher order category was similar to aspects of the *coach's personal characteristics* dimension in Côté, Salmela, Trudel, Baria, and Russell's (1995) Coaching Model (CM). According to the CM, coaches' characteristics (e.g., communication skills, adaptability) heavily influence coaches' behaviours and subsequent thoughts and interactions with their athletes. The following section will

examine various aspects of the coaches' characteristics and how these influenced their career progression, including the obstacles they faced.

Results revealed that although each coach possessed a unique set of characteristics, several commonalities also emerged. In particular, coaches highlighted the need for flexibility while coaching. The participants agreed that the needs of their athletes and teams varied from year to year and they needed to adapt to these changes. This mirrored previous research which has shown that expert coaches often adapted to meet the needs of their athletes and teams (e.g., Bloom, 2002; Côté, Salmela, Trudel et al., 1995; Giacobbi, Roper, Whitney, & Butryn, 2002; Saury & Durand, 1998). For example, Giacobbi and colleagues' postulated expert coaches modified their coaching style to foster the right environment for their athletes; for example, when to push the athlete and when to back off. Similarly, Bloom suggested that expert coaches adapted their coaching style based on their assessment of an athletes' ability to develop and grow, in order to create the ideal environment for them. Thus as in previous research, results revealed that the participants benefited from being flexible to the needs of their athletes. Other important characteristics also emerged, including possessing effective communication skills and being open-minded to learning opportunities. In accordance with Bloom and Salmela (2000) who suggested that coaches were continuously learning throughout their careers, the current participants consistently stated that as coaches it was wrong to assume they had a saturated level of knowledge, and therefore they never closed their minds to new learning opportunities. This helped them acquire new skills and remain competitive in their sports.

Furthermore, coaches cited passion as a key characteristic, although their reasoning differed. Many of the coaches believed being passionate led to job satisfaction, while a small number of coaches felt being passionate helped them survive at Canadian Universities where there was a lack of resources. Both these viewpoints were supported by previous Canadian research (e.g., Cregan et al., in press; Davies et al., 2005; Draper, 1996). In particular, Davies and colleagues found that coaches' sensed passion was a key factor in their job satisfaction. Moreover, their coaches believed that passion helped them deal with the lack of financial resources and increased administrative duties placed upon them. Thus, it is reasonable to conclude being passionate was a crucial characteristic of these successful University coaches, helping them derive job satisfaction and overcome their lack of resources.

In addition to sharing a number of characteristics, coaches felt it was their responsibility to teach athletes to be autonomous and to take care of themselves. Likewise, coaches also wanted to teach their athletes to be good people with a high moral standard. These results contributed to previous research identifying the holistic development of athletes as being one of the main aims of expert coaches (e.g., Côté, Salmela, Trudel, et al., 1995; Cregan et al., in press; Miller et al., 2002; Salminen & Liukkonen, 1996; Vallée & Bloom, 2005). For instance, Côté, Salmela, Trudel, and colleagues' found that expert coaches believed that the overall development of their athletes was the main purpose of their coaching. Similarly, Vallée and Bloom found that University coaches' main interest lay in the overall development of an athlete, including both personal and athletic accomplishments. One possible explanation for these findings may be that few athletes progress from Canadian Universities to

compete professionally in their sport. As a result, coaches chose to place stronger emphasis on helping their athletes achieve scholastic goals and develop as people in order to prepare them for careers outside of their sport after graduation. Given that the current coaches had not been expert athletes, it may have been reasonable to suggest that their views on athletes would be different to those coaches who were once expert athletes. Yet, these findings appear to suggest that the current coaches share many of the same thoughts and interactions with their athletes as other elite coaches. This implies that coaches don't require their own athletic experiences to understand how to interact effectively with their athletes.

Aside from the coach's characteristics, the current category also discussed the obstacles coaches' faced in their career progression. Given the sporting background of the coaches, it was not surprising that many cited their lack of expert playing experiences as an obstacle. The coaches believed they lacked tactical awareness, while others also suggested they lacked an instinctive understanding that coaches who played possessed. In both instances, coaches felt that this was a weakness which they worked hard to overcome. Those studies which have looked at the role of athletic experiences in coach development have examined coaches who were once expert athletes. In general, these studies have found that athletic experiences were an important aspect in expert coach development, helping to shape their knowledge, philosophy, and beliefs (e.g., Gilbert et al., 2006; Salmela, 1994; Schinke, et al., 1995). While the developmental paths of the current coaches demonstrated that it was possible to become an expert coach without accumulating expert athletic experiences, the fact that not playing was cited as a weakness implies that they believed athletic

experiences are beneficial to coach development. The coaches revealed they had to work harder to either learn or overcome this gap in their knowledge. For example, several coaches would practice drills in order to gain an appreciation of what they were asking their athletes to do, while other coaches sought feedback from the athletes to understand how University athletes felt. Furthermore, assistant coaches were often consulted because they had an instinctive knowledge of certain tasks having completed them as athletes. Therefore, it seems reasonable to conclude that although athletic experiences were not required for the current coaches to develop into successful University coaches, they would have benefited for them.

Interestingly, several coaches postulated that not accumulating athletic experiences had actually provided them with a unique perspective of coaching that they used for their advantage. Specifically, participants felt that some coaches who had been expert athletes struggled to understand why their athletes were unable to perform tasks that they were able to easily perform. Similarly, the current participants postulated that some expert coaches had learned their sport only from the position they had played, whereas they had learned the sport from every position. Therefore, while it is appears that their paucity of expert athletic experiences may have been a slight weakness, several of the current coaches were still able to derive benefit from having this unique perspective.

In conclusion, the current category pertained to the coaches' characteristics and how these impacted their thoughts and interactions with athletes, and their dedication to coaching. The current results challenge the traditional assumption that coaches' develop some of the crucial characteristics to effectively interact with their

athletes from their own athletic experiences (e.g., Gilbert et al., 2006; Salmela, 1994; Schinke et al., 1995). While this may often be the case, the current coaches demonstrated that it is possible to develop these characteristics in other ways. However, while it was possible for the current coaches to acquire the characteristics to succeed as a coach without expert athletic experiences, a notable amount of hard work and commitment was required.

Coaching Knowledge

The final category pertained to the participants' current level of knowledge and thus may be viewed as the result of the journey of knowledge acquisition discussed in the previous two categories. In particular, *coaching knowledge* discussed the coaches overall beliefs and philosophies, as well as their approach to elements of competition, training, and goal setting. This higher order category was similar to the three primary components of Côté, Salmela, Trudel, et al.'s (1995) Coaching Model (CM) – *organization, training,* and *competition*, and the Multidimensional Model of Leadership (MML) forwarded by Chelladurai (1978). According to these researchers, coaches apply their knowledge to structure and coordinate coaching tasks, such as training and competition, and to determine suitable leadership behaviours, in order to provide their athlete's with optimal sporting environments. For instance, the current coaches emphasized the importance of organizing training sessions, particularly to accommodate the team's schedule of upcoming opponents. Likewise, coaches believed that being democratic allowed their athletes to gain a sense of autonomy but that certain situations required them to act in an autocratic way, such as during training and instruction. Thus, the following section examines various aspects of the

coaches' knowledge, including how coaches applied this knowledge to their coaching responsibilities.

