

Sample or Specialize? Exploring Youth Sport Coaches' Perspectives and Practices Regarding Sport  
Specialization and Sport Sampling

By

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## Abstract

Previous research associates early sport specialization with negative athlete outcomes such as injury and burnout. Despite the growing body of research cautioning against specializing early, many young athletes continue to pursue one sport at the exclusion of others, and little is known about coaches' roles in influencing young athletes' decisions to specialize or undertake multisport experiences. This research examines the perceptions and practices of a sample of youth sport coaches regarding sport sampling and sport specialization, and it investigates how a sample of coaches perceive and implement the recommendations contained in Sport for Life Canada's (2019) *Long-Term Development in Sport and Physical Activity 3.0* framework (LTD model). Specifically, nine youth club basketball coaches from Manitoba who are working with athletes in the Train-to-Train age category (females ages 11-15, or males ages 12-16) completed a questionnaire and participated in a one-on-one semistructured interview to gather in-depth information about each coach's perceptions and behaviours regarding sport sampling, sport specialization, and long-term athlete development, as well as whether their philosophical perceptions and coaching behaviours align with the LTD model. From the questionnaires and interviews it was found that: (1) coaches are committed to the principle that athletes should sample but have difficulty explaining how their beliefs translate into action with their teams, (2) athletes continue to undertake too much training, (3) the youth sport system is broken, (4) coaches are aware of the LTD model but lack the tools to apply it with their teams, and (5) coaches apply a variety of strategies to accommodate athletes who play multiple sports while maintaining expectations of commitment and hard work within their programs. As coaches participating in this study believe that athletes should sample and provide flexibility in their programming to accommodate athletes who play multiple sports, yet many athletes continue to specialize and overtrain, systemic factors remain in the youth sport system that prevent coaches from effectively implementing the LTD model. These results have potential applications in coach education as well as for sport organizers and governing bodies that make programming decisions that impact athlete development.

*Keywords:* Sport specialization, sport sampling, long-term athlete development, youth sport, coaching, sport policy, Manitoba, qualitative, interviews

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## **Dedication**

I dedicate this thesis to all the coaches who are volunteering their time in the Manitoba youth sport community. Coaches have a tremendous impact on the lives of youth. I am enormously grateful to the coaches I have had who have helped shape me into the person I am today. I would not be here without them and I am sure there are many young people across our province who would say the same. The countless hours that coaches dedicate to sport and the passion they share with athletes is vital to supporting youth and furthering sport in our community.

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## Chapter I: Introduction

Youth sport in Manitoba extends beyond school and community-based programming to include a highly structured and competitive system with club sport at its center. When club programs emphasize competition and performance, athletes can experience increased pressure to excel at a young age. To achieve success, many youth athletes specialize in one sport early on in their sporting careers and often at the exclusion of other sports and activities (Brooks et al., 2018). Previous research associates early sport specialization with a variety of risks for athletes, including injury and burnout (Carder et al., 2020; Côté et al., 2009; Giusti et al., 2020; Jayanthi et al., 2013; LaPrade et al., 2016; Myer et al., 2015). Club sport coaches have tremendous influence on athletes' decisions to specialize in one sport or to sample a variety of sports (Jayanthi et al., 2013).

This study explores the perceptions of a sample of Manitoba youth club sport coaches with respect to sport specialization versus sport sampling, and how coaches reflect their attitudes toward specialization in their coaching practices. Are coaches prioritizing the long-term development of their athletes? Or are they more concerned with short-term success? Sport for Life Canada's (2019) resource, *Long-Term Development in Sport and Physical Activity 3.0*, (LTD model) is a framework designed to guide people working with athletes at various stages of development in providing programming that is optimized for their developmental age and level of competition (Higgs et al., 2019). The extent to which club level coaches in Manitoba use this document to guide their coaching practices and philosophy is unknown. Throughout this thesis 'LTD model' will be used as an abbreviation for this guiding document from Sport for Life Canada.

Definitions of sport specialization vary across the literature. Jayanthi et al. (2013) categorize athletes as low, moderate, or highly specialized based on whether they: (1) can identify a main sport, (2) participate for greater than 8 months per year in that sport, and (3) have quit other sports to focus on their main sport. Many subsequent sport specialization studies endorse and apply this definition (Brooks et al., 2018; Carder et al., 2020; DiSanti et al., 2019; Giusti et al., 2020; Myer et al., 2015; Pasulka et al., 2017). Variations on this definition exist across the literature. Some disagreement exists in determining what volume constitutes "intense" training. In addition to participating for greater than 8 months per year, number of hours of training per week is an important reflection of intensity to consider. LaPrade et al. (2016) used a variation of this definition in the American Orthopedic Society for Sports Medicine (AOSSM) early sport specialization consensus statement, with an added criterion, "involving prepubertal (seventh grade or roughly age 12 years) children" (LaPrade et al., 2016). This addition relates to the AOSSM's focus on early sport specialization rather than sport specialization in

general. Accordingly, the organization believes that a delay in specialization until middle to late adolescence decreases many of the associated risks. Specialization in elite sport, even if it occurs past the age of 12, can involve higher training volumes, more intensive competition schedule, and increase psychological stress (Myer et al., 2015) which should still be taken into consideration. The work of Côté et al. (2009) emphasizes the role of deliberate practice versus deliberate play as essential features of sport specialization and sport sampling, respectively. According to Côté et al., sport sampling is associated with high levels of deliberate play, which contributes to a range of positive motor and cognitive experiences. Deliberate practice activities are often associated with early sport specialization, which Côté et al. describe as extrinsically motivated, outcome focused, and rigid, with little evidence to support connections to elite performance pathways in sport. For the purposes of this research, I characterize sport specialization as “intensive, year-round training in a single sport with the exclusion of other sports” (Jayanthi et al., 2013, p. 252). Further, I characterize sport sampling as an athlete participating in more than one sport in the course of a year or otherwise failing to meet the sport specializing criteria (Carder et al., 2020; Giusti et al., 2020).

Researchers often use survey research to determine the prevalence of sport specialization and the perceptions of athletes. For example, Paskula et al. (2017) surveyed 1190 athletes and found that 26.4% met criteria for being a single-sport specialized athlete and that a higher proportion of these athletes were involved in individual sports (53.4% vs. 46.6%). Another study by Bell et al. (2016) found that 29.5% of athletes self-classified as single-sport specialized, while 36.4% of athletes fell into the highly specialized category based on the 3-point scale applied by Jayanthi et al. (2013).

Despite the risks of sport specialization, athletes’ perceptions of sport specialization are generally positive, especially among specialized athletes. One study by researchers Brooks et al. (2018) surveyed 974 athletes, ages 12 to 18, using a variety of Likert-type scale questions to assess the athletes’ (1) sport specialization status, (2) attitudes/beliefs about sport specialization and participation, and (3) injury history in the last 12 months. The results of this survey indicated that athletes strongly believe sport specialization will improve their performance and their chances of receiving an athletic scholarship. This belief was strongest among highly specialized athletes. The survey also indicated that fewer than half (45.8%) of athletes believe that sport specialization will increase their risk of injury. Subsequent research identified coaches’ perceptions of the value of specialization as higher among club sport coaches than high school coaches (DiSanti et al., 2019) but more research is necessary in this area to understand the perceptions of coaches and their influence on athlete specialization decisions. Jayanthi et al. (2013) found that while parents are the strongest influences on an athlete’s decision to

start a new sport, coaches are the strongest influencer on their decision to begin training intensely, a behaviour that is linked to sport specialization in the literature.

Canada's guiding policy on long-term athlete development is Sport for Life's (2019) *Long-Term Development in Sport and Physical Activity 3.0*. At its core, this document acts as a framework for optimal programming that takes into account the physical, cognitive, emotional, and social development of the participant. The framework includes recommendations on sport sampling and sport specialization behaviours among other key training and development factors. The LTD model is organized according to seven stages and two pre-stages that make up the Sport for Life Rectangle (see Appendix A). These stages are not necessarily sequential but represent the different contexts of sport engagement that a person may move between throughout their life. The seven stages of participant development are: (1) Active Start, (2) FUNDamentals, (3) Learn to Train, (4) Train-to-Train, (5) Train-to-Compete, (6) Train-to-Win, and (7) Active for Life. Stages one through three focus on building a foundation of physical literacy and fundamental movement skills that will give Canadians a positive start along their sport and physical activity journeys. The fourth stage, Train-to-Train, is a time when participants often decide whether to pursue the highest levels of excellence in sport, along the framework's Podium Pathway, or transition to a more recreational level of participation, which takes place in the Active for Life stage.

This research focuses on coaches who work with athletes at the Train-to-Train stage. During the Train-to-Train stage, many athletes are making decisions about whether to continue committing the time, energy, and resources to achieve excellence in their sport and how to prioritize their sport participation between different sports. It is a transitional phase. Athletes who pursue the Podium Pathway will move on to fully specialize in their chosen sport, but at the Train-to-Train stage, athletes are still recommended to participate in complementary sports or activities to maximize their development. According to the LTD model, athletes at this stage report a lack of sport-life balance, increased demands by multiple sports or teams, and a lack of planning between sports (Higgs et al., 2019).

Sport for Life is a not-for-profit organization committed to physical literacy and quality sport in Canada. All Federal, Provincial, and Territorial Sport Ministers accepted the first edition of Sport for Life's framework as Canada's national development framework in 2005. In 2007, the Ministers committed to full implementation of the model, embedding it in the planning and programming of national and provincial sport organizations (NSOs and PSOs). The hope was that NSOs and PSOs would become the flagship for long-term development and that local community organizations would

follow (Higgs et al., 2019). Since that time, several studies have examined the use of the LTD model in various youth sport contexts (Banack et al., 2012; Beaudoin et al., 2015; Frankish et al., 2012; Millar et al., 2020). These studies found that when coaches or program leaders were aware of the LTD model, they viewed it positively and in alignment with coach values (Banack et al., 2012; Beaudoin et al., 2015; Frankish et al., 2012). In cases where coaches had limited awareness of the LTD model, or lacked the knowledge to fully implement its recommendations, coaches were undertaking athlete development initiatives on their own or adapting the framework to better suit the needs of their club (Beaudoin et al., 2015; Frankish et al., 2012; Millar et al., 2020). These results indicate that coaches generally view the LTD model positively, but that more support is necessary to aid with implementation and understanding. It is not well understood how coaches' perspectives on sport sampling and sport specialization influence their application of the LTD model with athletes at the Train-to-Train level.

## **1.1 Objectives**

The purpose of this thesis is to investigate the perceptions and practices of coaches in Manitoba regarding sport sampling and sport specialization, and whether the decisions they make as coaches align with the recommendations from the LTD model. The research focuses on coaches who work with athletes in the Train-to-Train stage of the LTD model. This stage recommends that athletes participate in complementary sports or activities to encourage well-rounded development and continued enjoyment in sport (Higgs et al., 2019). This research explores whether Manitoba coaches support this notion of participation in complementary activities and how this is reflected in their coaching philosophies and their coaching practices. A qualitative approach allows for an in-depth analysis of this complex topic and exploration of coaches' perceptions as well as the reasoning behind their beliefs and actions. The qualitative nature of this research allows me to explore the degree to which coaches support sport sampling or sport specialization, how this is reflected in their stated beliefs, and whether this aligns with their coaching decisions in practice.

The Sport for Life framework for long-term development (Higgs et al., 2019) serves as the standard for optimal participation and athlete development. This model provides a consistent tool from which to explore and compare the beliefs and decisions of different coaches participating in this study. The LTD model outlines key training factors at each stage of development including: competition to training ratio, time spent participating in a main sport versus a secondary sport, estimated proportion of activity time spent on technical, tactical, physical and mental skills, and special considerations for the stage (Higgs et al., 2019). A secondary objective of the study is to discover the degree to which

coaches are aware of the LTD model, and how they approach the key factors within the context of their sport program.

Exploring coaches' perceptions and practices regarding sport sampling, sport specialization, and the LTD model allows me to illustrate if and how club sport in Manitoba is affecting the long-term development of athletes. As a coach and physical educator, I hear evidence suggesting that early sport specialization results in negative athlete outcomes long-term. Through the LTD model, Manitoba sport coaches and organizers have a set of guidelines for reducing these risks and optimizing sport participation for their athletes. As a result, a key objective of this study is to address how a sample of coaches approach the question of specialization versus sampling in the context of Manitoba youth club sport and to explore the potential implications of coaches' beliefs and practices for long-term athlete development.

## **1.2 Research Question**

To gain insight into the objectives of this study, the questions driving this research are as follows. What are the values, beliefs, and perceptions of youth sport coaches regarding sport sampling versus sport specialization, and what are the implications of these perceptions on long-term athlete development? Do these values, beliefs, and perceptions align with coaching practice decisions and behaviours? Sport Canada's (2019) Long-Term Development in Sport and Physical Activity 3.0 framework is used throughout this research as a standard to which participating coaches' decisions and coaching philosophies will be compared. This allows for the investigation of a secondary research question. To what degree are coaches aware of and applying the recommendations of the LTD model for Train-to-Train athletes?

## **1.3 Rationale**

The idea for this research came from my experiences as a teacher and coach. I have worked as a physical education teacher in Winnipeg, Manitoba for the past seven years, and I have been a high-performance basketball coach for ten years. At the start of my teaching career, I was coaching Manitoba's U17 provincial basketball team, and assistant coaching at the University of Winnipeg in addition to volunteering my time with various teams at my school. It was in schools that I noticed the growing trend of specialization in young athletes.

Thinking back on my time as an athlete, most people had established a "main sport" by the time they entered high school. It was still very common, however, for athletes to participate in other sports and activities in their off-season or as a secondary sport at a recreational level. This often meant

playing competitively on club teams and provincial teams in their “main sport” and participating on two or three other sports in school where they could socialize with friends. When I began my teaching career, I noticed that more athletes were choosing not to participate in these secondary sports or activities so they could devote more time to training and practicing for their “main sport.” With the rise of the club sport system in Manitoba, athletes have more opportunities for year-round training and competition through a combination of club teams, school teams, and sport-specific fitness instruction. These options can take time away from traditional off-season activities that provide variety and a break from the rigorous training and competition schedule. I am concerned that today’s youth are missing out on opportunities for enjoyment, social interaction, and varied skill and fitness development that sport sampling can provide (Côté et al., 2009). Moreover, I approach this research with the concern that specialized athletes are putting themselves at risk for overuse injury, decreased motivation for participation, and burnout that can ultimately lead to early withdrawal from the sport (LaPrade et al., 2016).

There is substantial evidence to support the connection between early sport specialization and negative athlete outcomes (Carder et al., 2020; Côté et al., 2009; Giusti et al., 2020; Jayanthi et al., 2013; LaPrade et al., 2016; Myer et al., 2015). However, there has been very little research exploring the values, beliefs, and perceptions of coaches when it comes to sport sampling and sport specialization. In one of the few existing studies, DiSanti et al. (2019) compared the specialization perceptions of high school and club sport coaches using the Youth Sport Specialization Perception Scale (YSSPS). Their findings indicated that club sport coaches were more likely to rate specialization as positive than high school coaches. Due to the quantitative nature of their study, the researchers were unable to provide any in-depth information about these coaches’ beliefs regarding specialization or sampling and could not examine how this was reflected in their coaching practice. This thesis uses in-depth, qualitative data to provide a more detailed exploration into coaches’ perceptions and to connect these perceptions to coaches’ decisions made regarding scheduling, team policies, and other aspects of their coaching practice. As such, this research contributes to addressing a gap in the current literature by providing a qualitative investigation into this complex topic.

The results of this research are relevant for athletes, parents, coaches, and sport program leaders in Manitoba who have a vested interest in the sport system. The risks of early sport specialization are well established and yet I worry that trends toward specialization in Manitoba athletes continue. NSOs and PSOs attempt to mitigate early specialization through enacting and endorsing policies like the LTD model, but ultimately it is coaches, working directly with athletes, who must implement these policies.

The qualitative nature of this study allows me to explore the role of a sample of coaches, and how their beliefs, values, and coaching decisions contribute to the sport sampling or sport specialization decisions and long-term development of athletes in Manitoba. Understanding the “how” and the “why” behind coaches’ attitudes is a focus of this qualitative study. By identifying patterns in sampling/specialization beliefs and by exploring coaches’ use of the LTD model, this research has the potential to improve future coach education and policy implementation. Understanding the motivations and underlying beliefs of coaches also has potentially far-reaching implications for predicting how the sport system in Manitoba will continue to change and how this may impact athletes moving forward.

#### **1.4 Chapter Layout**

In Chapter II, I present a review of current literature related to this research topic. Part of this review is dedicated to previous research on sport sampling and sport specialization including definitions, risks and benefits, and patterns and perceptions that researchers have identified to date. The review also includes an analysis of long-term athlete development research, including a background on long-term development models, Canada’s current model, and how this model fits within the context of Canadian sport policy and coach education.

Chapter III outlines the methods and methodology that I used in this study and the rationale supporting these choices. I describe how participants were recruited and the criteria for their inclusion. I then explain how and why I used questionnaires and in-depth interviews to collect data for the study, and how I engaged in a reflexive thematic analysis to analyze the data.

In Chapter IV, I present the results of my reflexive thematic analysis, including an outline of key themes and subthemes supported by accompanying codes. I also include tables to outline the results of the questionnaire and highlight how this data connects to the identified themes. During this presentation of results, I compare sport program details reported by participants as part of the questionnaire data (i.e., volume of training, training to competition ratio, etc.) to the recommendations outlined in the LTD model.

Chapter V includes a discussion of what the results of this research suggest about coaches’ perceptions and practices regarding sport sampling, sport specialization, and the long-term development of athletes. The final chapter highlights the implications of the results discussed in Chapter V to make recommendations intended to positively impact the Manitoba youth sport community and the long-term development of athletes. Finally, this chapter concludes with opportunities for future research on the topic and limitations that were discovered during the research process.

## Chapter II: Literature Review

This chapter provides a summary of existing literature surrounding sport specialization and its relationship to long-term athlete development. Specifically, this review summarizes: (1) how sport sampling and sport specialization are defined in the literature, (2) potential benefits and risks of early sport specialization, (3) alternative pathways of sport participation based on the benefits of early sport sampling, (4) patterns and perceptions of youth sport specialization among coaches and athletes, (5) background on existing long-term athlete development models, (6) the LTD model in the context of Canadian sport, and (7) adoption and implementation of this framework in Canada to date. Through this review of literature, I highlight what is already known about sport specialization and long-term athlete development and identify gaps in the current research, which this research attempts to contribute to addressing.

The literature included in this review comes from a review of databases, including SPORTDiscus, PubMed, SAGE online journals, Academic Search Complete, and others. Keywords used in the search included: sampling, specialization, coach, youth, sport, policy, risks, benefits, long-term athlete development, and others. Scholarly articles were included in the sample if they were peer reviewed and written in English. In addition to a review of scholarly literature, I conducted a review of Canadian sport policy using websites such as Sport for Life Canada, the Sport Information Resource Centre (SIRC), and the Coaching Association of Canada. In cases where more than one edition of a sport policy exists, the most recent version is included. Previous versions of the Sport for Life long-term development model are referenced for the purpose of comparing the new model to its predecessors.