Despite the idiosyncratic nature of each coach's journey of knowledge acquisition, it was interesting to note that common themes emerged regarding their overall coaching beliefs and philosophies. For example, coaches acknowledged the importance of supporting their athletes' academic aspirations and suggested that sport should be viewed as a vehicle for learning life lessons and improving personal discipline. Essentially, coaches believed that winning should be viewed as a goal of their program, but that the athletes' personal development should be viewed as the primary purpose. These findings replicated previous research which has demonstrated that expert coaches tend to espouse the importance of advancing their players individual growth, in addition to their athletic attributes (e.g., Bloom & Salmela, 2000; Côté, Salmela, Trudel, et al., 1995; Salmela, 1996; Vallée & Bloom, 2005; Wooden, 1988). For example, Vallée and Bloom showed that coaches believed that placing the holistic development of athletes as their main purpose was a key element in developing a successful program. Similarly, John Wooden, arguably one of the most successful American University coaches of all time, wrote in his book, 'They [My players] were my children. I got wrapped up in them, their lives, and their problems' (Wooden, 1988, p. 62). Thus, similar to other expert coaches, it appeared that the current participant's believed that the main purpose of their program was the overall development of the athletes.

The current participants believed that coaches needed to have excellent teaching skills in order to be successful. In some instances, coaches chose to work

harder on improving their teaching skills than their sport specific knowledge. These findings contributed to existing literature (e.g., Abraham & Collins, 1998; Chelladurai & Kuga, 1996; Douge & Hastie, 1993; Jones, Housner, & Kornspan, 1997; Lyle, 1998) which has interpreted the role of a coach as being synonymous with that of the teacher. For example, Jones and colleagues found that the interactive decision making involved in teaching and coaching were similar. Likewise, Lyle postulated that the theoretical basis for exploring coaching effectiveness was dependent on research in teacher behaviour due to the vast similarities between the two professions. As such, the current findings supported the notion that expert coaches require effective pedagogical skills in order to be successful.

Although the purpose of the current study was not to compare the behaviours of the current sample of coaches with other coaches, it was interesting to note the current coaches appeared to have developed similar competition routines to other coaches. For instance, coaches would always meet with their players before competition to increase their focus, repeat the game plan, and stress final key points. Moreover, coaches believed that specific feedback should not be given immediately following a game. Instead, the coaches would give short and general feedback to the whole team, and wait until a later time to give the athletes specific feedback. These findings were in accordance with previous research (e.g., Bloom, 2002; Bloom, Durand-Bush, & Salmela, 1997) which has examined the routines of expert coaches. For example, Bloom and colleagues highlighted that prior to competition coaches rehearsed their game plan, held team meetings, and used words that stressed only key points. Likewise, they found that expert coaches were reluctant to give detailed

analysis to their athletes directly following competition. Therefore, in spite of a lack of athletic experiences, the current sample of coaches exhibited similar competition routines to other coaches who had accumulated expert athletic experiences.

Results also revealed that the coaches adopted similar leadership styles. For instance, although they needed to be autocratic at times (e.g., during practice) the overall leadership style of each coach was predominantly democratic. Likewise, coaches postulated that it was important to support their athletes. More specifically, coaches felt that they needed to fight for their athletes and shoulder the responsibility for the team's performance. These findings mirror previous research which has suggested that expert athletes tended to favour coaches who exhibited autocratic behaviours within a socially supportive environment (e.g., Chelladurai, Malloy, Imamura, & Yamaguchi, 1988; Chelladurai & Saleh, 1980; Erle, 1981; Garland & Barry, 1988). For example, Chelladurai and colleagues demonstrated that Canadian athletes wanted their coach to be socially supportive, but to be autocratic in training and instruction. Likewise, Garland and Barry showed that successful athletes identified the coach as autocratic in training and instruction, but more socially supportive in the other areas of their coaching. Thus, the current participants appeared to have adopted the typical leadership style under which expert athletes have been shown to flourish.

The current findings also highlighted that coaches would often mentor young coaches. Interestingly, a small number of them felt they should mentor other coaches because Canada lacked a mentoring system, while others simply enjoyed teaching young coaches. These mentoring relationships developed as coaches organized clinics

or were contacted by other coaches seeking advice. On the whole, the coaches believed they were able to help young coaches acquire information, define their coaching philosophies, and augment various aspects of their performance. This result contributed to findings from previous research (e.g., Bloom et al., 1995, 1998; Gould, Giannini, Krane, & Hodge, 1990) which has highlighted the importance of mentoring on a coaches development. In particular, Bloom and colleagues concluded that young coaches considered mentoring to be the most important factor in their development. Therefore, the current findings provided a number of reasons why expert Canadian coaches may choose to become mentors, and appeared to underline the importance of mentoring for young aspiring coaches.

Additionally, it emerged that coaches were similar in their approach to training. In particular, coaches organized training so that athletes arrived at training knowing the format of the practice. Many coaches believed this helped their team properly prepare for games and gave them an edge over their opponents. Furthermore, the coaches discussed the importance of utilizing tactical, technical, physical, and mental training. Notably, coaches would often hire experts to carry out physical and mental training rather than attempt to teach the athletes themselves. These findings contributed to past research which has revealed that expert coaches applied tactical, technical, physical, and mental training in their coaching (Bloom, 2002; Côté, 1998; Côté, Salmela, & Russell, 1995b; Côté, Salmela, Trudel et al., 1995; Durand-Bush, 1996; Gallimore & Tharp, 2004). Furthermore, coaches emphasized the importance of adjusting training to accommodate the current stage in the season and the team's game schedule. For instance, a number of coaches revealed that the stage of the

season dictated various aspects of training, including whether they would focus on defence or offensive or focus on tactical or technical training. This supports previous research which has shown that organizing training is a key aspect of expert coaching (e.g., Bloom, 2002; Côté & Salmela, 1996; Desjardins, 1996; Vallée & Bloom, 2005). In particular, Bloom suggested that organizing practices allowed coaches to construct effective training sessions which provided a positive learning environment for athletes. Consequently, it appears that although the current coaches never participated in training as expert athletes, they developed the knowledge to run training sessions in a similar way to those coaches who had accumulated training experiences as expert athletes.