### 2.1 Defining Sport Sampling and Sport Specialization

The definition of sport specialization varies throughout the literature. A general definition used in several studies (DiSanti et al., 2019; Jayanthi et al., 2013; Pasulka et al., 2017; Waldron et al., 2020) describes specialization as year-round training in a single sport that is highly intense and involves the exclusion of other sports. This definition is not universally accepted. Disagreement exists on what constitutes “intense” training, and whether year-round participation or the total exclusion of other sports should be necessary for considering an athlete specialized. For example, an athlete may be involved in year-round training for their preferred sport, but still participate in other sports during parts of the year. Should this athlete be considered specialized or not? To address these issues, Jayanthi et al. (2013) identify the need to define sports specialization along a continuum. Subsequent research (Bell et



al., 2016; Brooks et al., 2018; Carder et al., 2020; Giusti et al., 2020; LaPrade et al., 2016; Myer et al., 2015, 2016) uses a 3-point scale to define sport specialization based on whether an athlete has (1) chosen a main sport, (2) participated for greater than 8 months per year in that sport, and (3) quit all other sports to focus on their main sport. Based on this scale the degree of sport specialization can be defined as low, moderate, or high based on how many components of the scale with which the athlete identifies.

This 3-point specialization scale is the most widely used measure of athlete specialization, but it too is not universally accepted. Waldron et al. (2019) identify several shortcomings of this method of classification. First, the scale does not take into account athletes who never sampled but have always specialized in a single sport at the exclusion of others. This athlete would be considered moderately specialized because they did not quit other sports to focus on their main sport. Second, the scale does not take age of specialization into account. Two studies in my review (LaPrade et al., 2016; Wiersma, 2000) added an age variable to the 3-point scale in order to narrow the scope of their research to prepubertal athletes. Finally, the scale does not differentiate between specialization in a highly intense sport program from specialization in a single sport at the recreational level that involves less demanding training. This is an important distinction. According to Wiersma (2000), “due to the lower intensity of training in... [less demanding programs] athletes may be much less likely to experience the potential consequences of specialization” (p. 13).

Bell et al. (2016) highlight the need for a consistent definition and reliable classification method for sport sampling in research in a 1-year observational study examining the prevalence of sport specialization in high school athletes. During this study, participants asked whether they classified themselves as a “single-sport” or “multisport” athlete. They were also classified as high, moderate, or low according to the 3-point specialization scale. When the two methods were compared, both methods classified 38% of athletes in the same category. However, 8.6% of athletes self-classified as single sport but were placed in the low specialization category by the 3-point scale and 24.2% of athletes self-classified as multisport but were categorized as highly specialized by the 3-point scale. This indicates that self-classification may underestimate the prevalence of sport specialization, a finding that calls into question the accuracy of existing sport specialization research that uses a self-classification method of identifying athletes.

Sport sampling has been defined more simply in the literature and is characterized by an athlete participating in more than one sport in the course of a year or otherwise failing to meet the sport specialization criteria (Carder et al., 2020; Giusti et al., 2020). Several studies led by Jean Côté (Côté,

et al., 2007a; Côté et al., 2009; Côté & Hancock, 2016; Côté & Vierimaa, 2014; LaPrade et al., 2016) include participation in deliberate play as a fundamental characteristic of early sport sampling. According to Côté (2009) the sampling years are based on involvement in various sports, and participation in deliberate play. Deliberate play activities are informal, enjoyable, and voluntary, which allows children to develop skills necessary for elite sport participation without the accompanying risks associated with early specialization. Deliberate play and deliberate practice will be further explored in subsequent sections of this review.

Alternative definitions of sport sampling are present in the literature. Deliberate play activities are one example as they can occur in recreational, low-organized environments that are complementary to a formal sport program. In addition, Myer et al. (2016) identify physical education as an avenue for sport sampling and development of physical literacy. Physical education, which is already a requirement for all Manitoba school-aged youth, “provides the ideal ‘alternative’ mechanism for a specialized athlete to develop physical literacy as well as broaden their opportunity for sports sampling” (Myer et al., 2016, p. 68). These alternative pathways for sport sampling are not well examined in the research literature. For the purposes of this research, however, after considering the strengths and weaknesses of the definitions used in other studies, sport sampling will involve participation in more than one organized sport program or failure to otherwise meet the criteria of sport specialization.

## **2.2 Risks and Benefits of Early Specialization**

Support for early sport specialization originated from the notion that elite performance results from hours of deliberate practice, and that differences in performance are the result of differences in the quality and quantity of training. Ericsson et al. (1993) propose 10,000 hours as the minimum requirement to reach elite status. This research is primarily based on talent development studies involving chess players, musicians, and artists and fails to consider the intricacies of long-term physical development from childhood to adulthood, including the psychological factors associated with elite sport competition and the physical stress of high training loads. Nonetheless, supporters of the 10,000 hour rule continue to argue that elite success requires specific, deliberate training regimens to maximize training adaptations (Waldron et al., 2020). Many athletes also believe specialization will improve performance and success in sport and show little concern with the risks (Brooks et al., 2018).

While Ericsson et al.’s (1993) primary concerns were with achievement and elite performance, sport provides several other beneficial experiences and developmental outcomes for youth. Strachan et al. (2009) compared athletes on an early sampling trajectory of sport participation with those on an

early specialization trajectory using four measures to assess sport experiences and outcomes. While specializers reported higher levels of physical/emotional exhaustion, they also reported more experiences related to diverse peer groups. According to the authors, “these friendships often lead to increased enjoyment and persistence in the activity” (Strachan et al., 2009, p.88). The most significant finding from this research is that samplers and specializers appear more similar in their experiences than different, highlighting the potential for all forms of sport participation to have a positive impact on youth (Strachan et al., 2009).

The risks associated with early sport specialization are well established in the literature. Several studies agree that early sport specialization is associated with an increased risk for injury (Bell et al., 2016; Carder et al., 2020; Jayanthi et al., 2013; LaPrade et al., 2016; Myer et al., 2015; Pasulka et al., 2017; Waldron et al., 2020) and psychological stress or burnout (Giusti et al., 2020; Jayanthi et al., 2013; LaPrade et al., 2016; Myer et al., 2015; Waldron et al., 2020). A meta-analysis found there was a “significant association between sport specialization and a higher rate of injury compared with sport sampling” (Carder et al. 2020, p. 2852). Athletes were grouped according to the 3-point scale and assigned to either the sport specializer (highly specialized), sport sampler (low specialized), or “other” (moderately specialized) group. Athletes in the sport specializer group were 37% more likely to sustain an injury than sport samplers, and 9% more likely to sustain an injury than athletes in the “other” group. Additionally, the “other” group was 21% more likely to sustain an injury than the sport sampler group. These results indicate that not only is specialization associated with an increased risk of injury, but injury rates appear to increase in accordance with the degree of specialization.

Bell et al. (2016) echo these findings in identifying an association between highly specialized athletes and an increase in overuse injury. Their study identifies that athletes reporting overuse injuries are more likely to be highly specialized. Athletes who train more than 8 months of the year (in any number of sports) are more likely to report a lower extremity injury of any type (Bell et al., 2016). It would appear from these results that training volume is a contributor to the injury risk associated with early specialization. Specialization may be more specifically associated with overuse type injuries. Pasulka et al. (2017) further examined the association between specialization and injury risk. They surveyed patients from two sports medicine clinics to identify relationships between sport type, patterns of specialization, and injury risk. Patients who reported a sports-related injury completed a survey to describe the injury type (overuse vs. acute), mechanism of injury, location, and training patterns prior to the injury. The results indicate that single-sport specialized athletes involved in team sports were more likely to have acute injuries, while athletes whose primary sport is an individual sport were more

likely to have overuse injuries. The authors attribute this to the fact that individual sports often involve highly technical, often repetitive skills while team sports involve greater crossover of skills from one sport to another (Pasulka et al., 2017).

Studies have identified sport type and training volume as contributing factors to the increased risk of injury associated with sport specialization. Myer et al. (2015) provides some additional rationale for these risks that may explain why sport specialization is riskier than sport sampling. Their clinical review points to the following factors: (1) year-round exposure to a single sport, (2) repetitive technical skills and high-risk mechanics, (3) overscheduling and competition, (4) increased psychological pressure, and (5) primary injury and the effects of a fear of reinjury. Each of these factors appears to contribute to the intense physical and psychological stress that specialized athletes face. Year-round training and repetitive skill practice are linked to serious overuse injury. Competitive demands in elite sport are also linked to injury risk in addition to adding to an athlete's psychological stress. These factors, when combined can lead to serious overuse injury and other negative athlete outcomes.

Myer et al. (2015) are among a group of researchers to identify psychological stress and burnout as another risk factor to early sport specialization. Giusti et al. (2020) used an Athlete Burnout Questionnaire (ABQ) to evaluate three dimensions of psychological distress (emotional-physical exhaustion, reduced sense of accomplishment, and sport devaluation) in a sport sampling group versus a sport specializing group of participants. Results indicated that "athletes who sport specialize had significantly higher scores in all 3 dimensions of the ABQ" (Giusti et al., 2020, p. 6). The largest difference was in athletes' reduced sense of accomplishment. Waldron et al. (2020) suggest that burnout and the reduced sense of accomplishment that athletes feel may be the result of chronic psychological stress with a perceived lack of coping resources. Upon examination of several prominent models of burnout, the authors identified a relationship between specialization and burnout based on several components of the specialization experience such as chronic stress, overtraining, and increased pressure. Results indicated that athletes in later adolescence may be better prepared to handle these demands and apply coping strategies to mitigate some of the risk.

Although there is an acknowledgement in the literature that a certain amount of specialization and deliberate practice is necessary for skill acquisition and elite performance (Jayanthi et al., 2013; LaPrade et al., 2016; Waldron et al., 2020; Wiersma, 2000), the literature also confirms that early specialization is associated with an increased risk of injury and negative psychological outcomes. Many sources call for a delay in specialization until late adolescence (Côté et al., 2009; Jayanthi et al., 2013; Myer et al., 2016; Waldron et al., 2020; Wiersma, 2000) to maximize long-term development and

minimize psychological distress. Although some athletes may benefit from early specialization, there is no evidence that early sampling will deter young athletes from long-term competitive success (Côté et al., 2009). There is an ethical concern in promoting early specialization when 98% of youth athletes will never reach elite levels of competition (Wiersma, 2000). It is difficult to justify putting youth athletes at risk of negative physical and psychological outcomes when only 2% may see performance benefits.

### **2.3 Benefits of Early Sampling**

Most research on sampling and specializing focuses on understanding the risks of early sport specialization. There has been little direct investigation regarding the benefits of early sampling on youth sport performance and long-term development. From the literature, the following benefits may be attributable to early sampling. First, sport sampling during the formative years (age 6 to 12) is linked to increased involvement in sport and physical activity in adulthood (Côté et al., 2009; LaPrade et al., 2016; Waldron et al., 2020). This is partially attributed to the increase in burnout and withdrawal rates that are associated with highly specialized athletes, and partially to the development of a range of fundamental motor skills associated with sampling that can later be applied to a wider variety of activities. Second, sampling has been shown to increase intrinsic motivation for sport, which is linked to higher levels of enjoyment, feelings of mastery, and increased autonomy (Côté et al., 2009; Waldron et al., 2020). Specialization is characterized by high amounts of deliberate practice, a stressful training/competition environment, and activities that may not always be enjoyable for their own sake. The flexibility and choice that accompany recreational sampling activities provide a chance for athletes to pursue activities because they want to, and because they find them enjoyable, which can increase intrinsic motivation for activity in general. Finally, participating in a wide variety of physical activities during development through sampling develops positive cognitive and motor skills that may facilitate greater transfer of these skills between sports (Côté et al., 2009; Waldron et al., 2020). For example, one study of German national team athletes found there was no difference in level of success between athletes who trained exclusively in their main sport versus those who trained in multiple related and unrelated sports. The authors postulated that “the involvement in various sports presumably affords the varied learning stimuli that benefit the subsequent refinement of domain-specific skills” (Güllich & Emrich, 2014, p. 395).

These benefits, combined with the evidence that sport sampling minimizes negative athlete outcomes associated with sport specialization, such as injury and burnout (Carder et al., 2020; Giusti et al., 2020), make a strong case supporting early sport sampling for youth. The consensus statements by

the International Olympic Committee (IOC), the International Society of Sport Psychology (ISSP), and the American Orthopedic Society for Sports Medicine (AOSSM) reflect these sentiments. Each of these organizations encourages diversification throughout childhood and a delay in specialization until the age of 12 or 13. Another recommendation by the IOC and AOSSM is for children and youth to participate in periodized, developmentally appropriate strength training to prepare them for the demands of competitive sport participation in late adolescence. The ISSP agrees that by late adolescence, youth have developed the physical, cognitive, and psycho-social skills necessary for more intensive, specialized sport participation (Bergeron et al., 2015; Côté et al., 2009; LaPrade et al., 2016).

Myer et al. (2016) suggest a greater investment in quality physical education as an alternative pathway for sport participation that also provides a diversification. Physical education is currently a required course at every grade level in Manitoba and has the potential to provide a vehicle for Manitoba's youth to experience a variety of sports on a recreational basis. According to Myer et al. (2016), "physical education is the only guaranteed opportunity for most children to enhance their physical literacy and experience a variety of sports – from field ball games to resistance training – with appropriate instruction and assessments" (p. 68). Based on these recommendations, there is justification for an increase in physical education programming and investment in teacher education to support the early development of youth in sport.

An issue with relying on physical education for sampling opportunities is the inconsistent allotment of time during the school day. Students in early and middle years often only receive physical education time for as little as 30 minutes 3 or 4 times per week. In high school, students receive physical education for an hour every day but only for half the school year. This limits the ability of physical educators to influence youth sport behaviours and provide experiences that would contribute to a more diverse activity profile. If physical education were a daily practice at all grade levels, teachers would have the ability to structure their programs in ways that promote positive long-term development. Students could experience sport sampling while still participating in club programming or other elite sport training in their main sport. It is the responsibility of physical educators to provide their students with the knowledge and skills they need to live an active and healthy lifestyle. That includes exposing students to a variety of activities and experiences that promote healthy development. Teachers will be more equipped to do this with more consistent contact with students, and a continued curricular focus on variety and skill development.

## **2.4 Specialization Patterns and Perceptions**

Empirical evidence reporting rates of specialization among youth is limited in the literature. A survey of 974 youth athletes found that 39% of those athletes were classified as highly specialized, and another 35% were classified as moderately specialized (Brooks et al., 2018). Similar results were found in a case study involving participants from two high schools, which identified that 36% of athletes surveyed were classified as highly specialized (Bell et al., 2016). When this same pool of athletes was asked to self-classify as either single sport or multisport, only 29% self-classified as single sport specialized. Based on these results it was determined that the type of classification method used in research can have a large impact on the observed prevalence of specialization. In addition to classification method, school size and sport type have also been associated with specialization rates. Athletes from large schools are more likely to be classified as highly specialized than those from small schools and single-sport specialized athletes in individual sports are more likely to specialize earlier than those in team sports. Individual sport athletes were also more likely to be female, though this was attributed to the large number of gymnasts in the sample (Pasulka et al., 2017).

There has been a limited amount of research to date on the perceptions of youth sport coaches and athletes regarding early sport specialization or sport sampling. Survey research has indicated that athletes, ages 12 to 18, strongly believe sport specialization will improve their performance and their chances of receiving an athletic scholarship. This belief was strongest among highly specialized athletes. The survey also indicated that fewer than half (45.8%) of athletes believe that sport specialization will increase their risk of injury (Brooks et al., 2018). This last statistic indicates that information about the risks of sport specialization is not being effectively communicated to the youth sport community. This raises the question of where athletes are getting their sport specialization information, if not from informed sources.

Regarding coaches' perceptions, one study found that club sport coaches were more likely than high school coaches to rate specialization as positive. The researchers attributed this to the competitive context of club sport and its influence on athlete expectations (DiSanti et al., 2019). Another study used the same pool of participants to compare team training volume between high school and club sport contexts (Post et al., 2019). Club teams were reported to participate more months of the year and take more overnight trips than high school teams, although high school teams participated in more hours per week during their season. Neither group exceeded recommendations for volume (participating in a single sport for fewer than 8 months out of the year and limiting participation to no more than 16 hours per week) but the researchers identified the potential to exceed recommendations when athletes participate on both high school and club teams. There has been little research comparing sport

participation behaviour amongst team sport athletes and the potential for crossover between different sports or between high school and club sport contexts. Research has identified that “coaches in both settings appeared to be aware and concerned about the potential consequences of sport specialization” (p. 6) yet roughly 90% of coaches reported that they do not track their athlete’s participation for other teams or in other sports.

This lack of tracking in the offseason may lead coaches to believe they are giving their athletes time for sport sampling while athletes are using that time for continued training in their main sport. With the rise of sport-specific strength and conditioning athletes have access to year-round training through a combination of school teams, club teams, and sport-specific training through gyms or outside institutions. There is little research on the impact of sport-specific strength and conditioning and whether this type of training is in line with sampling and building a more diverse activity profile. While participating in a workout is different than participating in a game or practice, workouts that are designed to develop the muscle groups and fitness components that are most relevant to the athlete’s sport may not provide adequate diversity in movement or experience to have a positive impact on long-term development outcomes. This is especially relevant for seasonal sports that spend greater amounts of time training in different environments based on weather conditions. If we take rowing as an example, athletes in Manitoba may only have access to open water for five months of the year but will train indoors during the colder months. Given that this indoor training is still rowing-specific it would not be considered true sampling, but it certainly provides a change in training stimulus that may mitigate some of the risks of sport specialization. Future recommendations for sport sampling and sport specialization will need to consider these nuances when outlining key factors for long-term development.

## **2.5 Long-Term Athlete Development**

Long-term athlete development is a growing concept in sport and physical activity. Over the last three decades, there have been several development models introduced that integrate the concepts of specialization and sampling as well as other key factors for optimal sport performance. Traditional models from the 1950s to 1980s were based on chronological age and focused only on athletes that continued to progress to the next level of elite performance in sport (Higgs et al., 2019). Sport for Life (2019) believes that “both sporting excellence and an active, healthy population are outcomes of a sport and physical activity development process” (p.7). As such, their definition of long-term development has shifted away from the term “athlete” and toward the term “participant” in an effort to be more inclusive of the variety of populations their framework serves. As this thesis explores the experiences



of youth sport participants, the term “athlete” is used throughout. This section chronicles the evolution of long-term development approaches and provides an overview of Canada’s current framework for long-term development in sport and physical activity.

### ***2.5.1 Background in Long-Term Athlete Development Research***

Athlete development research is closely linked to understanding elite performance and the acquisition of skill. Several researchers have investigated the role that different developmental experiences play in the achievement of sporting success. Specifically, the contributions of deliberate practice and deliberate play. Ericsson et al. (1993) describe deliberate practice as “highly structured activity, the explicit goal of which is to improve performance” (p. 368). These activities are characterized as being effortful and not inherently enjoyable but are performed because individuals are motivated to improve performance. Deliberate practice theory is based on the notion that performance is directly related to the amount of time spent engaged in effortful, intentional practice. For an individual to reach expert-level performance, they must accumulate at least 10,000 hours of deliberate practice, over a period of at least 10 years (Ericsson et al., 1993).

Ericsson et al.’s (1993) research supports this theory primarily through examination into the training and performance of musicians. For example, violin experts were shown to have accumulated more than 7,400 hours of deliberate practice by the age of 18 compared to 5,300 hours for intermediate performers and 3,400 hours for low-level performers. Other experts question whether these results can be translated to sport performance (Côté, et al., 2007a; Côté & Vierimaa, 2014; Malina, 2010; Wiersma, 2000) given the dynamic and multi-faceted nature of performance in sport versus other activities. Although it is well-understood that time spent in practice contributes positively to performance (Waldron et al., 2020), there is little evidence to support the idea that training must be confined to deliberate practice activities alone.

While recognizing the importance and benefits of practice for expert performance, Côté et al. (2007a) suggest that deliberate practice can be combined with other developmental activities to still elicit the same elite result. They introduced the concept of deliberate play, “a form of sporting activity that involves early developmental physical activities that are intrinsically motivating, provide immediate gratification, and are specifically designed to maximize enjoyment” (p. 185). There are several benefits to deliberate play activities outlined in Côté et al.’s research. First, the informal nature of deliberate play makes it easily accessible for children and youth as it requires minimal equipment, can be done in a variety of spaces, and with flexible rules to accommodate any number of players with various levels of skill. Second, deliberate play situations allow children to experiment with different

movement patterns, tactics, and strategies which transfer to more organized sport situations. Third, deliberate play involves high levels of engagement and time-on-task that is difficult to replicate in a structured sport practice where time is required to transition between drills or set up equipment. Finally, there are motivational benefits to deliberate play because of the fact children's involvement is motivated by their own interests and enjoyment rather than for performance benefits alone (Côté, et al., 2007). Based on these benefits, Côté et al. (2007a) argues that “reducing the acquisition of expert performance in sport to involvement in a single form of activity (i.e., deliberate practice) fails to acknowledge important developmental and motivational assets acquired from involvement in play and other sporting activities” (p.192).

The relationship between deliberate practice and deliberate play for the development of sport and athletic performance is a key factor in long-term development. In the same year he introduced and promoted the benefits of deliberate play, Côté (1999) introduced a framework for development known as the Developmental Model of Sport Participation (DMSP). The model involves three phases of sport participation: (1) the sampling years, (2) the specializing years, and (3) the investment years. The sampling years occur between the ages of 6 and 13 and are characterized by high amounts of deliberate play and a variety of enjoyable activities facilitated by parents. The specializing years occur between the ages of 13 and 15 and are characterized by a gradual decrease in variety and greater focus on one or two sports. The investment years occur beyond the age of 15 and are characterized by a commitment to achieving elite performance in a single sport. More recently, Côté et al. (2007a) proposed an update to the DMSP that included three trajectories of sport participation that expand on the sampling, specializing, and investment years of participation.

The first trajectory, recreational participation through sampling and deliberate play, involves a transition from the sampling years, to what Côté et al. (2007a) deemed the recreational years (age 13+). The recreational years are seen as an extension of the sampling years and are characterized by continued participation in recreational sport for enjoyment and health. There is no commitment to elite sport performance on this trajectory. The second trajectory, elite performance through sampling, involves a transition from sampling, to specializing, to investment, as described in the original DMSP. The third trajectory, elite performance through early specialization, is recommended for sports where peak performance occurs before puberty (e.g., gymnastics, figure skating) and specialization is necessary to reach elite performance early in development. This trajectory skips the sampling years and involves continued investment in one sport. As such, these athletes often miss the enjoyment and

autonomy associated with deliberate play, which may result in negative outcomes later in life such as dropping out of sport (Côté, et al., 2007a).

There are many similarities between the DMSP and Sport for Life's current LTD model. Both models support the idea of early sport sampling as a pathway to elite performance or continued sport participation. They acknowledge the need for early sport specialization in sports where elite performance occurs before puberty, but understand that this early specialization increases the athlete's risk for negative outcomes such as reduced health and enjoyment. Additionally, both models include pathways for participation for all participants, including those who do not aspire for elite sport performance. This reflects a shared understanding that the goal of a LTD model is not only to optimize development for elite performance in sport, but also to promote continued sport and physical activity participation throughout the lifespan.

### ***2.5.2 Long-Term Development in Sport and Physical Activity 3.0***

As noted in Chapter I, at its core, *Long-Term Development in Sport and Physical Activity* (2019) is a model for optimal programming at each stage of development that takes in to account the physical, cognitive, emotional, and social development of the participant. The framework is designed around seven stages and two pre-stages that make up the Sport for Life Rectangle. The seven stages of participant development are: (1) Active Start, (2) FUNdamentals, (3) Learn to Train, (4) Train-to-Train, (5) Train to Compete, (6) Train to Win, and (7) Active for Life. The framework outlines what sport and physical activity participation should look like at each stage of development to maximize the long-term development of the athlete. Recommendations include: the percentage of time during the year an athlete should spend in physical activity, their primary sport, and their secondary sport(s), the percentage of activity time that should be devoted to different types of skills (e.g. tactical skills, physical capacity, mental skills, etc.), and how the activity time should be divided with regard to percentage of time spent in training, competition, and free play.

Recall from Chapter I, the first three stages emphasize building a foundation of physical literacy and fundamental movement skills that will give Canadians a positive start along their sport and physical activity journey. The fourth stage, Train-to-Train, is a time when participants often decide whether to pursue excellence in sport, or transition to a more recreational level of participation in the Active for Life stage. If a participant chooses to continue to strive for excellence, they enter the Podium Pathway (Train to Compete, and Train to Win stages) which is focused on developing high-performance athletes with aspirations to compete at the national or international level. The seventh stage, Active for Life, is further divided into two phases, Competitive for Life and Fit for Life. This

distinction provides clarity and flexibility in the pathways of development, particularly for participants who are not involved in high-performance sport. A participant who decides not to commit to the Podium Pathway still has a place in the framework within the Active for Life stage where they can pursue fitness, or competition at a recreational level and continue to enjoy the benefits of sport and physical activity. This change from previous versions of the LTD model makes it more inclusive representation of development and participation in sport, physical activity, and recreation.

The two pre-stages, Awareness and First Involvement, represent a participant's introduction to sport at any stage of the lifespan. The acknowledgement of the Awareness and First Involvement stages highlight the need for inclusion of underrepresented groups in sport and physical activity. These stages emphasize the barriers to sport participation that exist for certain populations such as girls and women, individuals with disabilities, Indigenous Peoples, newcomers to Canada, individuals identifying as LGBTQI2S, aging adults, and those living in poverty or in isolated communities. Ensuring these groups gain an *awareness* of sport and physical activity opportunities, and have a positive *first involvement*, increases the chances they will continue to be active for life. These first two pre-stages can occur at any age and transition a participant into any of the subsequent seven stages.

## 2.6 Long-Term Development Framework in Context

Sport for Life, a Canadian not for profit organization made up of sport and physical literacy experts, developed and continues to endorse the LTD model. The organization states that its work is intended to “encourage government, institutions, schools, and sport organizations to improve their programs and services in ways that will benefit everyone” (Sport for Life, 2021, About Us, para. 2). Sport for Life works in partnership with the federal government and a variety of other organizations to create and share resources, promote collaboration between stakeholders in sport and physical activity, and create lasting change in the sport and physical activity system in Canada. The *Long-Term Development in Sport and Physical Activity 3.0* framework is an example of Sport for Life's efforts to create meaningful change through the development and sharing of knowledge. This section will provide a brief overview of where the LTD model fits in the context of Canadian sport policy and how it is currently being implemented in the Canadian sport system.

*Long-Term Development in Sport and Physical Activity* (2019) is a framework for all Canadians to develop appropriately through quality sport and physical activity participation. In the context of Canadian sport policy, it serves as a link between the sport, physical activity, and recreation sectors and a tool for creating positive, system-wide change. In the body of Canadian sport policy literature, sport, physical activity, and recreation each have their own guiding documents (Government of Canada,

2012, 2018; Interprovincial Sport and Recreation Council & Canadian Parks and Recreation Association, 2014). These documents define sport, physical activity, and/or recreation and its impact on Canadians, describe key factors and barriers to participation, outline a list of objectives, and lay out a plan for achieving these objectives. The LTD model links these documents by offering an inclusive definition of sport and physical activity and supporting the objectives that are shared between policies; lifelong participation in physical activity, development of physical literacy, and an emphasis on quality experiences in sport, physical activity, and recreation that embrace safe, inclusive environments.

Coaches play a critical role in youth sport and the long-term development of athletes. Coach education has been an effective tool for increasing awareness of the LTD model and disseminating its key training factors to athletes and their communities. Currently, coach education is available for youth coaches through the National Coaching Certification Program (NCCP). The NCCP is divided into three streams: (1) community stream, (2) competition stream, and (3) instruction stream. These streams are further subdivided into sport contexts that mirror the seven stages of the LTD model. The community stream includes the FUNdamentals stage of long-term development, the first stage of the model that recommends organized sport. The competition stream is divided into three contexts: introduction (Learn-to-Train and Train-to-Train), development (Train-to-Compete), and high performance (Train-to-Win). The instruction stream is for participants who want to pass on the knowledge they have gained to new others who are learning the sport. Coaches enroll in the stream that matches the stage of athletes they are working with, allowing them to study the key factors and recommendations of that stage. This provides coaches with the knowledge and skills they need to effectively plan their sport program based on the recommendations of the LTD model (Coaching Association of Canada, 2021). One drawback to this delivery model is that coach education is not standardized across sport programs in Canada. In some cases, coaches may be required to attain NCCP certification prior to coaching with a particular program, but this is not standard practice in the wider sport system. Evidence from this review indicates that there is still a lack of awareness of long-term development and physical literacy concepts at the community level (Millar et al., 2020; Sutcliffe Group, 2016).

A review from Côté et al. (2007b) highlights the importance of educating coaches in a way that suits the needs of the athletes they coach. The authors identify four contexts of coaching that each require different knowledge and skills from coaches. The four contexts are; (1) Participation Coaches for Children, (2) Participation Coaches for Teens and Adults, (3) Performance Coaches for Young Adolescents, and (4) Performance Coaches for Late Adolescents and Adults. The authors propose that, “the application of coaching excellence is specific to the developmental level and competitive goals of

the athletes” (p15). The recommendations in each context mirror the key factors in the DMSPP. For example, participation coaches for children represent athletes in the sampling years (i.e., ages 6 to 12) and should emphasize high amounts of deliberate play, development of fundamental movements, and should be mindful of the broader organizational support required to ensure they are promoting a sampling model of participation. Performance coaches for young adolescents represent athletes who are entering their specializing years (i.e., ages 13-15) and coaches are recommended to encourage a balance of deliberate play and deliberate practice, the development of both fundamental and sport-specific skills, and increasing levels of competition and focus on the athletes’ main sport. Canada’s model of long-term development and the NCCP’s streamed approach to coach education are designed in a way that supports Côté et al.’s (2007b) notion that coaching excellence requires different knowledge and skills depending on the coaching context. Coaches are educated based on the stage of the LTD model they will be working in and can thus focus on the key factors that will support athletes of that developmental level and competitive context.

## **2.7 Adoption and Implementation of the Long-Term Development Framework**

As noted in Chapter I, the Federal, Provincial, and Territorial Sport Ministers accepted Sport for Life’s framework as Canada’s national development framework in 2005. In 2007, the Ministers committed to full implementation of the model, embedding it in the planning and programming of NSOs and PSOs. The hope was that national and provincial organizations would become a flagship for long-term development that local and community organizations would follow (Higgs et al., 2019). Since this commitment to implementation, several studies have examined the use of the LTD model in various youth sport contexts (Banack et al., 2012; Beaudoin et al., 2015; Frankish et al., 2012; Millar et al., 2020). Although there has not yet been any research on implementation of the most recent edition of the framework, we can use the existing literature to report on the current state of long-term development implementation among Canadian youth sport coaches.

Coaches or program leaders who were aware of the LTD model viewed it as positive and in alignment with their values (Banack et al., 2012; Beaudoin et al., 2015; Frankish et al., 2012). In one case study where coaches had limited awareness of the LTD model, the club was undertaking athlete development initiatives on its own, in response to the specific needs of the club (Millar et al., 2020). This suggests that coaches see value in long-term development and are willing to incorporate LTD model concepts into their respective programs. Adapting the LTD model to better suit the needs of the specific sport club is a common practice in the research. Some level of adaptation is evident in three of the four studies included in this body of literature (Beaudoin et al., 2015; Frankish et al., 2012; Millar

et al., 2020). Barriers identified in the literature include limited knowledge and training on long-term development (Beaudoin et al., 2015; Frankish et al., 2012), poor communication of the framework to coaches/organizers at the community level (Millar et al., 2020), a lack of organizational support for implementing long-term development concepts, and a lack of compatibility of the framework with certain aspects of the sport system (Beaudoin et al., 2015; Frankish et al., 2012; Millar et al., 2020).

To address these barriers, more than half the coaches in Beaudoin et al.'s (2015) study felt that early coach education would contribute significantly to LTD model adoption and implementation. The coaches in Beaudoin and colleagues' (2015) study felt the complexity of the model and the limited training they were currently receiving were inadequate to appropriately implement the model and that an increase in training would reduce the impact of these barriers. Standardizing coach education would ensure more coaches receive training on long-term development and would improve communication of the model at the local level. A challenge with both coach education, and communication of the LTD model is the privatization of many sport programs. Numerous sport clubs are not under the jurisdiction of PSOs and can therefore make their own decisions about coach education or training on long-term development concepts. Millar et al. (2020) investigated long-term development in one such community football club and found that "participants' limited awareness of [the LTD model] and *Football for Life* was attributed to the fragmented communication between the levels of the Canadian sport system" (p. 270). Bridging the communication gap between policy makers, NSO/PSOs, and private or community sport clubs is a critical barrier that needs to be addressed in Canada's sport system. Coach training could be a valuable tool in communicating the LTD model or other sport policies, but only if coaches partake in the training. In addition to communication, compatibility of policy with local sport systems must also be addressed if full LTD model implementation is to be achieved. Coaches in Beaudoin et al.'s (2015) study felt that competition at an early age, an over-emphasis on results, and a tendency to encourage early specialization create a paradox between the recommendations of the LTD model and the current state of sport culture.

Despite the barriers to implementation, coaches identified several benefits to using an LTD model with their teams. These benefits included designing training plans that respect the developmental stage of athletes, creating a common language with parents and other stakeholders (Beaudoin et al., 2015), promoting physical literacy, appropriate movement skills and fun (Banack et al., 2012) and providing a holistic model for physical activity participation that acknowledges the role of sport, physical education, and recreational activities (Frankish et al., 2012). From this review of the literature, I conclude that the LTD model is viewed as a positive resource by many coaches and sport leaders. It

provides evidence-based recommendations that promote optimal participation in sport and physical activity at every stage of development. However, a greater level of implementation will require continued efforts to communicate the framework across the sport system and educate coaches and sport leaders.

## **2.8 Summary and Research Gaps**

This review of literature explored what is known about sport sampling, sport specialization, and the long-term development of athletes. Previous studies demonstrate that early sport specialization carries a high degree of risk for athletes including the risk for overuse injury, burnout, and psychological stress (Carder et al., 2020; Giusti et al., 2020; Pasulka et al., 2017). Myers et al. (2016) recommend that “for most sports, intense training in a single sport to the exclusion of others should be delayed until middle or late adolescence to optimize success and minimize risk” (Myer et al., 2016). Some researchers suggests that the roots of early sport specialization stem from the desire by athletes and parents to achieve success in sport, be labeled as gifted, and receive scholarships or professional contracts (e.g., Malina, 2010). Other sources point to early development models, which promote achievement of elite status through hours of deliberate practice, as contributors to the trend of early sport specialization (e.g., Côté, Baker, et al., 2007a; LaPrade et al., 2016; Malina, 2010; Wiersma, 2000).

A growing body of research includes recommendations for alternative pathways of sport participation that consider the long-term development of athletes. Following Ericsson et al.’s (1993) theory that 10 years or 10,000 hours of deliberate practice will lead to expert-level performance, Côté (1999) introduced the concept of deliberate play, an alternative to Ericsson et al.’s (1993) model of expert performance, the DMSP. Canada’s current LTD model draws on these early works and more recent research on athlete development to provide recommendations for optimal participation in sport and physical activity. The model has been endorsed by Canada’s government and although efforts are being made to implement the model nation-wide, there are still barriers to communication and application of the model that need to be addressed.

Although the risks of sport specialization have been well-documented in the literature, little is known about the perceptions of coaches regarding sport specialization and sport sampling. The research that has been done is largely quantitative, survey-based research that lacks the depth of qualitative inquiry. As the next chapter explains, this study uses a qualitative approach to better understand the perspectives of a sample of coaches regarding sport sampling, sport specialization and long-term development and how these perspectives unfold in the context of youth sport in Manitoba.



Due to the limitations of quantitative inquiry, very little research has compared coaches' perspectives to coaching practice and decisions coaches make for the long-term development of their athletes. Researchers have utilized the previous versions of the Sport for Life framework in research surrounding implementation and adoption of the model by coaches, but no research to date has been published using the most recent (2019) version of the model. Using the methods outlined in the next chapter, this thesis addresses these gaps through in-depth exploration of a sample of coaches' perspectives and practices regarding sport specialization and long-term development. It also compares these perspectives and practice to the recommendations in Sport for Life's (2019) *Long-Term Development in Sport and Physical Activity 3.0* framework.

### **Chapter III: Methods and Methodology**

The goal of this research is to explore the perspectives and practices of Manitoba youth sport coaches regarding sport sampling, sport specialization, and long-term development. This chapter provides a summary of the methods and methodology I used to address this research topic. The sections below describe: (1) the paradigmatic approach including the ontological, epistemological, and axiological perspectives that inform this research, (2) the participant inclusion parameters and recruitment strategy, (3) how I collected data using semi-structured interviews, questionnaires, and field notes, and (4) how I engaged in inductive thematic analysis to analyze the data. Finally, this chapter ends with a discussion of the limitations and delimitations of the study.

#### **3.1 Methodology**

To examine this topic with adequate detail, I elected to use a primarily qualitative approach. As the literature review in Chapter II shows, the limited amount of research that has been done on this topic has been quantitative. As quantitative research tends to focus on numeric data, it gives little insight into the meanings behind the data (Atkinson, 2012) and would be inappropriate to address the research question. Qualitative research involves an interest in deeper meanings and perspectives that influence behaviour. It allows for the exploration of non-numeric data and the application of inductive reasoning to identify patterns or generate theory (Braun & Clarke, 2013). This study is best suited to qualitative inquiry based on the emphasis on meaning that is inherent in the research objective, the inductive approach that will be used in analysis, and the textual nature of the interview data.

I conducted this research using a post-positivist approach. According to Markula and Silk (2011), post-positivist research supports the basic ontological and epistemological assumptions of positivist research. Namely, the belief that research can be used to uncover the ‘truth’ of a phenomenon, and in order to do this, researchers can and must remain objective. In this study, the truth that is being sought is the perspectives of coaches. Throughout the study, I have made efforts to minimize my influence as a researcher, to accurately report on the perspectives of coaches and the realities of how this is expressed in their coaching practice. This post-positivist approach promotes qualitative research “to include participants’ meanings and purposes, and to ground theories more firmly on participants’ views” (Markula & Silk, 2011, p. 30). Fitting with this paradigmatic approach, I conducted in-depth, semi-structured interviews to gather information about coach perspectives and designed a questionnaire to gather demographic information as well as information about coaching practice (i.e., volume of training, early schedule, training to competition ratio, etc.). This approach

facilitates me comparing the participants' coaching practices with their stated perspectives to identify patterns and inconsistencies.