According to the results, there was also consistency between how the coaches set goals for themselves and their program. All coaches stressed the need to set realistic goals for their teams and results revealed the participants set both outcome and process goals. For example, coaches felt that becoming the best program in the country and winning either provincial or national championships were key team goals every season. Likewise, the coaches wanted their teams to be highly efficient, highly disciplined, and to improve from game to game. For both outcome and process goals, coaches revealed that athletes were involved in the goal setting process. To date, there has been a paucity of research which has identified how coaches set goals for themselves and their teams (Gilbert & Trudel, 2004). The small number of studies which exist have shown that similar to the current participants, expert coaches set realistic process, performance, and outcome goals in collaboration with their athletes (e.g., Gilbert & Trudel, 2000; Stern, Prince, Bradley, & Stroh, 1989; Weinberg, Butt,

& Knight, 2001; Weinberg, Butt, Knight, & Perritt, 2001). However, while it may be assumed that the current coaches were similar to other expert coaches in their approach to goal setting, the lack of empirical research on this topic suggests this result should be interpreted with caution. In particular, it may be worthwhile to further investigate this topic to gain a greater understanding of how expert coaches set goals for themselves and their teams, before comparing the goal setting methods of different expert coaches.

Finally, coaches discussed the ways in which they set goals for each individual athlete. In particular, coaches would set academic and personal goals for their athletes in addition to their sporting goals. A number of coaches emphasised that very few athletes progressed from Canadian Universities to compete professionally in their sport, and therefore they needed to place stronger emphasis on helping athletes achieve scholastic goals and develop as people in order to prepare them for life after graduation. This finding was consistent with past empirical research which has demonstrated that coaches stressed the holistic development of their athletes (e.g., Bloom & Salmela, 2000; Davies et al., 2005; Miller et al., 2002; Salminen & Liukkonen, 1996; Vallée & Bloom, 2005). For example, Davies and colleagues showed that expert coaches were more concerned with setting personal goals than outcome goals for their athletes. Likewise, Saliminen and Liukkonen revealed that expert coaches placed the greatest emphasis on goals which addressed the personal needs of the athletes and their development of a positive self-image. In sum, this indicates that the current coaches were similar to other expert coaches in the goals they set for their athletes.

Overall, this category pertained to the participants' current level of coaching knowledge and many common elements emerged. In particular, coaches seemed to be similar in their approach to various coaching tasks, such as training and competition. Likewise, coaches appeared to be similar in the way they organized their goals. While it may not be surprising that the current coaches shared numerous facets of coaching knowledge, it was interesting to see that many commonalities existed between the current participants and other expert coaches. This supports the idea that coaches are able to acquire the necessary coaching knowledge to be successful University coaches, regardless of their athletic background.

Summary of Study

While it is reasonable to suggest that most expert coaches were once expert athletes, this certainly does not represent all expert coaches (e.g., Ken Hitchcock in hockey or Arsene Wenger in soccer). Despite this, previous empirical research on how expert coaches have acquired their coaching knowledge has examined coaches who achieved comparable levels of excellence as athletes. This is unfortunate since coaches who have exceeded the level of excellence they achieved as athletes may share the same knowledge and skills as coaches who were once expert athletes, but may have acquired them in a different way. Similarly, studying coaches who have surpassed their athletic achievements would add information on an overlooked aspect of coaching development and provide a fuller outline of the development of coaching knowledge for aspiring coaches to follow. Thus, the purpose of the current study was to identify how coaches who have surpassed their athletic achievements acquired their coaching knowledge.

Participants were six male University team sport coaches from basketball, volleyball, and hockey. Three of the participants coached men, and three coached women. These coaches were identified by an expert on University team sports and were invited to participate in the study based on three criteria. First, the coaches needed to be coaching at a higher level (i.e. University level) than they had competed as an athlete. Second, each participant must have accumulated a minimum of five years experience as a head coach at the University level. Third, they needed to have a winning percentage greater than 500 during their career as a head coach at the University level. Participants were contacted by email and informed of the nature of the study. They were then asked to participate and were sent the interview guide to help prepare for their interview (Appendix C). The coaches were interviewed individually at mutually convenient locations across the provinces of Quebec and Ontario for a period of time varying from one to two hours.

Semi-structured, open-ended interviews were conducted following a predetermined format. The pre-interview routine included building a general rapport with the participant, the completion of a consent form (Appendix D) in accordance with McGill University ethics policy, and the completion of a demographic questionnaire (Appendix E). Then the interviewer explained the purpose of the study and began the interview. The interview was then concluded with the opportunity for participants to ask questions and suggest other relevant comments they felt were not covered in the interview.

Three higher-order categories emerged from the data analysis of the interviews which indicated the path coaches had taken to reach their current positions,

including the many ways knowledge was acquired, the external factors which impacted on their careers, and the coaching knowledge that had been accumulated. These three categories were named *career path*, *personal factors*, and *coaching knowledge*. *Career path* pertained to the journey of knowledge acquisition of these coaches, from their earliest sport participation to their current coaching position. This included the ways in which knowledge was acquired and the influence other individuals had on their career progression. *Personal factors* discussed how the coaches' journey of knowledge acquisition had been influenced by who the coaches were. More specifically, this category involved the coaches' characteristics and how these impacted their interactions with their athletes and their dedication to coaching. *Coaching knowledge* included the participants' current level of coaching knowledge and thus was viewed as the result of their journey of knowledge acquisition. In particular, this category discussed the coaches overall beliefs and philosophies, as well as their approach to elements of competition, training, and goal setting.

Despite the idiosyncratic nature of each coach's career progression many common themes emerged. Most notably similarities were found in the different ways knowledge was acquired, particularly through interactions with other coaches and coaching experiences. Likewise, coaches appeared to share similar characteristics, such as effective communication, adaptability, and open-mindedness. Finally, coaches seemed to have accumulated a similar level of coaching knowledge. Interestingly, many of the findings that emerged were similar to those highlighted in previous studies pertaining to expert coach development. This implies that although the current coaches lacked expert athletic experiences they were still able to evolve in

a similar manner to coaches who were once expert athletes. This implies that while athletic experiences may be a useful in expert coach development, they are not essential. Therefore, the results provided evidence that sources of knowledge acquisition are accessible to aspiring coaches to acquire the necessary coaching knowledge, regardless of their athletic background.

Conclusions

Within the confines and limitations of the current study, the following conclusions appear warranted:

- All coaches began playing sport in their childhood which sparked their long term interest in sport.
- Several coaches attributed their lack of expert athletic experiences to not being good enough, while others suffered injuries which prevented them from competing.
- Despite lacking expert athletic experiences, many of the coaches felt their playing careers played a role in the acquisition of coaching knowledge. They sensed these experiences helped shape their coaching philosophy and gave them general awareness of the tactical aspects of their sport.
- Four of the coaches studied kinesiology and physical education at University with a view towards a coaching career and attributed part of their knowledge acquisition to their university classes and experiences.
- Initial coaching experiences lasted between one and seventeen years and were at either the high school level or as an assistant coach at the University level.

These experiences typically occurred either before the coaches attended university or during their undergraduate studies.