## **3.2 Methods**

### ***3.2.1 Inclusion Criteria***

Nine coaches volunteered to participate in this study. Each participant met the following inclusion parameters:

1. The coach is currently coaching club sport in Manitoba.
2. The athletes this coach works with are in the Train-to-Train stage of the LTD model (females ages 11-15, males ages 12-16).
3. Sport type is considered common (standard) specialization according to the LTD model, with athletes peaking in late 20s or early 30s.

Participants who did not meet these criteria were excluded from the study. Initially, I directed recruitment efforts toward basketball coaches, but the inclusion criteria were left open enough to include additional sports, as necessary, to reach data saturation. Starting with basketball coaches only was an intentional attempt to limit the scope of the research to ensure the credibility and resonance of the results. Resonance is one criterion by which to measure the quality of qualitative research and is characterised by the ability of readers to “transfer study findings to their contexts” (Zitomer & Goodwin, 2014, p. 210). By situating the sample as much as possible while ensuring an adequate sample size, the results of this research become more relevant to informing the practice of basketball coaches in Manitoba. As explained in the next chapter, I decided that after interviewing nine participating basketball coaches, there was no need to extend the study to additional sports.

I set the inclusion criteria based on several factors. First, I sought club coaches to participate based on the flexible nature of their sport context and its ability to facilitate athlete specialization. School sport is limited in this capacity based on the nature of the school environment and the parameters of the sport seasons. Several factors, including the availability of gym space, the number of tournaments allowed per team, and the set competition schedule, confine school sports to a designated season. If athletes who participate on school teams choose to specialize, they need to be participating in their sport outside of school in order to meet the definition of sport specialization used in this thesis. Specifically, the condition of participating for greater than eight months of the year in their sport.

Second, to be included in this study, participants had to coach at the Train-to-Train stage because, for athletes who are looking to move onto the Podium Pathway, it is the last stage of the LTD model to recommend sport sampling, prior to committing full-time to one sport. Athletes in the Train-to-Train stage are encouraged to spend up to 33% of their year participating in complementary sports. In the following stage, Train-to-Compete, specialization is required to maximize physical, tactical, and technical development (Higgs et al., 2019). Additionally, based on my observations in teaching and coaching athletes in this stage, it is common for athletes to choose to specialize while still in the Train-to-Train stage.

Finally, I chose to limit the sport type to common (standard) specialization sports to keep the data consistent and remove the need to compare stages of the LTD model across sports that recommend specialization earlier or later in life. Common type sports are considered to follow the typical timing for specialization, with athletes specializing in late adolescence and peaking in their late 20s or early 30s. This is an important delimitation to this study because coaches who work in early specialization sports might be more likely to support specialization early in adolescence because it is necessary to specialize early to achieve peak performance in their sport. Using only common (standard) type sports helps to ensure the data set was from sports that are given the same recommendations from the LTD model for specialization and other training factors. In the end, recruitment efforts resulted in nine basketball coaches volunteering to participate in this study; however, if basketball coaches were not interested in participating, I had the flexibility to expand to other common type sports as a sound back up plan.

### ***3.2.2 Participant Recruitment***

To recruit participants, used a combination of purposeful and criterion sampling (Creswell & Poth, 2018). Coaches were purposefully invited to participate based on their ability to meet the inclusion criteria. To recruit participants, I requested the executive director of Basketball Manitoba's assistance in advertising this study in the weekly newsletter the PSO distributes to the Manitoba basketball community (see Appendix A). Basketball Manitoba agreed to distribute recruitment materials on my behalf and posted my recruitment poster on the Basketball Manitoba Instagram page and other social media accounts as well (see Appendix B). After my initial recruitment efforts, I used snowball sampling to identify additional coaches. Snowball sampling involves identifying additional participants by asking for recommendations from participants. These strategies allowed me to recruit enough participants who met the inclusion criteria and could provide quality data that was relevant to the research objectives. All participants were sent an invitation to participate (see Appendix C) and,

once they had agreed to participate, an informed consent form (see Appendix D), which contained further details on their participation.

### ***3.2.3 Data Collection***

This research made use of two primary methods of data collection: (1) individual, semi-structured interviews, and (2) questionnaires. This combination of data collection methods allowed me to approach the topic from multiple vantage points, gathering information about coach perceptions and comparing it to participants' coaching practice and program planning. The questionnaire (see Appendix E) included two parts, the first of which focused on demographic information relating to each participant's coaching background. The second part of the questionnaire collected sport program details relating to participation and long-term development (e.g., number of months per year of training, number of training sessions per week, structure and timing of competition, overall volume of training and competition, etc.). These details provided information that was reflective of each participant's coaching practice and how it demonstrates their views towards sport specialization and long-term athlete development. The questionnaire was designed to take between 10 and 15 minutes to complete.

The questionnaire data benefits the research by allowing for triangulation of participants' responses. The questionnaire data provides a clear, objective picture of each participant's coaching practice, while the interview allows for an in-depth exploration of the beliefs, values and perceptions that inform this coaching practice, thus providing additional data to work with throughout the study (Mukherjee & Kamarulzaman, 2016). I triangulated participants' stated views and perceptions regarding sport specialization, sport sampling, and long-term development with the numerical information from the questionnaire to see whether each participant's perceptions and practices aligned. For instance, if a coach stated during their interview that they support sport sampling but reported in their survey that their team trains 12 months of the year, practices five times per week and recommends off-court strength and conditioning, this reflects an inconsistency between belief and practice. With that volume of training there would be little time remaining for sampling other activities. This triangulation, and the additional information that resulted from comparison to the questionnaire data, allowed me to draw richer conclusions.

The qualitative interview was utilized to identify the experiences and perspectives of participants in relation to the research topic (Braun & Clarke, 2013). The primary objective of this thesis is to explore the values, beliefs, and perceptions of youth sport coaches regarding sport sampling versus sport specialization, which justifies the use of qualitative interviewing as a method of data collection. The type of interviews used in this research were individual, semi-structured interviews

conducted using an electronic video conferencing platform (UM Zoom™). I opted to conduct semi-structured interviews for their flexibility to explore the unique experiences of the participant while still providing some structure to ensure I addressed the research question (Markula & Silk, 2011). I developed an interview guide (see Appendix F) to structure the open-ended questioning and think ahead about areas in which I might need to probe further, but still enable me to explore new topics that arose as necessary. Each interview lasted between 45 minutes to one hour and was recorded and stored on a password-protected laptop.

### **3.2.4 Data Analysis**

Reflexive Thematic Analysis (TA) is a method for analyzing qualitative data that allows the researcher to “identify patterns of meaning across a dataset that provide an answer to the research question being addressed” (Braun et al., n.d., para. 2). I selected this method for its flexibility. According to Braun and Clarke (2020), “the flexibility of (reflexive) TA as a method, rather than a fully-embedded methodology, means it can be undertaken with quite different guiding theories... and using quite different orientations to data, coding practices and theme development” (p. 4). This thesis, though grounded in a post-positivist ideology, is not based on any single theoretical framework. The aim of the research is to discover what is known about coach perspectives regarding sport specialization, sport sampling, and long-term development. The participant voices are the truth that is being sought and an inductive approach to thematic analysis allowed me to generate results from the bottom up, using participant data to shape the meanings and results that I identified and highlighted. This method is flexible enough to analyze many types of data, including qualitative interviews and questionnaire results (Braun & Clarke, 2013).

The first step in my analysis involved transcribing the interviews verbatim from the audio recordings. This included all spoken words and utterances from both me (the interviewer) and the participant. My aim was to capture what was said, but not necessarily how it was said (Braun & Clarke, 2013). To ensure accuracy, I sent the transcripts to participants upon completion for member checking. According to Zitomer and Goodwin (2014), “member checking is the process of bringing interview transcripts or observation notes and analyses back to the participants, allowing them opportunity to correct misinterpretations, provide additional information, and reinforce data interpretation” (p. 209). Once the member checking process was complete, I moved on to analyzing the data. All audio recordings and transcriptions were stored on a password-protected computer.

The process of reflexive thematic analysis involves six phases: (1) familiarization with the data, (2) coding, (3) generating initial themes, (4) reviewing themes, (5) defining and naming themes, and

(6) writing up. These six phases, although they build on one another in a sequential manner, are typically part of a recursive process. There is often movement back and forth between phases during analysis involving repeated engagement with the data (Braun & Clarke, 2020). Familiarization with the data began during transcription with repeated listening of audio recordings and continued after member checking was complete with repeated reading of transcripts. The aim of this first step was to become immersed in the data and make note of anything that might be relevant to the research question. Following this initial review of data, I began coding to identify “anything and everything of interest or relevance to answering... [my] research question” (Braun & Clarke, 2013, p. 206) and assigning appropriate labels. Once coding was complete, I reviewed and collated the initial codes I created.

At this point in the analysis process, I reviewed my collated codes to identify patterns in the data that may lead to themes. During this process it is important to look, not only for repeated instances of a particular code, but for different elements in the data set that will be most meaningful to answering my research question. If the individual codes are ideas, the themes represent broader organizing concepts that tell us something meaningful about the content of data (Braun & Clarke, 2013). In several cases, a repeated code became a subtheme under an overarching concept that was drawn more broadly from the data set. During the fourth and fifth steps of reflexive thematic analysis, these initial themes went through several rounds of revision checking the themes against the coded and collated data, and against the dataset itself. The purpose of this revision was to ensure the themes captured the important elements of the data and were coherent, distinct from each other, reflective of the data itself, and ultimately related to the research question in a meaningful way. In the subsequent chapters, I present an analysis of the data I collected, with Chapter IV stating the results I determined, Chapter V discussing the implications of the results in telling a rich, detailed story about my data, which connects my findings from the interviews and questionnaires to the research literature, and Chapter VI drawing conclusions and recommendations for future research.

## Chapter IV: Results

Following the University of Manitoba's Research Ethics Board 1 (REB-1) granting approval on October 13, 2021, for me to conduct the study, I invited Basketball Manitoba to participate in the study by distributing a recruitment poster via its website, newsletter, and social media. From this initial recruitment strategy, five participants contacted me to volunteer to participate, and snowball sampling yielded an additional four potential participants. After each potential participant contacted me via email volunteering to participate, I sent them an informed consent form (Appendix D) to complete and sign. Once I received each participant's informed consent, I sent the participant a link to complete the questionnaire online via Microsoft Forms and scheduled an interview time. All nine volunteers met the inclusion parameters to participate in the study and continued in the study until completion. In total, I conducted nine interviews using UM Zoom™ and all nine participants had video on during the interview. The interviews took place between November 3, 2021 and January 19, 2022.

### 4.1 Participant Demographics

The nine participants included eight male coaches and one female coach. All participants are currently coaching club basketball in Winnipeg and have at least five years of coaching experience. Three of the participants coach other sports in addition to basketball and were able to draw on these experiences during their interviews to provide useful comparisons between sports. Eight of the nine participants were former athletes, and five of the nine participants have children who are currently involved in sport in Manitoba. In addition to their club coaching, four of the participants volunteer as coaches in the school sport system. Two of these four participants work as teachers in Winnipeg. This range of demographics and experiences led to a variety of unique perspectives on sport participation in Manitoba. During the interview process, each participant was able to reference their experiences to provide rich detail and thick description to support their points of view.

The nine coaches who participated in this research represented five different club basketball programs in the Winnipeg area. Demographic information for participants and the teams they coach is included in Table 1. Three of these five programs offer multiple teams in a variety of age and gender groups, while the other two programs offer one team only. Of the nine participating coaches, three coach boys' teams and six coach girls' teams. Two of the participants considered themselves to be program organizers because they have a role working with multiple teams within their club organization. For eight of the nine teams, the athletes ranged from 11 to 16 years-of-age. For one team, the athletes were females aged 15 to 18, which exceeds the age range outlined in the recruitment



criteria. I chose to keep this participant in the study because the coach in question had been working with the group for four years, and as such, has coached the group through the Train-to-Train stage of the LTD model and could speak to these experiences. Of the five club programs that were represented in this study, one was recreational, two were high-performance, and two were somewhere in the middle.

**Table 1**

***Participant and Team Demographic Information***

Participant Pseudonym	Gender	Club Pseudonym	Level of Club	Age of Athletes	Gender of Athletes
Jack	Male	Team 1	Recreational	15-18	Female
Steven	Male	Team 2	High Performance	12-15	Female
Chris	Male	Team 3	Middle	12-15	Male
Quan	Male	Team 3	Middle	12-15	Male
John	Male	Team 4	Middle	13-14	Female
James	Male	Team 4	Middle	13-16	Male
Mike	Male	Team 2 and 5	High Performance	13-15	Female
Kevin	Male	Team 5	High Performance	13-15	Female
Sarah	Female	Team 2	High Performance	12-15	Female

***Note: Participant pseudonyms were chosen by participants, club pseudonyms were assigned.***

## 4.2 Questionnaire

All nine participants completed an online questionnaire via Microsoft Forms™. The questionnaire took an average of 11 minutes and 39 seconds to complete, and all questionnaires were completed in full. The questionnaire provided useful data concerning the volume of sport participation, training to competition ratio, and the sampling or specialization behaviour of athletes. When considering the volume of sport participation, the participants were asked how many months per year their athletes spend in the following phases of training: (1) the transition phase was described as the “off season” with no formal training or competition, (2) the preparatory phase includes team training/practice, no formal competition, and may include informal exhibition games, and (3) the competition phase includes team training/practice, formal competition, and may include travel for games or tournaments. Table 2 shows the number of months per year that athletes spend in each phase of training with the coach participating in the study.

**Table 2*****Months of Club Basketball Participation per Year***

Training Phase	Number of Responses			
	1-2 Months	3-4 Months	5-6 Months	7-8 Months
Transition	4 (44.4%)	4 (44.4%)	1 (11.1%)	
Preparatory	6 (66.7%)	3 (33.3%)		
Competition	3 (33.3%)	1 (11.1%)	3 (33.3%)	2 (22.2%)

On average, athletes participate for 7.4 months per year. This average includes responses from all nine participants, including one outlier who reported participating for only three months per year. When the outlier is removed, the average months of participation is eight months per year. When participants were asked to consider their athletes' total participation on all teams, including additional sports, the time the athletes spent participating increased to a minimum of 10 months per year, with three of the participants reporting less than one month of transition time. In addition, seven of the nine participating coaches report offering optional (not mandatory) training or practices during the transition phase. This optional training adds to the overall volume of sport participation for athletes but is not represented in the data below.

Coaches also reported how many total hours of participation, including training and competition, their team averages per week during the preparatory and competition phases of training. Table 3 summarizes these results. I intentionally excluded the transition phase from the question because no formal training takes place during this phase. More than half of the participants reported their athletes engage in six or more hours of participation per week during their season and two participants reported more than 10 hours per week of participation during the competition phase.

**Table 3*****Hours per Week of Club Basketball Participation***

Training Phase	Number of Responses				
	< 4 Hours	4 – 6 Hours	6 – 8 Hours	8 – 10 Hours	10 – 12 Hours
Preparatory	3 (33.3%)	1 (11.1%)	5 (55.6%)		
Competition	2 (22.2%)	2 (22.2%)	2 (22.2%)	1 (11.1%)	2 (22.2%)

I explored the training load during the competition by asking coaches to report their training to competition ratio and the types of competitions in which their teams participate. Six of the nine coaches

reported that their teams play in a league format of competition, eight of the nine coaches reported participating in tournaments, and six of the nine coaches reported traveling outside the province for tournaments. Table 4 outlines the reported training to competition ratio.

**Table 4**  
*Time Spent in Training Versus Competition*

Ratio of Training to Competition	Number of Responses
> 70% Training	3
70% Training, 30% Competition	3
60% Training, 40% Competition	2
50% Training, 50% Competition	1

Eight of the nine coaches reported a training to competition ratio of at least 60% training to 40% competition, which is in line with the guidelines for the Train-to-Train stage of the LTD model (Higgs et al., 2019).

When describing the sampling and specialization behaviour of their athletes, coaches addressed how many of their athletes they would consider to be sport specialists (i.e., intensive, year-round training in a single sport at the exclusion of other sports), how many they would consider to be sport samplers (i.e., participating in more than one sport throughout the course of a year), and how many of their athletes would consider basketball to be their main sport. Table 5 outlines the results of this line of questioning. Five of the coaches reported that 100% of their athletes consider basketball to be their main sport. The remaining four coaches reported that between 50% and 75% of their athletes would consider basketball to be their main sport. There was a much greater amount of variance in coaches' descriptions of their athletes as specialists or samplers. On average, coaches considered 40% of the athletes on their teams to be specialists, but this value ranged from 0% to 70% across the data set with no discernable pattern related to gender, age, or perceived level of the program.

**Table 5**  
***Sport Specialization Behaviour of Athletes***

Participant Pseudonym	Percentage of Athletes on Participant's Team (%)	
	Basketball is their Main Sport	Considered Sport Specializers
Jack	55	36
Steven	100	70
Chris	64	18
Quan	75	60
John	100	0
James	50	30
Mike	100	60
Kevin	100	50
Sarah	100	40

### **4.3 In-Depth Interviews**

Participants took part in in-depth interviews with me over an eleven-week period from November 3, 2021, to January 19, 2022. All interviews were conducted over UM Zoom™. Interviews ranged in length from 36 minutes to 65 minutes, with an average duration of 52 minutes. Each interview followed the interview guide (see Appendix F) with some flexibility in the order of questions and the subtopics explored based on the natural flow of each conversation. I recorded each interview using an audio recording app then immediately downloaded it to my password protected, University of Manitoba SharePoint account prior to permanently deleting the original recordings from the recording device. I transcribed each interview within two weeks of the date of the interview and then sent the transcript back to the participant for member checking. I removed all names and identifying information from the transcripts to protect the confidentiality of the participants.

### **4.4 Themes and Codes**

Once all participants completed the member checking of their transcripts, I engaged in reflexive thematic analysis (TA) to identify themes and subthemes across the data set. First, I read through each transcript, line by line, assigning codes to sections of the data that represent items of interest and relevance to the research question. Several of these codes began to repeat, so I began to collate and group them according to their similarities. Some of these initial groupings became themes or

subthemes. Once it became clear to me that I had identified all relevant codes within the data, I reviewed and refined the collated codes and associated data to form initial themes. After several rounds of revision, I organized the data into five overarching themes. Each theme and its associated subthemes are listed below and a summary of themes, subthemes, and their associated codes is available in Appendix G.

**Table 6**

*List of Themes and Subthemes*

Themes	Subthemes
1) Athletes Should Sample	<ul style="list-style-type: none"> <li>• Overall athleticism</li> <li>• Transferable skills</li> <li>• Injury prevention</li> <li>• Psychological benefits</li> <li>• Contexts for sampling</li> </ul>
2) Athletes are Doing Too Much	<ul style="list-style-type: none"> <li>• Limited rest and recovery</li> <li>• Availability of training</li> <li>• Making it work</li> <li>• Influences on specialization</li> </ul>
3) The System is Broken	<ul style="list-style-type: none"> <li>• Other people are the problem</li> <li>• Need for better programming</li> <li>• Serving the top without killing the middle</li> </ul>
4) Coaches Prefer Practical Training	<ul style="list-style-type: none"> <li>• Professional development sources</li> <li>• Why seek professional development?</li> <li>• Key take-aways</li> <li>• LTD model awareness and understanding</li> </ul>
5) Coaching Practice Reflects Sport Participation Beliefs	<ul style="list-style-type: none"> <li>• Accommodating samplers</li> <li>• Understanding program expectations</li> <li>• Coaches motivated by passion</li> </ul>

From engaging in the TA process, I highlighted these five themes for their interest and relevance to the research question. They represent coaches' beliefs regarding sport participation, long-term development, coach education, and the sport system in Manitoba as a whole. By comparing interview and questionnaire data with the Sport Canada LTD model I was able to attain a comprehensive picture of how club basketball coaches in Manitoba approach sport participation and long-term development.

## Chapter V: Discussion

This chapter analyzes and discusses the questionnaire data, themes and subthemes identified in Chapter IV. For each theme I make connections between the interview and questionnaire data all participants completed prior to their interviews. Excerpts from the interview transcripts provide context for the codes and themes and ground these themes firmly in the perspectives and experiences of the participants. Throughout the discussion I connect each theme back to the literature to identify how this research connects to what is already known about specializing and sampling, highlighting areas in which this study identifies remaining gaps for future research to address.

### 5.1 Athletes Should Sample

Every coach who participated in this study agreed that athletes should play other sports in addition to their main sport. The overarching theme that “athletes should sample” includes subthemes that identify reasons why coaches believe that playing additional sports is beneficial to athletes. Subthemes highlight the coaches’ reasoning and include references to the physical, mental, and social/emotional benefits that participants believe sampling provides. In addition, I included a subtheme “contexts for sampling” to represent the nuances in how coaches describe their athletes’ sampling behaviours.

The findings from this theme are consistent with the research literature that highlights the benefits of sport sampling and deliberate play activities. This includes the positive development of motor skills and the ability of young athletes to transfer these skills between sports (Güllich & Emrich, 2014; Strachan et al., 2009; Waldron et al., 2020). Several participants also echoed the findings of Guisti et al., (2020) and Carder et al. (2020) that sport sampling will minimize the risk of injury and burnout that is often associated with early sport specialization. Finally, coaches in this study also agreed with the research of Cote et al. (2009) and Waldron et al. (2020) about the psychological benefits of sport sampling, which include increased levels of enjoyment, less pressure on athletes, and a higher level of intrinsic motivation for participation. Given the limited amount of qualitative research that exists on coaches’ perceptions regarding sport sampling and sport specialization I was surprised to find how closely the participants’ beliefs aligned with the research on the benefits and risks of sport sampling and sport specialization. Most coaches in this study were also aware of the LTD model, which echoes the recommendation from the research literature that athletes should sample a variety of sports early in development. The beliefs coaches who participated in this study are explained in detail

below and provide rich examples of athlete experiences, detailed accounts of coaches' beliefs, and the reasoning behind them that has, to this point, been minimally addressed in the research literature.

### ***5.1.1 Overall athleticism***

Coaches in this study believe that sport sampling leads to the development of fitness, movement patterns, and manipulation skills that are beneficial to athletes in general. Participants explained that athletes who play a variety of sports are well-rounded and have greater athleticism than athletes who specialize in a single sport. When asked if he believes the athletes in his program should play other sports, Chris said, "I think so [for] a couple different reasons. The easiest one to me is physical literacy. I just see so much more dynamic movement [in multi-sport athletes] just by the fact that they have such a variety of movement skills." Several coaches agreed with this idea that sampling helps with athleticism. Steven referenced his own experience when he said, "I would encourage kids to be able to play other sports. Particularly things like track and field, cross country, and even volleyball. Just because I know these things helped with my overall development as an athlete." Other participants agreed that their own athleticism was positively affected by their sampling experiences, in developing athleticism, transferring skills, and preventing injuries.

Participants implied that athletes at the highest levels are more athletic, largely because of their experiences sampling multiple sports. Steven elaborated on this idea, comparing our Canadian basketball programming and development to that of the United States:

I mean you compare it to what is happening in the States in terms of how their basketball players are being produced. What you see at the higher levels is that a lot of the top players are extremely athletic... and you're seeing those types of players succeed at the pro level whereas here in Canada you're not really seeing a lot of [our top] kids enter that higher level of basketball... The [players from Canada] that are making it to the higher levels you can see their athleticism, and when you look into their backgrounds you see that they're multi-sport athletes and they didn't just specialize in just one area of their development.

Mike related this concept to his own team saying that, "for sure the top half, like what I would consider the best talent on our team, they're all multi-sport athletes." He goes on to describe how playing other sports "trains your body in a different way" and that the athleticism gained from these experiences can lead to improvements on the basketball court:

For example, in baseball you hit the ball on the ground and you're sprinting like a hundred-meter dash as fast as you can to get to first base. You tell basketball players to sprint but I don't think they really know what sprinting is. Because I remember coming back from baseball and playing in summer [basketball] league. I was flying down the sideline thinking 'why am I

running so fast?’ But it was just that baseball [training of] ‘go as fast as you can’ translating without me thinking about it.

Mike’s reflections highlight the athletic development that sampling provides and alludes to the second subtheme in this category, transferable skills.

### ***5.1.2 Transferable skills***

Coaches in this study believe that the athletic and sport-related skills gained by sampling are transferrable across sports. This subtheme includes codes suggesting a belief that the skills athletes develop through sport sampling are generally transferable between sports and will ultimately benefit performance in their main sport. Data included references to a variety of skill types including movement and manipulation skills, the application of sport strategies and tactics, and the personal management skills necessary for sport participation such as leadership or time management.

James is an advocate for sampling who thinks that athletes should play as wide of a variety of sports as they can at an early age. He remarked that, “every sport kind of offers you different skills that, at the end of the day, are going to make you a better basketball player.” Quan reflected on the sport participation of his children and how the skills they gained while sampling transferred to benefit their performance in basketball:

For example, my son plays basketball, I also want him to do track because it helps with your speed, it helps with your agility. And that’s [the same] with football too. I always say football will help you with your aggressiveness. If you’re a passive kid it will help you become stronger.

Sarah agreed with this point when discussing how different sports connect with one another, noting “you could be playing golf and you could be working on a skill that relates to basketball, or you could be playing hockey and you could be doing something that relates to volleyball.” She believes that for some athletes, seeing a concept explained in a different setting will help them to understand it better. Sarah elaborated “it’s kind of similar to different ways of learning... If you’re doing a skill in basketball it may not translate but it may be that if you’re doing it in ultimate or volleyball it translates a bit better.” This last comment highlights the connection between different styles of learning (i.e., visual, auditory, etc.) and learning skills or tactics through participation in different sports. In some cases, if the information is presented in a different context, it translates better for the athlete.

The counterargument to the benefit of sampling for skill transfer is that by taking time to sample other sports, you lose time that could be devoted to training for your main sport. Mike reflects on a coach he knows who “thinks that you should be specializing from like, grade two, because you’re



missing out [on training time] when you're playing soccer and volleyball. Other kids are playing basketball and getting further ahead." He, like the rest of the coaches in this study, disagrees with this way of thinking. He goes on to explain that the time his athletes take to sample other sports is beneficial for their long-term development. Sampling is seen to have many benefits including the development of athletic and sport skills that will transfer to the basketball court:

Did they miss fifty hours of training in the summer because they went to play a different sport? Yeah, but I don't see it as a downside whereas [Coaching Colleague] would say 'Well you know how much better they would be if they took fifty hours and did jumpers?' It's a different way of thinking but I don't agree because I've seen them on the other side.

These two schools of thought were acknowledged by several coaches in this study, but all agreed that sampling has benefits, and that by playing other sports athletes learn skills and strategies that will benefit them in basketball. Chris put it well by saying, "history shows that kids pick up sports at [grade] eleven or twelve. If you're physically literate, you can become excellent at a sport in a year."

### ***5.1.3 Injury prevention***

The coaches in this study believe that sport specialization can lead to injuries, and that sampling will mitigate these risks. Codes for this subtheme were, in some cases, closely connected to the development of athleticism and the varied movement skills that athletes develop through participation in a variety of sports. This subtheme focuses solely on cases where the development of these skills was connected to injury prevention.

John was a dual sport basketball-hockey player growing up. For him, basketball eventually became too difficult on his knees. He appreciated the chance to sample because, "hockey and basketball movement concepts transfer incredibly well, but it's not that constant jarring of the joints." Explaining further, he adds:

I know for hockey players, they're noticing that athletes who spend a ton of time on the ice at an early age, especially male athletes, put themselves at a higher risk of developing sports hernias in their early twenties and late teens.

In fact, injury prevention was the first thing John mentioned when asked why he believes athletes should play multiple sports. In addition to it being beneficial for their athleticism he said, "I think it's great to reduce the possibility of sport-specific injuries." He goes on to reference professional sport, and the work that athletes do off the court now to manage and prevent overuse injuries:

I know with football the NFL has gone away from full contact practices just because they know like, 'what's the point of doing that if it's going to cause injury to our athletes?' So, I think

having kids try a variety of different things will help develop that muscular system [and] will help reduce the impact of sport-specific injuries.

Only one of the coaches in this study mentioned specific instances of athletes in their program dealing with injuries from suspected overuse and specialization. Due to the qualitative nature of this study, it is not possible to say whether these injuries were related to sampling or specialization patterns. However, previous research suggests that sport specializers are as much as 37% more likely to suffer an injury than athletes who sample (Carder et al., 2020). Steven observed that within his program, “the ones that are injured are the ones that are overtraining because they are participating with more than one [basketball] team.” It is unclear from this observation, however, if these injuries are due to specialization or from a high training volume across a variety of sports. This idea will be discussed further in section 5.2.

#### ***5.1.4 Psychological benefits***

This subtheme includes codes that indicate a belief that sport specialization is often associated with negative psychological outcomes such as stress, pressure, and burnout. It also includes codes that indicate a belief that sport sampling can provide a relief from these negative mental factors and is related to positive psychological outcomes such as enjoyment, time with friends, and a low-pressure training environment.

One benefit to sampling that was cited by multiple coaches was the ability to make friends and build social connections. Sarah believes that sampling “is a great social thing for kids, being able to make friends in different sports, they can interact with other people and learn from them as well.” Mike agreed with this point. His daughters are in high school, and he sees school sport as “a good thing because it’s a break from basketball and they have fun with their friends because there’s no pressure, even though they do quite well in volleyball.” The idea of sampling as a break from pressure was illustrated very well in an example from Quan. He runs his program with the philosophy that “you’re always welcome here to come in whenever you can, whenever you feel like it.” This philosophy did wonders for one athlete who was involved with high level hockey in addition to basketball.

I’ll never forget, what his mom said was, ‘[Club Team] has provided a way out for my son to just enjoy the sport.’ It was for him to get away from hockey, and he’s made it to the point where he feels like there’s never any pressure when he comes to [Club Team]... he could play ball, but he could also play hockey so he enjoyed it.

For Quan’s athlete, sampling another sport in a low-pressure environment provided the psychological break he needed to enjoy sport again. High performance sport is often a stressful environment that

involves high amounts of pressure for athletes. It is easy to imagine how this pressure can be overwhelming for a young athlete if they don't have adequate sport-life balance or if the stress outweighs what the athlete is capable of managing.

### *5.1.5 Contexts for sampling*

This subtheme includes codes that represented different ways of talking about sport sampling. After reviewing the transcripts, it became evident that there were underlying contextual factors associated with how coaches referenced sampling behaviour. In discussing the sampling or specializing behaviour of their athletes, coaches seemed to identify different contexts where sampling takes place and even different levels of sampling and specialization that ranged according to the nature of participation. For example, several coaches cited school sport as an effective context for sampling and viewed this type of participation as more recreational in nature, whereas playing for a club team was associated with a higher degree of commitment and investment in the sport.

One notable finding is that all coaches referenced organized sport when discussing sampling behaviour among athletes. This covers only half of what Côté et al. (2009) called the foundation of the sampling years. This foundation “is based on two main elements: 1) involvement in various sports and 2) participation in deliberate play” (p. 9). None of the participants in this study referenced any informal or unstructured play as part of their athletes' sampling behaviour. Contexts that were mentioned were: community leagues, club teams, and school sport. These three contexts were also referenced according to different motivations for participation and levels of commitment. For example, some coaches mentioned their athletes participating “just for fun” while others identified one sport as “supplementing the other” which would indicate that the athlete in question has chosen a main sport. Some confusion remains as to whether an athlete can be considered specialized if they have a main sport that they are devoted to at a high level, while also playing other sports “for fun”.

Jack, the only community coach in the study, refers to his league as “a steppingstone, we're the gateway drug to higher levels of club ball” and explains how this point of view is generally reflected in a less demanding schedule, and more flexibility for his athletes which leaves ample room for sampling. Club basketball, on the other hand, is generally associated with a higher time commitment, and greater expectations placed on the athletes. Section 5.5 addresses this idea in more detail. Mike describes the context for his athletes' participation as follows:

I would say they specialize in basketball because that's where they put most of their time, they get into the most detail in that sport. But during Covid they played [other sports like] softball and they're playing volleyball and both of those things were such good experiences for the kids.

In this example, softball and volleyball are referred to as supplementary sports to provide a mental break, and enjoyment outside of basketball. Yet Mike still considers his athletes specialists due to their high level of commitment and training for basketball. According to Jayanthi et al. (2013), these athletes would be classified as moderately specialized because, although they have chosen a main sport and participate for greater than eight months of the year, they have not quit all other sports to focus on this main sport. Future research is needed to decide whether it is appropriate to classify these athletes as moderately specialized when you consider their placement on the 3-point scale against their level of commitment, and their high overall volume of training.

School sport falls somewhere in between community and club when referenced in this study. Many coaches acknowledge school sport as a good venue for sampling. Sarah acknowledges this in the quote below:

I think exposing kids to sport through [school sport participation] has been really great and I think it has been a constant that's allowing kids to still [sample] a little bit. But I think when you look at the club and community side, it's making it a bit harder.

The challenge she is referencing comes down to scheduling. Club basketball teams take a break during the school basketball season to allow athletes to participate in school sport. However, if a club basketball player wants to play school volleyball, track and field, soccer, or other sports that take place early in the fall or spring they will be balancing these school sports with their club basketball season. The timing of sport seasons and the challenge this creates is discussed further in section 5.3.

## **5.2 Athletes are Doing Too Much**

The second overarching theme is that today's athletes are taking on a higher volume of sport participation than athletes in the past. The message that came through in this theme is that athletes today are doing too much activity, with too little rest and recovery. The data in this category was grouped into four subthemes that highlight; (1) the impact of limited rest and recovery on development, (2) the increased load athletes are under based on a higher availability of training, (3) ways in which athletes manage this high training load, and (4) the various influences on athletes' decisions to specialize and to take on a higher volume of training.

A challenge when considering this theme is the lack of verifiable information regarding athletes' participation on other sports teams. DiSanti et al. (2019) recommend training for no more than eight months of the year, and 16 hours per week in a single sport. According to questionnaire data from this study, athletes participate on their club basketball teams for an average of eight months per year, which falls within DiSanti's recommendation. When coaches were asked to consider their athletes total

participation, including additional sports and basketball teams, this rose to a minimum of 10 months or participation per year. Further research is needed to assess the impact of participation across multiple sports, and to make recommendations regarding volume of training.

Canada's guidelines, according to the LTD model, does not include clear guidelines (hours per week, or months per year) for accumulated volume of sport participation at the Train-to-Train level. Instead, the model indicates that Train-to-Train athletes should aim for between six and nine training session per week (including complementary sports) and should follow a single or double periodization program (Higgs et al., 2019). The model also references the importance of optimum recovery that allows an athlete to feel fully recovered before their next training session. When considering participation on their club basketball team only, all club teams represented in this study fall within these recommendations. An issue that this research has identified is that coaches cannot realistically track or plan for their athletes' participation across multiple teams. Further research is necessary to determine an effective intervention that might address these concerns. It is likely to require an improvement in the collaboration and communication between sport governing bodies, and an increased effort to educate parents on long-term development and how they can ensure their children are following optimal training protocols.

### ***5.2.1 Limited rest and recovery.***

Coaches in this study believe that athletes do not receive adequate rest and recovery time. This subtheme includes codes referencing in-season recovery and how athletes manage their training load on a weekly basis, as well as data related to the structure of a training year and the amount of rest time athletes have without any structured activity. Overall, the data in this subtheme reflects a lack of rest and recovery time due to the length of the basketball season and the overlap between sport seasons for athletes that play multiple sports.

The typical format for participation on a club basketball team in Manitoba is a two-part season, with a break in the middle when school basketball takes over. Typically, a club team will hold tryouts in August, practice and compete from September to late November, break for school season, and then run a spring session from mid-March until the end of May. Steven comments on this format saying:

It is a lot of basketball... if they start in August, they could essentially be playing basketball all year because if they are fortunate enough to make the provincial team, that normally gets started around May and goes until about the first week of August. They get a week off and then they typically have [club] tryouts right after they come back from nationals.

The training year that Steven describes is typical for basketball players in Manitoba at the Train-to-Train stage of the LTD model. If the athlete plays for a club team and their school team, they will be playing basketball for roughly nine months of the year. If they also make the provincial team in the summer, that will extend their season by an additional two months. His concerns with this training model are echoed by other coaches in the study including Chris who added, “I don’t care where it falls but I think [athletes] need at least a month-and-a-half to two months of no organized sport.” He believes this time is necessary to give athletes a physical and mental break from the pressures of training.

The volume of participation reported during interviews aligns with the questionnaire data. According to the questionnaire results, athletes participate for an average of eight months per year for their club basketball teams and this participation equates to six or more hours per week of training. The concerns expressed by coaches in connection with this theme add meaning to the questionnaire data. Sarah describes her views on this participation below:

I personally think it’s a lot for someone to play sports five to seven days a week for almost the whole year... They’re on club teams, they’re on school teams, and doing both of those at the same time. Or having two sports going on throughout the whole year. So yeah, I would say it’s a lot.

Mike described this amount of sport participation as “hectic” citing the logistics that are often involved to maintain this type of schedule. He describes “multisport athletes, sometimes they’re going four or five hours in an evening because they go right from one sport, [eating a] meal on the way to another sport.” When asked to identify the drawbacks to the multisport model Mike cited “definitely mental fatigue. They have heavy course loads plus four or five hours a night of sports. I think there isn’t enough downtime now.” This concern was echoed by several coaches in the study. Kevin elaborated on the issue of fatigue to say:

What’s your recovery look like physically and mentally? Especially if they’re in high school you’re pushing some kids to stay up pretty late to work on school work and they’re not bouncing back as they should be and that’s probably affecting their performance in both aspects of school and sport... you might enjoy it but it’s still a lot to do.

Coaches in this study, like Kevin and Mike, state that the current volume of basketball participation leaves limited time for athletes to rest and recover from the mental and physical demands of their sport. This load is multiplied for athletes who sample and participate in more than one sport. When you consider the additional demands of school, social life, and family, it is a lot for athletes to manage and limits their ability to recover fully, and train effectively for their sport. The concerns identified by

coaches in this study are consistent with the special issues to address at the Train-to-Train stage that are outlined in the LTD model. According to the literature, Train-to-Train athletes report high demands by multiple sports, a lack of consideration for academic and life demands, and difficulty balancing sport, school, friends, and work (Higgs et al., 2019).

### ***5.2.2 Availability of training***

Coaches believe there has been an increase in the amount and variety of training that is available to athletes in Manitoba today compared to in the past. The data in this category points to a connection between the increased availability of training and an overall increase in training load. Codes reference an increase in the individual training opportunities that are available (e.g., independent skill work, strength, and conditioning), greater exposure to the game through various forms of media, and an overall growth of the club basketball system in Manitoba with more athletes playing and more teams available now than in the past.