- All six coaches suggested that valuable knowledge was acquired from their coaching experiences. The coaches felt these experiences helped shape their beliefs and philosophies, and acquire important tactical knowledge.
- Every coach mentioned acquiring knowledge from other coaches. In particular, coaches learned from being mentored as young coaches, talking to other coaches, and observing other coaches.
- Over half the coaches felt they had acquired knowledge by attending clinics, while a small number of coaches believed clinics held no educational value. Likewise, results were equivocal on the importance of reading books and analyzing videos for knowledge acquisition.
- All coaches agreed that the process of learning to coach was ongoing and did not end once the coaches had established themselves at the University level.
- The coaches agreed that positive support from family, University presidents, and athletic directors had played an important role in their career progression.
- Several characteristics were shared between the coaches and contributed to their success, including effective communication, flexibility, open-mindedness, excellent teaching skills, and being passionate.
- Coaches appeared to share similar thoughts pertaining to their athletes. In particular, coaches felt it was their responsibility to teach athletes to be autonomous and learn to take care of themselves.

- Many participants suggested they became coaches as a way to stay involved in sport, while other coaches entered the profession by chance and enjoyed their initial experiences enough to make it into a career.
- Not playing as an athlete was frequently cited as an obstacle for the coaches. Although some coaches believed that not playing provided them with a unique perspective of coaching that they used for their advantage, they all agreed they lacked tactical awareness and an instinctive understanding that coaches who played possessed.
- All the coaches felt they needed to work harder to either learn or overcome the gap in knowledge caused by not playing. This included practicing drills to gain an appreciation of what they were asking their athletes to do, working harder to get feedback from athletes, and consulting with assistant coaches who had played.
- All the coaches acknowledged the importance of supporting their athletes' academic aspirations and suggested that sport was a vehicle for learning life lessons and improving personal discipline.
- Discrepancies occurred between the coaches measure of success. In particular, several coaches suggested that success came from consistent performance over a long period of time, while other coaches postulated that success was seeing that athletes had learned under their tutelage.
- Similar routines for before and after competition emerged. All coaches met with their players prior to the game and tended to give short and general

feedback directly after a game, waiting until a later time to give athletes specific feedback.

- Inconsistency was revealed between the coaches' behaviours during competition. Several coaches actually felt part of the game itself and would try to actively coach throughout, whiles others hoped to prepare the athletes sufficiently so that their input during a game could be minimal.
- Common themes emerged between the coaches regarding their leadership style. Coaches suggested that at times they needed to be autocratic, such as during practice, but that their overall leadership style was predominantly democratic.
- All coaches highlighted the importance of organizing training session which allowed their teams to be properly prepared for games and gave them the edge over their opponents. This included providing athletes with physical, tactical, technical, and mental training.
- Training was often adapted according to the current stage in the season and the team's game schedule.
- Each coach would attempt to set realistic goals for themselves, their athletes, and their team. This often included becoming the best program in the country and winning either provincial or national championships, or demanding their teams be highly efficient, highly disciplined, and to improve from game to game.
- All coaches were keen to set academic and personal goals for their athletes in addition to their sporting goals.

Practical Implications

The current study is of interest to the entire coaching community as it provides an outline of how a number of expert coaches were able to develop and acquire the necessary coaching knowledge to achieve success at the University level. More specifically, the current study can be used by the International Council for Coach Education (ICCE), which oversees the provision of formal coach training and education throughout the world, to illustrate the key ways in which coaches acquire knowledge. In particular, increased awareness that learning occurs most frequently through coaching experiences and interactions with other coaches may encourage member organizations within the ICCE to add more practical elements to their coach training programs or arrange for their coaches to have regular access to other successful coaches through mentoring programs or focus groups and clinics. This is in accordance with previous research (e.g., Bloom, Durand-Bush, Schinke, & Salmela, 1998; Cushion, Armour, & Jones; 2003; Jones & Wallace, 2005; Saury & Durand, 1998) which has suggested that formal coaching education programs fail to provide adequate practical experience and mentoring opportunities for aspiring coaches. Thus the current study may be utilized to provide further evidence for the need to incorporate more practical elements into the training of young aspiring coaches.

Furthermore, the current study can provide encouragement and advice to the many aspiring coaches who hope to surpass their athletic achievements, by demonstrating that it is possible to achieve success as a coach without accumulating expert athletic experiences, and highlighting *how* this may be done. In particular,

future coaches can use the results of the current study to increase their awareness of the different sources of knowledge acquisition available to coaches who lack expert athletic experiences. Moreover, the current results may be used to illustrate how a collection of expert coaches approach different aspects of their coaching, including organization, training, and competition.

In addition, the current results may be used to enhance researchers understanding of how expert coaches develop. As mentioned previously, little to no empirical research has examined the development of coaches who surpassed their athletic achievements. The current study has begun the process of addressing this overlooked aspect of coach development and can be used to provide a fuller outline of how expert coaches develop and acquire coaching knowledge.

Recommendations for Future Research

The objective of the current study was to address the gap in literature pertaining to how expert coaches, who surpassed their achievements as athletes, developed and acquired their coaching knowledge. Therefore, future research could take a number of directions. For instance, it may be interesting to explore potential sport differences by replicating the current study with coaches from other team sports, such as soccer, football, or rugby. Along the same lines, differences between the development of individual and team sport coaches could also be investigated. Likewise, replicating the study with female coaches would allow for any gender differences in coach development to emerge.

As an extension to the current study, future research could also examine the difference in developmental paths between coaches at different levels of sport

participation. For instance, it may be interesting to examine the developmental paths of professional coaches who have surpassed their athletic experience in order to draw comparison with the current sample of coaches. Likewise, the influence of not accumulating expert athletic experiences may also be examined in relation to other areas of coaching. Whereas the current study focused on coach development, future researchers could look more specifically at how the behaviours and cognitions of coaches who have surpassed their athletic achievements may differ from coaches who were once expert athletes. In addition, it may also be of interest to examine the exact role of deliberate practice in coaching. In particular, research could examine whether expert athletic experiences may be viewed as part of the 10,000 hours of deliberate practice coaches might require to become an expert, or whether coaches can accumulate these hours of deliberate practice from other sources. Similarly, it may be interesting to compare the job satisfaction of coaches who have surpassed their athletic experiences to those coaches who were once expert athletes. For instance, coaches who lack expert athletic experiences may derive satisfaction simply from being involved in expert level sport, whereas coaches who were once expert athletes may take their involvement at these levels for granted.

Additionally, future research could compare athlete perceptions' of coaches who have surpassed their athletic experience with their perceptions' of coaches who were once expert athletes. While previous studies have investigated how athletes view their coaches (e.g., Chelladurai, 1993; Dwyer & Fischer, 1990; Horne & Carron, 1985; Kenow & Williams, 1999; Weiss & Friedrichs, 1986), it would be interesting to see whether athletes view coaches who lack athletic experiences differently than

coaches who were once expert athletes. For example, athletes may associate more with coaches who have actually experienced the pressure they have felt during competition.

Although this study has provided considerable information regarding the development of coaches who have surpassed their athletic achievements, many questions about these coaches still remain for future researchers. Since this study was exploratory and the dynamic nature of coach development seems idiosyncratic and complex, a conceptual framework that may explain how coaches develop may help the advancement of the research on this topic. One such model may be Moon's (1999, 2004) generic view of learning, as suggested by Werthner and Trudel (2006). The advantage of this model is it indicates how coaches may acquire knowledge while recognizing that this process will always be idiosyncratic. Thus, future studies investigating the development of expert coaches may benefit from the application of this model in order to further research in this area.

References

Abraham, A., & Collins, D. (1998). Examining and extending research in coach development. *Quest, 50,* 59-79.

Beam, J. W., Serwatka, T. S., & Wilson, W. J. (2004). Preferred leadership of NCAA Division I and II intercollegiate student-athletes. *Journal of Sport Behavior, 27,* 3-17.

Bloom, B. S. (1985). *Developing talent in young people.* New York: Ballantine.

Bloom, G. A. (2002). Coaching demands and responsibilities of expert coaches. In J. M. Silva & D. Stevens (Eds.), *Psychological foundations of sport*, (pp. 438-465). Boston: Allyn and Bacon.

Bloom, G. A., Crumpton, R., & Anderson, J. E. (1999). A systematic observation study of the teaching behaviors of an expert basketball coach. *The Sport Psychologist, 13*, 157-170.

Bloom, G. A., Durand-Bush, N., & Salmela, J. H. (1997). Pre- and post competition routines of expert coaches of team sports. *The Sport Psychologist, 11*, 127-141.

Bloom, G. A., Durand-Bush, N., Schinke, R. J., & Salmela, J. H. (1998). The importance of mentoring in the development of coaches and athletes. *International Journal of Sport Psychology, 29,* 267-281.

Bloom, G.A., & Salmela, J. H. (2000). Personal characteristics of expert team sport coaches. *Journal of Sport Pedagogy, 6*, 56-76.

Bloom, G. A., Salmela, J. H., & Schinke, R. J. (1995). Expert coaches' view on the training of developing coaches. In R. Vanfraechem-Raway & Y. Vanden Auweele (Eds.), *Proceedings of the Ninth European Congress on Sport Psychology* (pp. 401-408). Brussels, Belgium: Free University of Brussels.

Case, B. (1987). Leadership behaviour in sport: A field test of situational leadership theory. *International Journal of Sport Psychology, 18,* 256-268.

Chelladurai, P. (1978). A contingency model of leadership in athletics. Unpublished doctoral dissertation, Department of Management Sciences, University of Waterloo, Canada.

Chelladurai, P. (1980). Leadership in sport organizations. *Canadian Journal of Applied Sport Science, 13*, 56-65.

Chelladurai, P. (1984). Discrepancy between preferences and perceptions of leadership behavior and satisfaction of athletes in varying sports. *Journal of Sport Psychology, 6*, 27-41.

Chelladurai, P. (1993). Leadership. In R. N. Singer, M. Murphey, & L. K. Tennant (Eds.), *Handbook of research on sport psychology* (pp. 647-671). New York: Macmillan.

Chelladurai, P., & Carron, A. V. (1983). Athletic maturity and preferred leadership. *Journal of Sport Psychology, 5*, 371-380.

Chelladurai, P., & Kuga, D. J. (1996). Teaching and coaching: Group and task differences. *Quest, 48,* 470-485.

Chelladurai, P., Malloy, D., Imamura, H., & Yamaguchi, Y. (1988). A cross-cultural study of preferred leadership in sports. *Canadian Journal of Sport Sciences, 12*, 106-110.

Chelladurai, P., & Riemer, H.A. (1998). Measurement of leadership in sport. In J. L. Duda (Ed.), *Advances in sport and exercise psychology measurement* (pp. 227-253). Morgantown, WV: Fitness Information Technology.

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2*, 34-45.

Côté, J. (1998). Coaching research and intervention: An introduction to the special issue. *Avante, 4,* 1-15.

Côté, J. (1999). The influence of family in the development of talent in sport. *The Sport Psychologist, 13,* 395-417.

Côté, J., & Salmela, J. H. (1996). The organizational tasks of high-performance gymnastic coaches. *The Sport Psychologist. 10*, 247-260.

Côté, J., Salmela, J. H., Baria, A., & Russell, S. J. (1993). Organizing and interpreting unstructured qualitative data. *The Sport Psychologist, 10*, 247-260.

Côté, J., Salmela, J. H., & Russell, S. J. (1995a). The knowledge of high-performance gymnastic coaches: Methodological framework. *The Sport Psychologist, 6, 65-75.*

Côté, J., Salmela, J. H., & Russell, S. J. (1995b). The knowledge of high-performance gymnastic coaches: Competition and training considerations. *The Sport Psychologist, 9*, 76-95.

Côté, J., Salmela, J. H., Trudel, P., Baria, A., & Russell, S. J. (1995). The coaching model: A grounded assessment of expert gymnastics coaches' knowledge. *Journal of Sport and Exercise Psychology, 17*, 1-17.

Cregan, K., Bloom, G. A., & Reid, G. (in press). Career evolution and knowledge of elite coaches of swimmers with a physical disability. *Research Quarterly for Exercise and Sport.*

Cushion, C. J., Armour, K. M., & Jones, R. L. (2003). Coach education and continuing professional development: Experience and learning to coach. *Quest, 55,* 215-230.

Davies, M. J., Bloom, G. A., & Salmela, J. H. (in press). Job satisfaction of accomplished male university basketball coaches: The Canadian context. *International Journal of Sport Psychology, 36,* 173-192.

Desjardins, G. (1996). The mission. In J. H. Salmela (Ed.), *Great job coach! Getting the edge from proven winners* (pp. 67-99). Ottawa, ON: Potentium.

Dexter, L. A. (1970). *Elite and specialized interviewing.* Evanston, IL: Northwestern University Press.

Douge, B., & Hastie, P. (1993). Coach effectiveness. *Sport Science Review, 2(2),* 14-29.

Draper, S. P. (1996). Coaching contexts. In J. H. Salmela (Ed.), *Great job coach! Getting the edge from proven winners* (pp. 181-205). Ottawa, ON: Potentium.

Dunnette, M. (1965). *Personal selection and placement.* Belmont, CA: Wadsworth.

Durand-Bush, N. (1996). Training: blood, sweat, tears. In J. H. Salmela (Ed.), *Great job coach! Getting the edge from proven winners* (pp. 103-137). Ottawa, ON: Potentium.

Dwyer, J. M., & Fischer, D. G. (1990). Leadership style of wrestling coaches. *Perceptual and Motor Skills, 71*, 511-517.

Erle, F. J. (1981). Leadership in competitive and recreational sport. Unpublished master's thesis. University of Western Ontario, Canada.

Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*, 363-406.

Fiedler, F. (1967). *A theory of leadership effectiveness.* New York: McGraw-Hill.

Fontana, A., & Frey, J. H. (1994). Interviewing: The art of science. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 361-375). Thousand Oaks, CA: Sage.

Gallimore, R., & Tharp, R. G. (2004). What a coach can teach a teacher 1975–2004: Reflections and reanalysis of John Wooden's teaching practices. *The Sport Psychologist, 18*, 119-137.

Garland, D. J., & Barry, J. R. (1988). The effects of personality and perceived leader behavior on performance in collegiate football. *The Psychological Record, 38*, 237-247.