Jack states that, “one of the biggest changes we’ve seen over the years is the amount of club teams has come up.” There are more teams offered now that athletes can participate on. Sarah has also noticed that, “more time is being allotted to each sport.” She elaborates that, “more programs are implementing more practices and strength and conditioning on top of that. So, I think it makes it a little bit harder for kids to maybe branch out to other sports.” Several coaches in this study reported that their programs offer strength and conditioning sessions on top of regular practices. While these sessions are intended to positive impact on athletic development, they also increase the overall training load that athletes take on as part of participating on the team and limits the time they have available for sampling.

Coaches are also offering additional on-court training opportunities that contribute to this increased load. Kevin noted, “there’ a lot more skill development going on. You have a lot of coaches investing time in the fundamentals or providing opportunities to work on their game outside of a team [practice].” According to the questionnaire data, seven of the nine coaches who participated in this study report providing these additional, optional training opportunities in addition to team practices. John identified an increase in overall exposure to basketball through media:

The amount of games that are on TV [has increased]. I think kids are getting a lot more exposure. I think social media has had an impact on that as well... if they want to learn a skill, they can just open Instagram for a ton of different techniques or new moves.

Considering the additional training opportunities available today (i.e., club teams, strength and conditioning programs, skill development training) and the increase in media coverage of basketball, overall exposure to the game has increased dramatically.

### ***5.2.3 Making it work***

Not all coaches in this study saw the increase in sport participation and training volume as a negative. This subtheme includes codes that reflect a belief that the ideal volume of sport participation is athlete-dependent and codes that reference ways in which athletes and their families “make it work” by balancing sport, school, and life.

Parental support is one way that athletes are able to manage their time and schedules to participate in multiple sports. When asked if our current sport system in Manitoba is flexible enough to allow athletes to sample, Steven said “kids are able to do it because they get support from their parents.” This support includes preparing meals, monitoring progress in school, and giving up time to drive athletes to practices and games. In cases where an athlete is playing multiple sports this might equate to multiple hours in an evening or over a weekend. The commitment required by athletes and parents is one of the reasons that Chris believes the choice of whether to sample or specialize has to be taken on a case-by-case basis:

I think of it as so kid dependent to be honest. To me it’s all about the kid and all about the parents too. What they want, because I think each parent has the right to determine how much they want to drive their kid around.

Athlete and parent choice are especially important given data collected under this theme that athletes are taking on high volume of training with limited rest and recovery. Chris goes on to state that, “from talking to most parents of club level sports, at least for our kids, they’re in multiples sports and going most nights of the week and kids seem to like that.” Here we see evidence of conflicting points of view between coaches in this study. Some claim that athletes are taking on too much, that their volume of training is too high. Other coaches, like Chris, believe that athletes should be able to choose how much activity they want to take on, and that their choice and personal preference need to be considered. He finishes by adding, “whether it’s healthy or not I’m not a hundred percent sure.” Echoing the need identified earlier in this chapter for clear guidelines on training volume, and increased communication between sports to ensure athletes are receiving adequate rest and recovery.

Another strategy that athletes use to balance multiple sports is time management. Chris describes how his family prioritizes their commitments to manage load throughout the season:



So to me it's just important to set a hierarchy. Me and my son have had this for years. Games beat practice, then we set practice levels when there are conflicts, and then ultimately homework wins out over everything. And your own mental and physical health can be pulled as a trump card at any time to pull the string and say, 'you're limping, you're going to take the day off today and rest your body.'

A hierarchy system like the one described by Chris, was reported by many coaches in this study. When athletes have conflicts between sports, it is common for them to prioritize one sport over another, or to prioritize games over practice. Mike gives an example of how his club team manages athlete priorities between basketball and volleyball season explaining that, "in the fall we tell them that volleyball should be the priority... and in the spring we expect that we're the priority." This system allows Mike and his fellow coaches to maintain expectations that their athletes will be committed during their peak season, while allowing some flexibility for sampling in their low season.

#### ***5.2.4 Influences on specialization***

Coaches in this study identified a variety of perceived influences on an athlete's decision to specialize in sport. The data indicated a wide variety of influences including people, system factors, and athlete experiences. These codes were included as part of the overarching theme "Athletes are Doing Too Much" because of their connection to an increased training load. In my discussions with coaches, sport specialization was associated with participation in high performance programming and an associated increase in training demands and program expectations.

Most coaches in this study agreed that the ideal time for athletes to specialize in sport is towards the end of high school, in grade 11 or 12. At this point in their athletic careers, athletes are making decisions about whether they want to pursue sport after high school, and if so which sport. Sarah explains:

I think if it's something that you want to play at the next level, I think [grade 11 or 12] would be the time where you need to focus and put more of your energy into one sport so that you can focus on being the best you can be at that sport rather than being good at multiple sports.

Several other coaches agreed with Sarah that, eventually, if you want to reach elite status in your main sport, you have to devote more time and effort. This is consistent with long-term development research by Cote et al. (1999) which recommends sampling during the early years of development and a gradual decrease in other activities as an athlete moves towards more elite levels of sport. James elaborates:

[training] is getting more intense [by grade 11 or 12] where it's hard to balance your time and give your full effort to more than one sport... if you're at the level where maybe you're good enough to play in college, you should maybe try to focus on one. That way you can kind of maximize your potential.

James and Sarah highlight the increase in commitment and training intensity that happens in the later years of sport participation. This increase acts as a natural influence on specialization simply due to the impact it has on an athlete's time and energy, where it becomes difficult for them to continue balancing participation in more than one sport without adverse effects. They also identify playing at the next level, in college or university, as a motivating factor in this decision. This aligns with previous research by Brooks et al. (2018) which found that athletes believe specializing will improve their chances of receiving an athletic scholarship.

Coaches are also powerful influences in an athlete's decision to specialize. Kevin noted that, "if your coach is expressing to you that you're a high-performance athlete for basketball or whatever sport, those conversations are being had in that triangle of athlete, parent and yourself as a coach." Conversations like these can be powerful motivators for athletes and encourage them to focus more on one sport over others. Quan adds, "I have to be careful about how I say things as a coach because I know I have the power to persuade a kid in a direction." Some coaches, like Quan, are aware of this influence and try to guide the athlete towards making their own decision rather than making it for them.

Other participants pointed at "other" coaches as encouraging specialization through their interactions with players. When asked what the biggest influences are in an athlete's decision to specialize Chris pointed to, "coaches who make it the end-all be-all that you're there every single day and only focusing on one sport, and parents who drink that Kool-Aid." This alludes to a recurring code from this subtheme, selling the dream. This code reflects a belief by participants that some coaches sell parents and athletes on the idea that if they commit to their program, and pay for their training, their athlete will be successful. Jack reflects on his experiences dealing with athletes who train under coaches like this:

It's allowing kids to develop their skills better but it's also more so tagging them to specialize in that sport. When parents make a financial commitment and kids make a time commitment, they better progress and not only be part of a team but a contributing member to that team.

By charging athletes for training and promoting their program, coaches give the impression that if an athlete trains with them, and a parent commits the money, that athlete will become a star. Jack goes on to explain, "it's some of these organizers' and coaches' incomes for the year so they very much have to keep the kids vested into it." While none of the club basketball programs represented in this study operate for profit but there are other clubs and other sports that do. Mike explains how coaches who are interested in making a profit are able to do so by promising success to parents and athletes:

It's like, 'sign them up when they're five, how much money can we get for individual training' and [parents think] they're going to go to the NHL or NBA. [Athletes] are going like year-round [with this training] and I don't think that's good for them... parents are suckered in with the promise of the promised land if they come to this clinic or go train with this guy.

This promise of success is another influence on the decision to specialize as athletes buy in to these programs, leading to more profit for the coaches and organizers. DiSanti et al. (2019) found that club coaches are more likely than high school coaches to promote specialization. While none of our participating coaches report that they promote specialization among athletes they coach, most described situations like the one above with other coaches and other sports encouraging athletes to specialize for the financial benefit of keeping that athlete enrolled in their program.

### **5.3 The System is Broken**

Participants shared several beliefs that relate to how the sport system in Manitoba functions, and whether it is properly serving our athletes. Ideas shared relate to the quality of basketball programming, how different sports work with and around one another, and whether the basketball system in Manitoba is benefiting all athletes. This theme also includes data related to coaches' beliefs about the people and programs within the sport system (i.e., other coaches, high performance programs, other sports, etc.) who are contributing to what they perceive as the problems with Manitoba sport.

The basketball system in Manitoba is organized into four contexts of participation; school, club, development, and high performance. School basketball consists of middle school, high school, university, and college basketball tournaments and leagues. Train-to-Train athletes participate for their middle or high school teams whose season typically runs from late November to early March. Club basketball includes a variety of teams from around the province that offer teams of different age and gender groups depending on the size of the club and the availability of coaches. These teams hold tryouts at the end of August and compete in both a fall and spring league. The school and club seasons operate around one another with club basketball taking a break from December to March to allow athletes to focus on school basketball, and not split their time between a school and club team. Development basketball includes summer camps, clinics, and other training opportunities as well as a community basketball league run by the Winnipeg Minor Basketball Association (WMBA). Unlike the club league, community basketball runs a fall/winter session that starts in October and continues through school basketball season to mid-March. Teams who are part of the community league are formed based on community center catchment areas rather than holding city-wide tryouts. The league upholds a fair play model and zero tolerance for unsportsmanlike behaviour to keep the emphasis on

fun and participation (Winnipeg Minor Basketball Association, 2022). Finally, high performance basketball includes the Targeted Athlete Program (TAP), a training group and team for Manitoba's top basketball players at the 15U and 17U age level, and the Manitoba Provincial Team which is formed at the end of May and trains through the summer in preparation to compete at the National Championships. In recent years, TAP has operated like a club basketball team, with a fall and spring training block that includes competition from various sources including out-of-province travel, exhibition games against college/adult teams, and participation in the club basketball league in an advanced age class. The subthemes below explore how this basketball system is contributing to the long-term development of athletes and their decision to sample or specialize.

### ***5.3.1 Other people are the problem***

Many coaches in this study believe that others are to blame for the perceived problems with the sport system and for the trend towards athlete specialization. They point to other sports (e.g., volleyball, hockey), other levels of competition (e.g., more elite programs), and other basketball programs (e.g., school teams) as encouraging specialization among their athletes. The data in this category includes references to the people coaches believe are contributing to specialization, and the methods they use to do so.

While every coach who participated in this research reported that they encourage athletes in their program to sample other sports, they also acknowledged that "other" coaches are not so accommodating. Kevin explains the challenge this creates:

I would think that some club programs are probably applying pressure to athletes to prioritize their team or their sport over other sorts for sure... I have a tough time when I have a multi-sport kid and the kid comes and talks to me and says, 'Sport B doesn't want me to [come to practice], I have to go to Sport B and they won't let me miss.' And I'm the one that's like 'ok yeah you can go.' Like why am I the one that- where's the flexibility on both ends?

Coaches want athletes to be committed to their team and attend practices and games, but coaches in this study also understand the benefits of sampling and are willing to accommodate their athletes so they can play other sports. When other coaches are not willing to make the same sacrifices, it creates frustration.

There is also the impression among coaches that other teams or sports penalize their athletes if they miss training. Jack coaches in the WMBA community league and is mandated to enforce a fair play policy. His struggle comes with club teams where if, "you don't show up for one practice and you're benched, so often community takes a backseat to those sports and clubs." As a community

coach, Jack is not allowed to bench players for missing practice and finds it challenging to maintain a culture of commitment and accountability when battling with club teams who enforce strict rules when it comes to attendance. Not all club teams use such strict attendance rules. Chris, who is a club basketball coach, describes his program:

We're not extreme let's put it that way. We're not demanding like some club [basketball teams] and some football high performance teams where you can't join any other team and you can't play any other sports... we have expectations that kids wanna come and get better... The expectations are that when you're committed, you're committed. With the caveat that we realize you're either in season or not in season.

Chris, like many coaches in this study, still expects a certain level of commitment from his players but does not use concrete penalties to enforce these expectations. He also allows athletes to prioritize other sports depending on the time of year. In the spring, when club basketball is considered "in season" coaches expect players make a stronger commitment to their team. In the fall, these same athletes can prioritize other sports who are in the peak of their season.

Not every sport makes these same considerations. John describes the relationship between school sport and club basketball. "I know volleyball coaches they don't want their kids playing basketball during volleyball season." In this research we have seen that club basketball coaches are willing to work around the school volleyball season, but according to John's experiences, volleyball coaches would rather they not play at all. Mike summarizes this idea well stating that, "the majority of coaches say they want multi-sport athletes as long as their sport is first." Even when faced with strict rules for attendance, some athletes will still try to work around both schedules, but for other athletes this conflict leads them to quit one sport or the other and become more specialized.

Many coaches in this study, who work with female athletes, reported volleyball as a major competitor for their athletes' time. Steven describes his experience working with female athletes who play both volleyball and basketball:

If you're a volleyball player and you also have a love for basketball, with athletes I've coached before they're sort of discouraged [from participating] in basketball [by volleyball coaches]. Just because of the time commitment and the physicality of the game and what it might mean for their [volleyball] development. Whereas with basketball coaches we sort of encourage kids to play other sports.

Volleyball and basketball often attract similar athletes. Athletes who are tall, lean, and explosive in their lower body would be well-suited to either sport and the two are often in direct competition when steering athletes towards a high-performance pathway. Steven goes on to say:

I think that's sort of what's not connecting. Our sports organizations in the province aren't really working together to try to develop better athletes, they're trying to pick and keep the athletes that they currently have for as long as they can... You and I have coached athletes like that right, where [they are] an amazing athlete and an athlete that should be dual sport but because of their other coaches and other influences they're sort of pulled away from basketball.

The concept that Steven is describing here is that sport organizations want to keep the best athletes involved in their programming to build the strength of the sport provincially or nationally. Provincial organizations have a vested interest in ensuring they identify and train athletes effectively to prepare them for the Podium Pathway. As this trickles down to club sport, coaches at this level are also trying to identify potential stars and keep them involved in their sport at as high a level as possible. This subtheme is based on the personal reflection of a sample of club basketball coaches in Manitoba. During their interviews, coaches were reflective and identified many factors that may be contributing to the specialization problem. This included reflection on their personal experiences with athletes, and broader reflection on Manitoba's sport system and how it functions. The belief that other people are encouraging specialization and creating the problem, though rooted in these personal experiences, needs to be confirmed by future research. It would be interesting to repeat the current study with coaches from another sport or context of sport, to compare coaches' beliefs and practices and verify whether these claims that other people are causing the problem are true.

### ***5.3.2 Need for better programming***

This subtheme represents a call from participating coaches for better basketball programming in Manitoba. The data reflects a belief that programming improvements will enhance the experience of athletes, increase participation, and improve coordination between basketball and other sports. Suggestions for how to improve sport programming are varied, the data highlights several strategies from improvements in coach training to increased communication between sport governing bodies. These areas for improvement are discussed in detail in the subsequent section.

One way to improve programming is to recruit and retain a higher number of qualified coaches to work at every level of basketball in the province. Chris believes that if we want to prioritize long-term development and work for the best interest of the athletes, we need qualified coaches to lead the charge. He states, "raising the level of coaching I think has a huge difference. You can't fix parents, but you can demand coaches be better, well-rounded human beings." There are very few requirements for coach certification and training, especially at the club and community levels. Typically, certification is only required when you coach high-performance programs. Provincial team coaches are required to certify through the NCCP, but the same requirements are not present in lower levels of basketball.

Mike points out, “if you have the four most qualified coaches coaching the best kids in the province those guys are going to do well but then the spread gets bigger and bigger as the other ones don’t get coached.” Coach training will be discussed further in section 5.4 but Chris and Mike raise a good point that demanding more from our coaches at every level of basketball will lead to improved programming.

Several coaches identified the need for stronger grassroots programming in basketball. Kevin believes, “other sports are more established in their structure and their foundation that they’ve built for their development model.” He refers to hockey, soccer, and volleyball development programs that “have a better reach on getting kids involved and then also keeping them involved and showing them success and having fun right away.” There are very few grassroots-level basketball programs for children in Manitoba. One that is offered through the WMBA is the Jr. NBA, a 12-week program, that offers basketball development and movement skills (Winnipeg Minor Basketball Association, 2022) and operates out of a rotation of community centers around the city. The scope and scale of this compared to other sports is drastically smaller. Soccer for example offers mini-soccer for ages 3-8 and has five branches that serve different areas of the city year-round. The Winnipeg Youth Soccer Association (WYSA) estimates that over 18,000 children enroll in mini-soccer every year (Winnipeg Youth Soccer Association, 2022). An early introduction to basketball will help build the skills needed for continued participation at higher levels later in adolescence and a greater ability to sample basketball in addition to their other activities. For example, if an athlete has natural athletic ability that predispose them to excel in basketball (i.e., height, power, speed) but they were never exposed to basketball as a child, by the time they are introduced to basketball they may feel their skill-level is not sufficient to pursue it competitively. That athlete may then choose to specialize in volleyball when they could have had a successful and enjoyable experience in either sport.

A third concern with the sport system in Manitoba is the lack of communication and collaboration between sport governing bodies. James elaborates:

Oh, I think they definitely could do a better job of coordinating and being on the same page. Now it almost seems sometimes like they’ve kind of been competing against each other. Even in the way their schedules are sometimes set up, they interfere. So I definitely think they could do a better job of making sure that there’s a clear schedule of ‘hey, this is when club teams should be running, this is when high school teams should be going on, this is when, maybe, we want a dead period, you know, with no involvement.

As discussed in section 5.2, many sports now operate year-round between club teams, school teams, and other training opportunities. This overlap creates conflict, and as James mentions, competition over the same athletes. If an athlete wants to sample multiple sports, they must be willing to participate for more than one sports team at the same time for much of the year.

When considering the dual sport athlete who plays basketball and volleyball, coaches have further concerns related to the timing of the school seasons and how this impacts the league format for club teams. Steven describes the issue he faces:

We mainly lose kids to volleyball due to the volleyball season starting at the beginning of the school year. Club volleyball then overlaps into school basketball season and lots of club volleyball teams prevent their athletes from participating in multiple sports. Our participation numbers are down significantly, like we struggle to find quality athletes at the younger levels.

As previously noted, club and school teams often work around one another within their own sport. Club basketball takes a break during the winter months when school basketball becomes the priority. This results in an interrupted, two-part season for club basketball. With school volleyball starting in September, athletes can play for their school teams in the fall, then focus on club volleyball for the remainder of the winter and into the spring/summer. The resulting overlap is further exacerbated based on reports by our participants that club volleyball coaches set strict rules about their athletes missing training for another sport and discourage them from sampling. School sport is often a first point of involvement for young athletes in sport and the timing of these seasons certainly creates differences in how each club system functions. School sport is also, however, one of the few remaining contexts for sport that limits participation to a clearly defined season, making sampling multiple sports much easier and less demanding on an athlete's time.

### ***5.3.3 Serving the top without killing the middle***

The data from this subtheme reflects two conflicting viewpoints among participating coaches. Some coaches believe there is an imbalance within the club basketball system that favours high performance programs and skews the distribution of time and resources in favour of elite athletes at the expense of those athletes in the middle and bottom of the pack. Another group of coaches identify ways in which our current system is failing the elite and call for improvements in programming to better challenge Manitoba's top basketball players.