Ghiselli, E. (1971). *Explorations in managerial talent.* Santa Monica, CA: Goodyear.

Giacobbi, P. R., Roper, E., Whitney, J., & Butryn, T. (2002). College coaches views about the development of successful athletes: A descriptive exploratory investigation. *Journal of Sport Behavior, 25*, 164-180.

Gilbert, W. D., Côté, J., & Mallett, C. (2006). Developmental paths and activities of successful sports coaches. *International Journal of Sports Science & Coaching, 1,* 69-76.

Gilbert, W. D., & Trudel, P. (2000). Validation of the Coaching Model (CM) in a team sport context. *International Sports Journal, 4*, 120-128.

Gilbert, W. D., & Trudel, P. (2004). Analysis of coaching science research published from 1970-2001. *Research Quarterly for Exercise and Sport, 75*, 388-399.

Gilbert, W. D., & Trudel, P. (2005). Learning to coach through experience: Conditions that influence reflection. *The Physical Educator, 62(1),* 32-43.

Glasser, R., & Chi, M. (1988). In M. Chi, R. Glasser, & M. Farr (Eds.), *The nature of expertise.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Gould, D. (1987). Your role as a youth sports coach. In V. Seefeldt (Ed.), *Handbook for youth sport coaches* (pp. 17-32). Reston, VA: American Alliance for Health, Physical Education, Recreation, and Dance.

Gould, D., Giannini, J., Krane, V., & Hodge, K. (1990). Education needs of elite U.S. national teams, Pan American and Olympic coaches. *Journal of Teaching in Phsyical Education, 9,* 332-334.

Hendry, L. (1974). Human factors in sport systems. *Human Factors, 16,* 528-544.

Hershey, P., & Blanchard, K. H. (1969). Life style theory of leadership. *Training and Development Journal, 23,* 26-34.

Hershey, P., & Blanchard, K. H. (1977). *Management of organizational behaviour.* Englewood Cliffs, NJ: Prentice-Hall.

Horne, T., & Carron, A. V. (1985). Compatibility in coach-athlete relationship. *Journal of Sport Psychology, 7,* 137-149.

Irwin, G., Hanton, S., & Kerwin, D. (2004). Reflective practice and the origins of elite coaching knowledge. *Reflective Practice, 5,* 425-442.

Jones, D. F., Housner, L. D., & Kornspan, A. S. (1997). Interactive decision making and behavior of experienced and inexperienced basketball coaches during practice. *Journal of Teaching in Physical Education, 16,* 454-468.

Jones, R. L., & Wallace, M. (2005). Another bad day at the training ground: Coping with ambiguity in the coaching context. *Sport Education and Society, 10(1),* 119-134.

Kenow, L., & Williams, J. M. (1999). Coach-athlete compatibility and athlete's perception of coaching behaviors. *Journal of Sport Behavior, 22,* 251-259.

Kram, K. E. (1988). *Mentoring at work: Developmental relationships in organizational life.* New York: University Press.

Kulikov, N. A., & Gilbert, W. D. (in press). Effective coaching approaches in combined gender sports. *The Sport Psychologist.*

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* London: Sage.

Lyle, J. (1998). Coaching Effectiveness and the Teaching Paradigm. In R. Fisher, C. Laws & J.Moses (Eds) *Active Living through Quality Physical Education.* Selected Readings from the 8th European Congress, International Council for Health, Physical Education, Recreation, Sport and Dance (St. Mary's University College, Twickenham, Physical Education Association of the UK), pp. 40–45.

Lyle, J. (2002). *Sports coaching concepts: A framework for coaches' behaviour.* New York: Routledge.

Maxwell, J. C. (1996). *Qualitative research design: An interactive approach.*

McNab, T. (1990). Chariots of fire into the twenty first century. *Coaching Focus, 13,* 2-5.

Martens, R. (1997). *Successful coaching (Updated 2nd ed.).* Champaign, IL: Human Kinetics.

Merriam, S. (1983). Mentors and protégé's: A critical review of the literature. *Adult Education Quarterly, 33,* 161-173.

Moon, J. A. (1999). *Reflection in learning and professional development: Theory and practice.* London: Kogan Page.

Moon, J. A. (2004). *A handbook of reflective and experiential learning: Theory and practice.* London: Routledge Falmer.

Miller, P. S., Bloom, G. A., & Salmela, J. H. (1996). The roots of success: From athletic leaders to expert coaches. *Coaches Report, 2(4),* 18-20.

Miller, P. S., Salmela, J. H., & Kerr, G. (2002). Coaches perceived role in mentoring athletes. *International Journal of Sport Psychology, 33,* 410-430.

Murray, M. C., & Mann, B. L. (1993). Leadership effectiveness. In J.M. Williams (Ed.), *Applied sport psychology; Personal growth to peak performance* (pp. 82-98). Mountain View, CA: Mayfield Publishing Company.

Neil, G. I., & Kirby, S. L. (1985). Coaching styles and preferred leadership amongst rowers and paddlers. *Journal of Sport Behavior, 8,* 3-17.

Ogilvie, B., & Tutko, T. (1966). *Problem athletes and how to handle them.* New York: Pelham Books.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Rubin, H. J., & Rubin, S. I. (1995). *Qualitative interviewing: The art of hearing data.* London: Sage.

Salmela, J. H. (1994). Learning from the development of expert coaches. *Coaching and Sport Science Journal, 1,* 1-11.

Salmela, J. H. (1996). *Great job coach! Getting the edge from proven winners.* Ottawa, ON: Potentium.

Salminen, S., & Liukkonen, J. (1996). Coach-athlete relationship and coaching behavior in training sessions. *International Journal of Sport Psychology, 27,* 59-67.

Saury, J., & Durand, M. (1998). Practical coaching knowledge in expert coaches: On-site study of coaching in sailing. *Research Quarterly for Exercise and Sport, 69,* 254-266.

Schinke, R. J., Bloom, G. A., & Salmela, J. H. (1995). The career stages of elite Canadian basketball coaches. *Avante, 1,* 48-62.

Serpa, S. (1990). Research work on sport leadership in Portugal. Unpublished manuscript, Lisbon Technical University.

Sparkes, A. C. (1998). Validity in qualitative inquiry and the problem of criteria: Implications for sport psychology. *The Sport Psychologist, 12, 363-386.*

Stern, P, Prince, M. T., Bradley, R. H., Stroh, S. E. (1989). Coaches' goals for young children in a recreational sports program. *Clinical pediatrics, 28(6),* 277-281.

Stogdill, R. (1974). *Handbook of leadership: A survey of theory and research.* New York: Free Press.

Terry, P. C. (1984). The coaching preferences of elite athletes competing at the Universiade '83. *The Canadian Journal of Applied Sport Sciences, 9,* 201-208.

Tesch, R. (1990). *Qualitative research analysis types and software tools.* New York: Falmer.

Thomas, J. R., & Nelson, J. K. (2001). *Research methods in physical activity.* Champaign, IL: Human Kinetics.