Chris believes that the current model for club basketball is too focused on developing the high-performance athletes and that elitism will eventually hurt the level of basketball in Manitoba. He elaborates to say:

[Program organizers] want to cater a system to develop [elite] kids for the big opportunities. My only concern is that, 'at what cost?' ... I get developing elite kids but if you develop elite kids and elite teams that dominate and get all the attention... all the other kids don't have a good experience.



He describes basketball participation as a funnel, where the wide bottom of the funnel is made up of athletes at a variety of skill levels that want to participate in the sport and have fun. The narrow top end of the funnel and represents the high-performance athletes. At this level, the group of athletes becomes smaller and the level of play becomes more competitive. Not many athletes will make it all the way through the funnel to reach the pinnacle of sport performance that lies on the other side. To develop the top of the funnel, you need to have a large pool of athletes at the bottom. He argues that, “we have to be careful when we build elite programs to help the top people that we don’t kill the middle, which will eventually, twenty years from now, kill the bottom end of the funnel.” If we want the level of basketball in our province to improve, we need to have quality programming at every level so that athletes with potential to play at a high level can find success and enjoyment in the sport as they make their way up to the top end of the funnel.

The formation of elite teams happens in a few different ways in Manitoba. Quan believes that recruiting plays a part in this process. He explains, “I wish that there would be a stop on this recruiting business in basketball in Manitoba because I always say, if one team recruits all the best players who can they play?” In some cases, this recruiting may be an indirect result of athletes moving to what they perceive as the most successful teams. Whether coaches are directly approaching athletes to recruit them to their club teams was not clearly stated. There are also programs, like TAP, that market themselves to the top players in Manitoba. TAP is affiliated with Canada Basketball and brings in coaches from the national team a few times a year to identify talent and provide training to our local teams. Operating a program like TAP creates a large talent gap between the TAP teams and other club teams in Manitoba, contributing to the issues identified by Chris and Quan. Mike understands these concerns, but see’s the issue a different way:

Yes, there should be an equal playing field, you don’t want teams winning by 80, but breaking up the top talent to me doesn’t necessarily push the top kids. The bottom kids might come up a little bit, but if you’re talking about Manitoba competing on a provincial level, those top kids need to play together and push each other.

Mike’s argument centers around the quality of competition for Manitoba’s top athletes. In order to develop our top talent, they need to be challenged. If they play on the same team, they can challenge each other in training. For games, however, these elite programs are forced to either age-advance their teams or travel outside of Manitoba to seek tougher competition. As Mike puts it, “there’s a big gap between the top thirty kids in the province and then – it’s not even like there’s another thirty – everyone else is like way behind.” It is beyond the scope of this research to determine whether it is more beneficial to train the top athletes together, or to split them up across multiple teams. It is relevant

however, to consider how the current system may be influencing sport participation patterns and the decision to sample or specialize.

Quan is concerned that when elite teams dominate the league, other players become discouraged and may choose to leave the sport altogether, especially with girls. He describes his experiences in coaching:

I always feel like for guys, when you have the powerhouse team the other team's will be like, 'yeah we'll compete but there's no way we have a chance' right. Boys will be like, 'ah yeah, whatever we'll keep on playing.' But then everybody wants to go on that team... On the girls side of it I always think that it's like, 'oh powerhouse team, well I don't want to play anymore, I'm gonna go to volleyball.'

Based on these examples, boy's basketball becomes more skewed as players leave to tryout for what they perceive as the "powerhouse" teams and girl's basketball loses athletes as players who are not part of the top team become discouraged and quit the sport.

These two perspectives indicate that the current LTD model needs to take greater care with the transition from Train-to-Train, to the next stages of the model. High-performance athletes at the Train-to-Train stage are preparing to enter the Podium Pathway where their participation will become more specialized, and their training more intense. Programs like TAP satisfy many of the principles of the Podium Pathway such as, "identification and development of podium potential athletes... an enhanced daily training environment needed to achieve podium performances... and specialized coaching in a specialized training environment" (Higgs et al., 2019, p.30-31). However, if the top players are going to train together and form a "powerhouse" team, there needs to be an appropriate place for them to compete and be challenged without "killing the middle" and discouraging others from participating in basketball who may be sampling the sport for the enjoyment and athletic development benefits.

#### **5.4 Coaches Prefer Practical Training**

This overarching theme highlights coaches' awareness and understanding of the LTD model. Coaches in this study have limited knowledge of the model and how to apply it. Only 2 coaches were able to cite specific uses of the model in their coaching practice, but nearly all coaches had an accurate general understanding of the model and its purpose. This general understanding and application are in line with the research literature which suggests that coaches view the LTD model as positive but face challenges when implementing it with their teams (Beaudoin et al., 2015; Frankish et al., 2012; Millar et al., 2020). One of the barriers to implementation, cited in the research, is a lack of knowledge and training on long-term development and the LTD model (Beaudoin et al., 2015; Frankish et al., 2012).

Nearly all the participating coaches in this study had attended formal coaching clinics through the NCCP, which includes training in the LTD model. This indicates that the training is available, but perhaps needs to be more focused on application of the model, rather than theory. Beaudoin et al. (2015) recommend standardizing coach education to ensure these tools are communicated effectively. This recommendation is also supported by the current study, as most of the participants only pursued formal coach education when it is required to coach a particular team.

Codes within this theme also explored coach education on a broader level including sources of professional development that coaches are accessing, why they pursue coach education, and what they take away from these experiences to use in their coaching practice. There was an overwhelming call for more practical training and less classroom-based course work among coaches who appreciate tools for practice planning, skill development, and drill progression that they can implement right away with their teams. The literature indicates that coaches often adapt tools like the LTD model to better suit their program. Millar et al. (2020) found that one community football club had limited awareness of the LTD model yet were implementing many aspects of the model in their own way. Coaches who participated in this study called for tools they could use practically with their teams and coach education should mirror this by providing on-the-ground adaptation and implementation support for the LTD model and other coaching theory.

#### ***5.4.1 Professional development sources***

Coaches access a variety of sources for their education and professional development. The amount and type of professional development that coaches access can impact their views and experiences with sport specialization. In addition, coach education such as clinics and formal course work are vehicles by which Sport Canada disseminates the LTD model to coaches. Manitoba's basketball coaches are currently using formal clinics, online sources, mentorship opportunities, and many other methods to improve their practice. These educational opportunities are both formal (e.g., NCCP courses), and informal (e.g., online research) but all are considered valuable by the coaches who use them. Kevin describes his experiences as follows:

I've taken a couple of the NCCP courses. I've taken a couple of clinics. I've travelled to do a couple clinics. I've had a couple mentorship opportunities, and then just I guess through education and through kinesiology there's always those courses as well.

Most of the opportunities Kevin describes are organized through Basketball Manitoba or another third party who hosts the course or clinic. Other coaches describe the benefit of making connections and

learning from other coaches. When asked to provide details about his experiences with coach education Jack said, “I’ve made some great connections through those [coaching clinics]. There’s a lady that they had come up from New Zealand to present and I still talk to her on Twitter.” In his case, a relationship that began in a formal clinic continued long afterwards to be a continued resource for professional development. Steven elaborates on these connections to say, “you’re in a room where you’re talking to a lot of other coaches and hearing their experiences... or the moderator exposes you to a new way of thinking.” Collaboration between coaches is a great source of professional development that can take place in clinics, through practice observations, or by working together to coach a team.

Working with other coaches and observing how they run their programming is a great way to learn while doing. Sarah finds this approach works best for her. She feels, “just being able to do things is kind of the way I learn.” She explains that trying new drills or teaching skills in a new way and seeing how athletes respond gives her immediate feedback that she can use to improve her practice. She goes on to say, “the webinars are great, and the courses are great for like just learning but I find that I improve more when I am able to actually put it into play and put it into practice.” It is important for coaches to self-evaluate as they grow their practice. Sarah makes a good point that real improvement happens once coaches can apply information they have gleaned from courses, observations, or other sources, to their own practice. This allows them to see the results and adjust their approach to fit the unique needs of their team.

#### ***5.4.2 Why seek professional development?***

This subtheme includes codes that explore the reasons why coaches pursue coach education and professional development. A pattern emerging from the data indicated that formal coach education courses and certification through the NCCP are taken when required to coach certain teams. All but one of my participants, who had taken NCCP courses, only did so when it was required by a sport organization. Steven explained that, “my formal training comes from mandatory course work I had to take with Basketball Manitoba and the NCCP. I had to have my coaching certification to coach specific age groups.” Steven goes on to describe some of the benefits he received through these courses, but for him and others it seems the motivation to sign up comes mainly from external mandates. Chris has taken a variety of coaching certifications that are required by Football Manitoba, but when it comes to basketball, “I haven’t done much in terms of the Basketball Manitoba certification. I’ve taken some classes but haven’t gone to the [NCCP clinics] because it hasn’t been required.” Chris also goes on to cite the benefits of coach education in basketball and football. The results of this data would indicate

that coaches see formal education as valuable for their practice but are unlikely to sign up if not required to do so.

Aside from external requirements, participants also reported intrinsic motivations to pursue professional development (e.g., wanting to stay current as the game evolves). These motivations applied to formal courses/clinics as well as informal training opportunities like independent research, observing peers, and learning from doing. Steven describes his experience with required coursework as follows:

[The courses] were required but I also jumped on the opportunity to learn and expand my game. Just because, like I said, I kind of went into coaching thinking I knew it all because I found early success. Then being in a room full of experienced coaches really opened my eyes to how little I actually knew of the game and the overall development of athletes.

While Steven's original motivation for pursuing coaching education was the requirement from Basketball Manitoba, he also appreciated the opportunity to learn from others with more experience in the field. Another common motivator for pursuing education was keeping up with the development of basketball as a sport. Mike describes:

The game has changed a lot, so when I first got back into it I was still doing a lot of the old drills. And then as you go to different clinics and see different coaches and things, it's definitely not the same as when I played.

Several other participants, like Mike, mentioned the need to remain a student of the game and keep up with the changing strategies, skills, and tactics that are required to be a successful basketball team. Coaches in this study expressed a desire to improve and be the best coaches they could be. Sarah describes feeling a sense of accountability to her players:

I feel like I also have a responsibility to step up my coaching and make sure that I'm working just as hard as the athletes to be a better coach. So I think it goes both ways for the athletes and coaches as well. There's kind of a mutual understanding that we're all trying to get better and help each other.

Seeking professional development is one of the ways that coaches like Sarah improve their practice. Data in this theme indicates that coaches, like athletes, have an intrinsic motivation to perform and be successful as individuals and as part of a team.

#### **5.4.3 Key take-aways**

This subtheme includes codes that reflected the key learning and application of knowledge gleaned from coach education courses. A consistent observation noted by the participants was that they appreciate practical tools and approaches to planning they can use in their practice right away. When

asked what the key take-aways were from his experiences in coach education Kevin identifies, “I think the practical side of it. Like the fact that you can use something right away.” He goes on to describe a strategy he picked up from a Train-to-Compete: Teaching Basketball Skills workshop:

I remember someone, to get their point across in a specific drill, they gave a point system based on what they wanted you to do and what they didn't want you to do. So, an example would be, let's say the focus is on defense and they want the basketball to stay on one specific side of the floor, they point systemed it. So, the coach said, “you're going to play one-on-one from a close-out but the scores going baseline are only worth one point, but if they score going into the middle of the floor against you it's worth two points.

This teaching strategy emphasizes the drill's focus while still allowing players to compete in a live basketball situation. It was a tool that Kevin could apply right away to drills he does with his team for an immediate impact on his coaching practice. Mike also values coaching resources that provide coaches with “specific skills and drills, and things that I can put into my own practice plans that would be helpful in today's game.” He mentions finding new skills and drill from internet sources like YouTube, or by following skill coaches like Drew Hanlen on social media:

I know one of the things that we struggle with whether it's [Club Team] or at [High School] is finishing through contact at full speed. So, we're always looking for drills for that specific thing. So [Hanlen] sent one out this morning and I just flipped it over to [Coach] and said, 'hey, here's one we can work on.'

Utilizing social media and other online sources, like Mike does, can be an excellent informal method of professional development. Coaches can explore new drills, tactics, and teaching strategies on their own and find things that will work well for their specific context. It is also another way that sport has become more intensive, with training and skill development resources available and easily accessible year-round for both coaches and athletes. Another practical tool that coaches cited as a key take-away was learning how to plan and organize their coaching. Sarah elaborates:

I found it very helpful to actually learn how to do a full practice plan and work it out and have things written down that you want to work on. Just so I'm not frazzled when we're in practice and it's time to come up with the next drill.

A coach who has a background in fitness or Physical Education might already be familiar with planning a training session, but for others creating a structured plan for practice is a new experience. Learning how to do so properly is a valuable, and practical tool that coaches can utilize on a daily basis. Even where coaches are familiar with practice planning, long-term development involves considering more than just your daily plan for practice. Mike elaborates on the benefits of planning in coach education:

A lot of what I had been doing was just sort of walking into practices and being like, ‘this is what we need to work on today.’ So, I never really looked at the big picture and the overall development of my athletes... When I got introduced to the higher-level training it really shifted my focus to understanding how to prevent injury and how to also develop an athlete to be successful.

The big picture planning that Mike references alludes to the implementation of a LTD model to enhance the development of athletes for more than just one basketball season. Coaching courses are a great way to introduce coaches to this idea, but as mentioned in the previous section, there needs to be a stronger base of support to help coaches implement these concepts with a team.

Coaches also expressed the feeling that attending coaching courses can be reaffirming. If they see other coaches who use similar drills or teaching strategies, it lets them know they are on the right track. Quan describes the experience of coaching his children and trying to prepare them for the next level of sport:

The mindset was, ‘how do I get these girls ready for high school?’ And then I kept those practice plans in order. When my son came in to play I kind of went back to [the first set of plans] and started doing that kind of model to get the boys ready. Then I started taking these [coaching] courses and I was like, ‘oh, they have all this stuff too!’ I was like, ‘this is neat, they have a development plan.’ And I was like, ‘okay, I’m on the right track’ so I felt good about it.

Without prior knowledge or training, Quan had already begun implementing his own adaptation of an athlete development model. His approach was a progression of training that would take his players through the transition from middle school to high school basketball. The LTD model takes a similar approach, focusing on development stages rather than chronological age or school grade level.

#### ***5.4.4 LTD model awareness and understanding***

This subtheme reflects codes that indicate the level of awareness and degree of understanding coaches have regarding Sport Manitoba’s LTD model. Most coaches were aware of the model, but the data indicates only a broad, general understanding of the model and its use. When asked to describe his understanding of the LTD model and its purpose Keven had trouble, “well it does talk about specialization and what time that should happen. Man, off the top of my head I’m kind of blanking but that’s kind of like what my general piece would be.” He had heard of the model, but it didn’t leave a strong enough impression to be easily recalled from memory. Steven provides a similar perspective, he was aware of the model but when asked about how he uses it in his coaching practice he went on to say, “I had just briefly looked at it, like I might have skimmed through it at best... I was probably introduced to it [at an NCCP course] but it wasn’t something that I picked out as important at the time.” When Steven was first introduced to the model in a coaching course, he only gained a basic level of

understanding and did not place a high value on the model as a coaching tool. Later in his interview, Steven describes working with a coach who had fully implemented the model with their team, “It wasn’t until I spoke to someone else that fully understood [the LTD model] and stood by it that I had a better understanding of what our focus should actually be.” This highlights the need for more tools related to practical application of the model. Learning the theory in a classroom does not always translate effectively to implementing it in a practice.

Other coaches were better able to summarize the model’s main ideas. John summarizes the purpose as, “to not have kids specialize in sport too early, and to develop their overall athleticism throughout their formative years. Ultimately I guess prevent kids from having long-term effects of overtraining.” The difference in focus between the formative years and later in an athlete’s career was a common understanding of the model. Other coaches referenced early emphasis on skill-development as opposed to tactics, attention paid to physical literacy, and keeping the sport fun. Chris connects the fun aspect of sport to long-term participation stating that “fun means they stay, fun means they bring friends.” Both of which help maintain a high level of participation in the sport.

Coaches were less specific about the ways they use the model in their coaching practice. When asked if he has been able to apply long-term development concepts with his team, Jack said:

Probably unconsciously I have, like I couldn’t tell you what I’ve taken from there and put in but I think unconsciously when I do my practice plans and everything like that, I think it all comes in.

He elaborates on this response to explain that they take care to manage load for their athletes, to ensure they aren’t overtraining. He also includes a warm-up and cool-down that involve a variety of movement concepts intended to promote physical literacy. Quan describes his use of the model as it relates to the skills and strategies of basketball. With his team:

The number one thing is don’t put anybody in positions. Make sure you’re gonna teach them how to dribble, make sure you’re gonna teach them how to do layups, make sure you’re gonna to teach them how to just learn to enjoy the game and love the game. Not put them in a situation where, ‘ok you’re gonna run this play, and this play.’ That was one of my mistakes early on. I realized we need to develop these guys in elementary, even junior high, to see what happens when they get older.

Quan’s emphasis on a well-rounded skill profile and ‘positionless’ basketball early in development is one component of the LTD model that is emphasized in the early stages of the model, all the way up to the Train-to-Train stage. After this point, the model allows for greater specialization within a sport based on position (Higgs et al., 2019).



## 5.5 Coaching Practice Reflects Sport Participation Beliefs

This broad theme connects coaches' stated beliefs, with examples from their coaching practice. Specifically, it relates to how coaches support athletes who sample, expectations coaches have for athletes in their program and how these expectations are enforced, and inconsistencies that exist between coaches stated beliefs, and the reality of their programming and expectations. Many participants spoke enthusiastically to me about their intrinsic motivation for coaching and their passion for the sport. None of the participants reported being motivated by external rewards or monetary gain. In this section, I discuss the participants' motivations reflected to explain the connection between the programming decisions that coaches make with their underlying beliefs about sport participation.

### 5.5.1 Accommodating samplers

Coaches in this study used several methods to accommodate athletes who sample. All coaches in this study expressed the belief that athletes should play multiple sports. In their interviews, coaches explained how they would modify and adapt their programming to support athletes who choose to sample. One of the main concerns expressed by a participant when accommodating samplers is making adjustments in program planning when attendance is low because players are missing practice to attend training or competition for another sport. When asked how he adjusts his program to accommodate samplers Steven said, "it alters the types of practices we run in terms of like the drills that we do. Sometimes if we don't have the numbers in our session, we might not be able to do certain drills." A basketball team is typically made up of 12 athletes, so if even three are missing that significantly changes what you can do in practice. With only nine players in attendance a coach would be unable to work on any drills that involve 5-on-5 competition. Quan elaborates on this point:

If I have ten guys on my roster and two of them decide they have football or soccer or whatever other sport and I have eight that show up, well then my planning is like, 'okay I have to scratch some of this stuff and I have to think of something that has to go with 4-on-4 stuff.' For example, if we need to work on playing against a zone, I have to scratch it out and think of something else on the go.

Making adjustments to a practice plan, as Quan describes, is a manageable task for a coach if they have enough notice. Making changes "on the go" is more challenging. For this reason, many coaches in this study emphasized the importance of communication in their ability to accommodate sport sampling. For example, Kevin's team operates with a 24-hour rule. As he describes it, "the expectation is that if you aren't going to attend, that we get a 24-hour notice just for us for planning." This amount of time

gives them the ability to invite additional players to practice, move the time or date of the practice, or adapt their plan to suit a smaller number if need be.