Vallée, C. N., & Bloom, G. A. (2005). Building a successful program: Perspectives of expert Canadian female coaches of team sports. *Journal of Applied Sport Psychology, 17, 179-196.*

Weiss, M. R., & Friedrichs, W. D. (1986). The influence of leader behaviors, coach attributes, and institutional variables on performance and satisfaction of collegiate basketball teams. *Journal of Sport Psychology, 8,* 332-346.

Weinberg, R. S., Butt, J., & Knight, B. (2001). High school coaches' perceptions of the process of goal setting. *The Sport Psychologist 15,* 20–47.

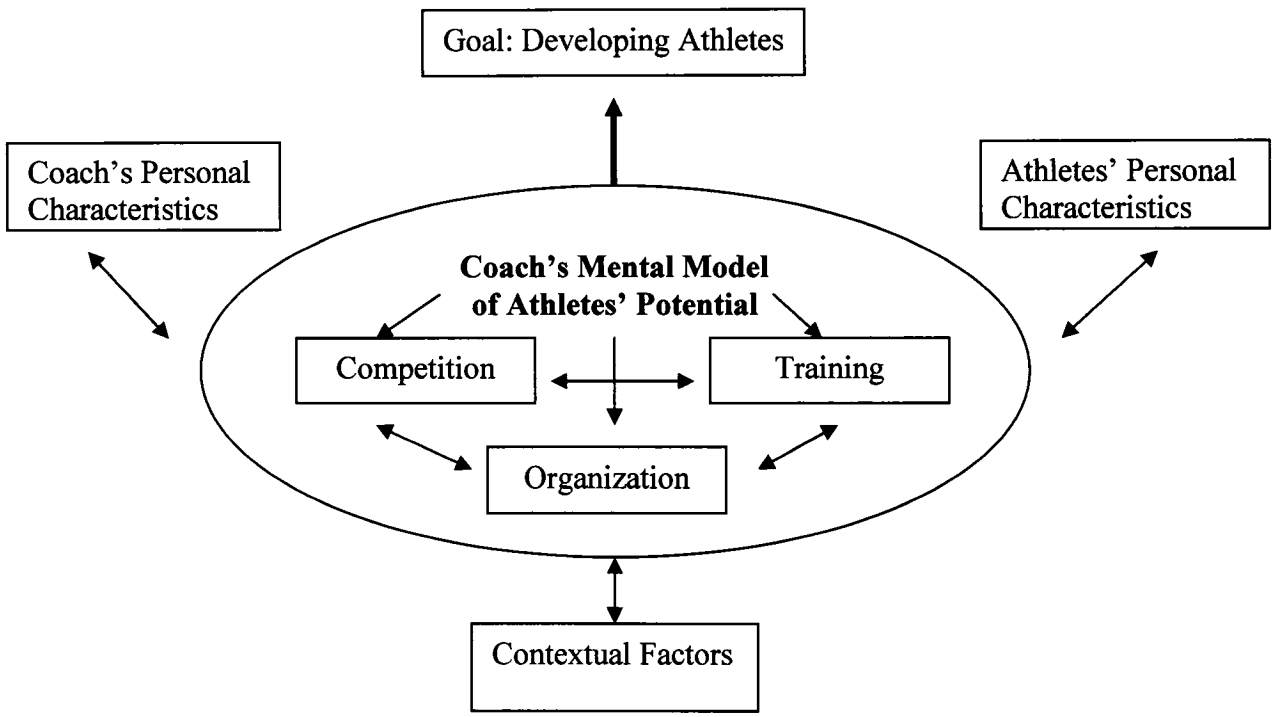
Weinberg, R., Butt, J., Knight, B., & Perritt, N. (2001). Collegiate coaches' perceptions of their goal-setting practices: A qualitative investigation. *Journal of Applied Sport Psychology, 13,* 374-398.

Werthner, P., & Trudel, P. (2006). A new theoretical perspective for understanding how coaches learn to coach. *The Sport Psychologist, 20,* 198-212.

Wooden, J. R. (1988). *Practical modern basketball.* New York: Macmillan Publishing Company.

Appendix A

The Coaching Model (CM)

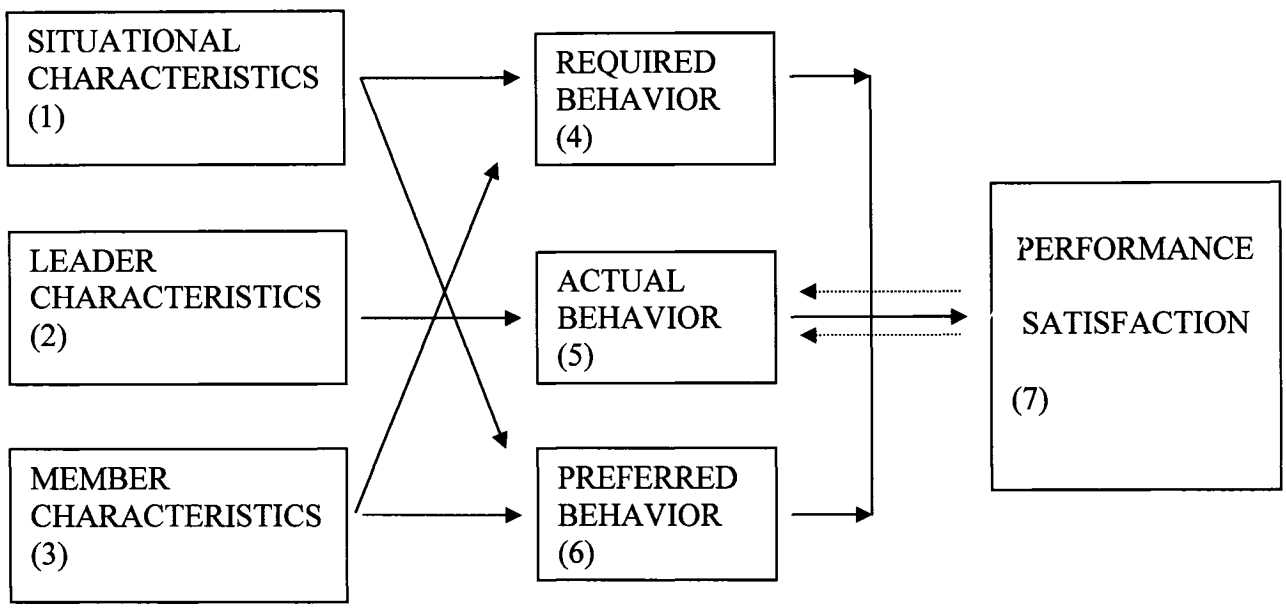


Adapted from:

Côté, J., Salmela, J. H., Trudel, P., Baria, A., & Russell, S. J. (1995). The coaching model: A grounded assessment of expert gymnastic coaches' knowledge. *Journal of Sport & Exercise Psychology, 17*, 1-17.

Appendix B

The Multidimensional Model of Leadership



Adapted from:

Chelladurai, P. (1978). A contingency model of leadership in athletics. Unpublished doctoral dissertation, Department of Management Sciences, University of Waterloo, Ontario, Canada.

Appendix C

Interview Guide

Pre-Interview Routine

Introduction
Consent Form
Demographic Questionnaire

Opening Question

1. Tell me about your evolution into coaching?
    i. Past experiences as an athlete.
    ii. Past experiences as a coach.
    iii. Obstacles faced.
    iv. Reasons for success.

Key Questions

2. (a) In general, what are your coaching beliefs and philosophies?
   (b) How did you develop these?
    i. Mentoring and experiences in and out of sport.

3. (a) What type of goals do you set for yourself, your athletes, and your team?
    i. How do you measure personal and athlete success?
    ii. Vision (deciding on a mission statement).
    iii. Planning (a training session, a season etc).
   (b) How did you learn to do this?
    i. Experience.
    ii. Books, Journals, DVD's, etc.
    iii. Mentoring.

4. (a) What tasks are involved in training?
    i. How does a typical training session run?
    ii. How often do you train your team?
    iii. What types of training? (mental, physical).
    iv. What style do you employ in training (autocratic, democratic)?
   (b) How did you learn to do this?
    i. Experience.
    ii. Books, Journals, DVD's, etc.
    iii. Mentoring.

5. (a) What role do you play in competition?
    i. Before, during, and after competition.
    ii. Alone, with other coaches, with athletes (best time for communication etc.).

(b) How did you learn this?
i. Experience.
ii. Books, Journals, DVD's, etc.
iii. Mentoring.

6. (a) What characteristics do you feel are important in being a university coach?
i. Characteristics you yourself possess.
Factors that helped you develop these characteristics?
i. Experience.
ii. Books, Journals, DVD's, etc.
iii. Mentoring.

7. (a) What characteristics do you feel are important in university athletes?
i. How do you teach these characteristics to your athletes?
(c) How did you learn to do this?
i. Experience.
ii. Books, Journals, DVD's, etc.
iii. Mentoring.

8. (a) Describe the leadership role you adopt in coaching.
i. Preferred behaviours.
i. Required behaviours.
i. Actual behaviours.
(b) How did you develop this leadership role?
i. Experience.
ii. Books, Journals, DVD's, etc.
iii. Mentoring.

9. What role, if any, did the environment play in the development and acquisition of your coaching knowledge?
i. External Sources.
ii. Athletic Director.
iii. Peers, Support.

Summary Questions

10. In your opinion, what were the key factors in helping you acquire knowledge to become a head coach at the University level?
i. What should aspiring coaches do to help acquire enough knowledge to become a head coach at the University level?

Concluding Questions

11. Are there any other comments you wish to add?

12. Do you have any final questions or comments?

Appendix E

Demographic Questionnaire

1. Name: _____

2. Age: _____

3. E-mail: _____

4. Address: _____

5. Phone Number (home, work, and cell): _____

_____

_____

6. Current coaching position? _____

_____

_____

7. How long have you been in your current position? _____

_____

_____

8. What is your win-loss ratio at your current position? (Please circle)

0-.400 .401-.500 .501-.600 .601-.700 .701-.800 .801-1.000

9. In what sports have you competed as an athlete? _____

_____

_____

_____

_____

_____

10. What is the highest level of competition you reached as an athlete in each of these sports? _____

11. Please list any awards or major accomplishments in any of these sports? (either individually or as a team) _____

12. In what sports have you participated as an assistant coach? _____

13. What is the highest level of competition you reached as an assistant coach in each of these sports? _____

14. Please list any awards or major accomplishments achieved as an assistant coach in any of these sports? (either individually or as a team) _____

15. In what sports have you participated as a head coach? _____

16. What is the highest level of competition you reached as a head coach in each of these sports? _____

17. Please list any awards or major accomplishments achieved as a head coach in any of these sports? (either individually or as a team) _____

Appendix F

Table 2

Alphabetical Listing of the Frequency of Topics Discussed by Each Participant

Tags (Level 1)	**n**	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**
Athlete autonomy	3	2	0	0	1	0	0
Athlete characteristics	21	4	4	7	4	0	2
Coach beliefs	17	8	3	1	3	1	1
Coach characteristics	27	3	5	5	8	3	3
Coach philosophy	11	1	0	4	1	3	2
Coach-athlete relationship	3	0	0	0	3	0	0
Coaching accomplishments	5	2	0	0	2	1	0
Deciding to coach - at university	2	1	0	0	1	0	0
Deciding to coach - general	7	2	0	2	0	2	1
Deciding to coach - sport specific	3	3	0	0	0	0	0
During-competition routine	7	1	1	2	3	0	0
Fundamentals of the game	4	4	0	0	0	0	0
Goals - athlete	7	0	0	3	2	0	2
Goals - coaching	3	1	0	0	2	0	0
Goals - setting	6	1	0	1	3	1	0
Goals - team/program	13	2	3	1	2	3	2
High school coaching	6	1	2	1	2	0	0
Impact of never playing	13	1	0	4	3	1	4
Influence of personality	7	4	0	1	1	0	1
Initial coaching	3	1	1	1	0	0	0
Intensity of coaching at university level	5	5	0	0	0	0	0
Involving oneself in coaching opportunities	20	0	1	2	6	3	8
Lack of general knowledge	3	3	0	0	0	0	0
Lack of tactical knowledge	3	2	0	0	0	1	0
Leadership style	25	3	2	5	4	9	2
Learning as assistant coach	13	2	2	4	2	2	1
Learning from clinics	11	2	1	2	3	1	2
Learning from experience	41	4	7	8	4	5	13

Table 1 (continued)

Tags (Level 1)	n	C1	C2	C3	C4	C5	C6
Learning from observation	25	3	2	6	6	7	1
Learning from other coaches	53	8	7	12	13	1	12
Learning from reading	10	2	2	2	3	0	1
Learning from trial and error	4	1	2	0	0	1	0
Learning from university classes/ formal education	13	5	1	1	1	4	1
Learning from video	8	3	4	0	0	1	0
Making decisions on knowledge	10	7	0	1	0	2	0
Mentoring others	4	0	1	0	2	1	0
Motivation for becoming a coach	2	2	0	0	0	0	0
National level coaching	2	1	0	0	1	0	0
Natural ability/ coaching strengths	11	3	4	2	1	1	0
Obstacles faced/ resource constraints	8	0	1	3	0	4	0
Parental influences	17	4	1	5	1	6	0
Playing career	9	3	2	1	1	2	0
Post-competition routine	5	0	0	4	0	1	0
Pre-competition routine	22	5	2	3	4	5	3
Reaching out to the community	2	0	0	0	1	0	1
Role of environment	7	0	0	1	2	0	4
Role of family	2	0	0	0	1	0	1
Sacrifices in coaching	4	2	0	0	1	1	0
Similarities between coaching and teaching	14	1	0	4	6	2	1
Team building	2	0	0	0	1	0	1
Training - general	23	0	7	5	4	6	1
Training - roles	3	0	0	0	2	1	0
Training - strength and conditioning	3	0	0	0	1	2	0
Total	552	113	68	104	112	84	71