Other coaches explained that when they have low attendance it gives them an opportunity to focus more on individual player development. Sarah describes how her team adapts as follows:

If we get communication from athletes beforehand that there's a game or something like that and they're going to miss practice, then we can adjust our practice planning and maybe make it more of a skills practice. Or often times we we'll ask what the athletes want to work on if there's not a lot of kids showing up, just so they can have an opportunity to have a say and have some direction in their own training.

Sarah's situation illustrates how coaches can adapt practice plans when they are unable to run certain types of drills due to low numbers. Not only can you adjust your competitive drills (i.e., modifying from a 5-on-5 drill to a 4-on-4 drill) but you can also shift the practice focus completely away from team tactics and drills to focus on individual skill work and player development. James' team embraces this skill-based approach for all their programming. His team focuses on offensive and defensive tactics that will be transferable to any team their players are part of:

We break down a lot of skill work. Everything from ball handling, footwork, shooting. And then teaching them just kind of general offensive principles that can be translated to any team they're going to play for... because all these kids are playing on different teams and they have different kind of coaching styles with their different [school and club] teams.

Emphasizing skill development and transferable offensive/defensive concepts allows James's athletes to use what they learn with his team with other basketball teams they are a part of. While this does not directly support the athlete's performance in alternate sports, it speaks to the importance of an athlete's ability to transfer skills and knowledge between teams, and by extension, between sports. Keeping his strategic plan general and transferrable James does not have to worry as much about having all his players in attendance to teach a specific offense or defense.

A final example of how coaches accommodate samplers in their program planning comes from Chris, who anticipates players missing practice and intentionally keeps additional "practice players" to avoid disruptions in planning due to low numbers. Chris describes his strategy below:

We have some players who are what we call "on the team" I guess and then some that are practice players for various reasons. Like one of them is a hockey player so he can't always commit the time. So he comes and goes, and we can't rely on him all the time but we still want him to come to practice and training and maybe he'll become a full-time player if he makes different choices.

The benefit of keeping a practice player is that it adds to the number of athletes that will attend training, without the expectation to play in games. In a competitive game of basketball, giving all twelve athletes an opportunity to play in every game can be a challenge. Having extra players in practice can be a benefit and prevent disruptions to practice planning when athletes miss, having extra players in games means more people that you have to fit into the playing rotation. Keeping one or two athletes as practice players means coaches get the benefit of an extra athlete for practice, without the need to play them in games.

Several coaches expressed frustration with the lack of accommodation and flexibility from other sports or other basketball programs. Jack describes that what his program offers athletes is, “flexibility because they can’t get kicked off or benched.” He goes on to say:

It’s a little frustrating. I want the girls to get as much experiences as they can out there and enjoy what they do but when [sports] overlap it affects the whole team and it affects the whole team’s morale.

When some coaches provide flexibility and others don’t it creates a sense of frustration. Coaches like Jack are trying to do what they can to allow their athletes to sample but as we have seen in the results described in this section, athlete’s missing practice impacts programing and planning. Jack describes it as affecting their team’s morale, other coaches have described the impact it has on practice planning and the ability to teach certain concepts. The perception among coaches in this study is that other sports aren’t making the same sacrifices to allow athletes to sample. Kevin explains how this impacts his high school coaching:

If an athlete is playing a club sport and playing a school sport, the club sport’s being paid for. They’re paying money for this coach, for this training, they’re obviously trying to prioritize that it is an important thing for them. But it’s really frustrating when you’re trying to provide [training] for them at a high school level and there’s no flexibility from the [club] sport.

Kevin’s example echoes the frustrations of many coaches in this study and brings up a good point related to athlete priorities and coach expectations. The implication is that when athletes pay to participate on a club team, they will place a higher value on that team’s training. If their club coach is also adding pressure with strict expectations for practice attendance, the athlete feels obligated to attend that training over others.

### ***5.5.2 Understanding program expectations***

Coaches in this study had a lot to say about the expectations that coaches have for athletes in their program, how these expectations are conveyed, and the methods coaches use to enforce their

expectations. Common among the perspectives shared are an emphasis on communication, hard work, and the importance of a shared understanding of expectations between coaches and athletes. There were also some implicit expectations associated with club basketball participation that came through in the way coaches describe club and high-performance sport.

The most common program expectation referenced in this research was communication. Every coach who participated in this study cited communication as one of the expectations they have for athletes who participate on their team. Quan emphasizes this with coaches who work within his program to make sure their program's values are consistent. He explains:

I have to tell some of my coaches, 'remember they're going for other sports, praise them' say 'hey that's good just communicate that with us.' So again, we're teaching them the responsibility of communicating... it's not just basketball it's a lot of character building.

As was discussed in the previous section, coaches who are willing to provide flexibility and accommodate sport samplers emphasize the importance of communication with their athletes. It is an important life skill, as Quan mentions, and allows coaches to plan and adapt their practices as needed.

There is also an expectation for athletes to demonstrate commitment to the team. Even when coaches are willing to accommodate samplers and allow athletes to miss practice on occasion, they still expect a certain level of commitment and accountability. Chris describes how his expectations shift when his team is in-season versus during their off-season:

The expectations are when you're committed, you're committed. With the caveat that we realize you're either in-season or you're not. So, to give you an example this is where we soften. So half our team at the '06 level plays football. So, we realize they're going to miss practice while football season is on. Football ended for everyone last week so now the expectation is you're back to showing up at practice.

Chris wants his athletes to value their basketball training, earlier in the interview he mentions that he wants to coach kids, "who wanna come and get better... 'you're here to get better, you wanna put in the work, and we're going to help you put in the work'." At the same time, he understands their commitment to alternate sports and provides flexibility when those sports are in-season.

Coaches also value hard work and a high level of motivation to improve. This expectation was emphasized more heavily with coaches who consider their programs to be high-performance. Athletes on these teams often have goals to play basketball after high school, or to make an elite team. Steven coaches in one such high-performance program and describes his expectations as follows:

The expectation is that they're there to become better basketball players and that they're expected to show up and not just coast through the training. It's sort of up to them to make sure that they're staying highly motivated and that they're setting their own goals for themselves as a basketball player.

Many coaches in this study, even those who rate their programs as less competitive or not high-performance, want their players to demonstrate a desire to work hard and improve, but this is emphasized more heavily with teams like Steven's. Maintaining high expectations for effort and motivation help maintain the integrity of a high-performance program. These expectations are established at try-outs so that athletes understand what they are signing up for. Sarah also coaches a high-performance team. She describes the importance of mutual understanding of expectations between athletes and coaches:

I think for most kids – especially the older girls – I think this is more of a higher priority for them. I think they understand that the more time they spend with us likely the more successful they'll be... and there are a lot of kids who make it work with other sports but a lot of the girls, I think, find value in our program and take it as a high priority.

Sarah's example illustrates how a high-performance team can allow athletes to sample while maintaining high expectations for their athletes and a shared understanding that practices are valuable opportunities to improve and make strides toward their goals. As a comparison, Jack shares Sarah's expectations for hard work stating, "I want them to show up, I want them to give their best, I want their focus while they are in practice." His team is not a high-performance, elite training group but the expectation for effort and commitment remains. He goes on to say that, "there are definitely girls on the team that put in way more time outside of our practice perfecting their craft." This indicates that, while coaches are promoting effort and commitment, there is a greater amount of variance in the amount of effort and commitment they get from athletes in less competitive programs.

The methods that coaches use to enforce these expectations are largely informal. When issues arise, most coaches intervene by having conversations with individual athletes who need to be reminded. When asked if he had any formal rules or policies to support program expectations, Mike responded with:

Nothing formal... I can think of one or two cases where we just had to have a chat saying, "You missed our last five sessions. We understand you're playing volleyball, but you need to make some commitment here." Then it usually – the ship usually rights itself. We haven't had to like, put it in stone to say, "If you miss a practice, you're sitting out this. Or if you miss three practices you [sit out] a game."

Several coaches in this study reported a similar approach to enforcing expectations. They use conversations, and check-ins to monitor athlete behaviour and make corrections where needed. Coaches also reported, as discussed in section 5.3, that other programs are to blame for setting strict rules for attendance that limit an athlete's ability to sample. Sarah elaborated, "I've never seen anyone [in our program] not play a game because they missed a practice." In cases where playing time has

been limited because of a lack of attendance, a conversation with the athlete in question is Sarah's preferred approach to convey the importance of accountability:

I think it's totally understandable in sport if you're someone playing on a team like, if you're the one player that's not coming to practice... it's unfair for you to get to play over someone who's been at practice and knows what's going on whereas you might not have been. I think they do understand that.

Creating a dialogue that centers around accountability to a team, and what is fair/unfair when it comes to playing time and attendance, coaches like Sarah are able to communicate and support expectations and create a sense of responsibility to attend practice and be there for your team. Coaches in this study feel the conversation approach is more effective than setting concrete rules around playing time and missing practice.

### ***5.5.3 Motivated by passion***

Passion for the sport came through as a common motivator among all participating coaches. This passion is represented in statements participants made related to giving back to their community, enjoyment experienced from seeing athletes develop, a desire to build meaningful relationships, and using coaching to stay connected to a sport they love. Statements of this nature represent a driving force behind the participants' coaching practice decisions. It indicates that internal factors, such as passion and enjoyment, take precedent over external factors such as winning or earning a salary.

None of the coaches in this study reported taking a salary for their time. One program offers honorariums to young coaches who help with their teams, but the organizers themselves are not paid. Quan notes, "club in itself could be a business, a money-making business, but I have a job on the side. So I use this as like my getaway from my job." What does motivate Quan is a desire to give back, and a competitive drive:

I never thought coaching would be a big part of myself. Just growing up and [wanting to] give back to the community so I started coaching. And then I really took it serious when we lost a game and I was like, "oh man we gotta get better" and so just that competitiveness as a player I started trying to go back [and remember] everything I learned from coaches I had.

Many coaches in this study are former athletes and a competitive spirit seems to motivate their involvement in coaching. John is another example. When asked about his motivation for coaching he reports, "the number one reason is to stay connected with the game." When athletes finish their competitive playing careers they may continue participating in sport through a senior men's or women's league. Coaching is another way to remain involved with basketball when your role as a competitive athlete comes to an end.

Former athletes also reported a desire to give back to the game of basketball. Many of them had memorable coaches in their life who inspired them to get involved in coaching themselves. Sarah reflected:

I know so many great coaches that I've had mentor me and help me through my career that I want to be able to give that back to the younger players. I wanna, you know, help give them advice that I wish I had when I was younger to help them maybe be more successful... and potentially open up more opportunities for them.

Sarah comes from a place of wanting to pass on the positive experiences she had as an athlete, but also references improving on what she went through. She wants to ensure that athletes she coaches have a better experience than she had, and more opportunities. Kevin echoed these sentiments:

I think the sport has done a lot for me and to provide kids an experience and an opportunity is always enjoyable. The other thing too is, to be honest I didn't have a lot of good coaches growing up besides one individual and knowing what my sport experience could have been if I had opportunities that I feel like I can provide for young athletes today is kind of what motivates me. To give them an experience that I wish I had.

Kevin's story touches again on the importance of basketball to his life and development, but also the desire to improve on his experiences and provide more for the next generation of athletes. James describes it as, "build[ing] the basketball community in Winnipeg" by relaying as much knowledge as he can to young athletes.

Another common motivator for coaches in this study was seeing their athletes improve. Quan explains, "what motivated me was just seeing everybody's development. Just watching every kid develop from the first time I had them to the last." This growth can be very rewarding for both the coach and athlete. When athletes move closer to their goals in the sport, coaches get to feel like they did their job well and had a hand in the athletes' success. As coaches work with athletes, they also build relationships. Steven explains:

I love just watching the development of kids in basketball. Just in general and just seeing where they are from the beginning to where they end up. And I like the relationships I end up building with a lot of my players. I just like the aspect of teaching, teaching is a huge passion for me and I get to teach something that I'm knowledgeable of and something that I care about and seeing it translate on the court for players is a main reason why I enjoy it.

The excerpt above demonstrates many of the intrinsic motivators that drive coaches. Athletes and coaches share a passion for sport. For coaches like Steven this passion is connected to teaching a game that he loves, and watching his athletes develop their knowledge and skill. John summarizes it as "the intrinsic reward you get from seeing a kid accomplish something that they might not have been able to

do before.” As they work together towards these goals, coaches and athletes build strong relationships that contribute to the motivation of coaches to put in the time and effort they need to operate a successful basketball program.



## Chapter VI: Conclusions

In this research I explored a sample of coaches' perspectives regarding sport sampling and sport specialization and how their perspectives align with recommendations from Sport Canada's model, *Long-Term Development in Sport and Physical Activity 3.0*. This chapter draws conclusions and provides an answer to my research questions based on the results I gathered and the themes I identified from these results. This chapter also discusses the limitations and delimitations of the study, applications of this research, and directions for future research studies to explore.

### 6.1 Project Summary

Sport specialization, defined as “intensive, year-round training in a single sport with the exclusion of other sports” (Jayanthi et al., 2013, p. 252), is associated with risks such as overuse injury, burnout, and psychological stress. Most long-term development models recommend a period of sport sampling early in development to mitigate these risks and promote long-term participation in sport and physical activity. The primary objective of this research was to explore the beliefs and perspectives of club basketball coaches in Manitoba when it comes to sport sampling and sport specialization. A secondary objective was to compare these beliefs and the coaching practices that support them, to the recommendations made in Sport Canada's current LTD model. By exploring these topics, I was also able to understand the degree to which coaches were aware of the model and applying it with their teams.

I conducted nine individual, semi-structured, virtual interviews with club basketball coaches in Manitoba who work with athletes in the Train-to-Train stage of the LTD model (females ages 11-15, males ages 12-16). Prior to these interviews, coaches also completed an online questionnaire to collect demographic information and quantitative details about each participant's programming (e.g., number of months per year of training, number of training sessions per week, etc.). The combination of interview and questionnaire data allowed me to compare coaches' stated beliefs with data about their coaching practice to check for consistency. It also allowed me to compare their programming with recommendations from the LTD model.

I used Reflexive Thematic Analysis to identify five overarching themes, each of which is further divided into between three and five subthemes (Appendix G). The first theme – athletes should sample – includes subthemes that describe coaches' beliefs that sampling is beneficial for athletes because it helps develop overall athleticism, teaches them skills that transfer between sports, prevents injury, and has psychological benefits. All coaches who participated in this study reported that they

encourage sport sampling and cited several contexts where sampling takes place (i.e., sampling through school sport, participating in other sports during the off-season, etc.). The results of theme five – coaching practice reflects sport participation beliefs – indicate that coaches stated perceptions of sport sampling and specialization aligned with their coaching practice. Coaches cited a variety of strategies they use to accommodate sport samplers who play on their teams such as adjusting practice plans to focus on skill development rather than team concepts when players are missing practice to attend another sport. Coaches also reported frustration with the lack of similar accommodations among coaches from other sports and programs. Theme three – the system is broken – includes several references to fallings of frustration when coaches from other programs impose strict rules for attendance that encourage sampling.

Coaches' perceptions and practices also aligned with recommendations from the LTD model when considering participation in basketball only. The reported training volume for all teams fell within the guideline of six to nine sessions per week, the training to competition ratio fell within the recommendation of 60% training to 40% competition, and basketball follows a single or double periodization plan for yearly training. However, when we consider participation in multiple sports, it is possible that athletes are exceeding these recommendations. Results from the second theme – athletes are doing too much – indicate that while coaches encourage their athletes to participate in multiple sports, some coaches are also concerned that athletes' overall volume of activity may be too high and that they are not getting enough rest and recovery time.

Overall training volume is difficult to assess due to a perceived lack of communication and collaboration between sport governing bodies. In addition to being frustrated with other coaches who do not support sampling, theme three – the system is broken – indicates that coaches believe greater collaboration between sports is necessary to support athlete long-term development. A final system factor that coaches want to see addressed is the balance in resources and programming between elite and non-elite athletes. Some coaches feel that the current basketball system fails to adequately challenge Manitoba's top athletes, while others believe that there is an imbalance in programming that favors the elite at the expense of athletes in the middle and recreational level.

Theme four – coaches prefer practical training – indicated that coaches have a limited understanding of the LTD model. Most coaches had heard of the model and could describe its general purpose, but few were able to reference specific ways they have implemented the model with their teams. When it comes to coach education and professional development, participants in this study find the most benefit in practical tools and training. Greater support for practical application of the LTD

model would improve implementation across Manitoba. Coaches who had heard of the model through formal course work, reported that they attended these courses because it was a requirement to coach a specific team. Standardizing coach education across all levels of basketball in Manitoba would therefore lead to greater dissemination of the model.

To summarize, coaches believe that athletes should sample, and support this belief by making accommodations in their coaching practice to allow athletes the flexibility to do so. Many of their reasons for supporting sampling (i.e., well-rounded athletic development, psychological benefits, transfer of skills between sports, etc.) align with the benefits of sampling found in the literature in Chapter II (Cote et al., 2009; Guisti et al., 2020; Gullich & Emrich, 2014; Strachan et al., 2009; Waldron et al., 2020). Coaches were also aware of the risks of injury and burnout that are associated with early sport specialization (Bell et al., 2016; Carder et al., 2020; Guisti et al., 2020; Jayanthi et al., 2013; LaPrade et al., 2016; Myer et al., 2015; Pasulka et al., 2017; Waldron et al., 2020) and psychological stress or burnout, which contributed to their reasons for supporting sampling over specialization. While DiSanti et al. (2019) found that club coaches are more likely to rate specialization as positive than high school coaches, the fact that all nine club coaches who participated in this study supported sampling challenges these findings. Coaches in this study also report that other sports and programs do not make accommodations for athletes who play multiple sports and are therefore contributing to sport specialization by imposing strict rules for attendance, which aligns with DiSanti et al.'s (2019) findings. This suggests that DiSanti et al.'s findings may be limited to specific sport types or levels of sport.

With the combination of school and club sport, athletes are often training year-round and there is concern from coaches that athletes are doing too much with too little recovery time. Greater communication and collaboration between sports is needed to prevent overlap and ensure consistency in long-term development planning. There are few recommendations from the literature for total volume of sport participation. Post et al. (2019) and DiSanti et al. (2019) note that participation in a single sport should not exceed eight months of the year, and 16 hours per week of participation but they fail to acknowledge the contribution of additional sports to an athletes overall training load. The LTD model recommends 6-9 training sessions per week including complementary sports and a yearly training plan that follows a single or double periodization framework (Higgs et al., 2019). These recommendations are challenging to monitor given the issues of overlap and communication between sport organizations that were identified by participants in this research.

Coaches in this study had a general understanding of the LTD model from coach education courses, but require more support for applying the model with their teams. The barriers to implementation identified in the literature included limited knowledge/training on long-term development (Beaudoin et al., 2015; Frankish et al., 2012) and a lack of compatibility between the LTD model and certain aspects of the sport system (Beaudoin et al., 2015; Frankish et al., 2012; Millar et al., 2020). The challenges reported by coaches in this study align with the literature. Coaches possess only a general understanding of the LTD model and would benefit from more practical training and tools focused on how to apply the model with their current teams. Beaudoin et al. (2015) recommend standardizing coach education as a method to enhance application of the LTD model. Coaches in this study reported that they only pursue formal coach education when it is required by their sport organization. This supports the recommendation that standardized coach education is necessary to ensure coaches are educated on the LTD model and how to apply it with their teams.

## **6.2 Applications**

The results of this research have two primary areas for application. The first is in coach education. The results of theme four indicate that the majority of coaches only pursue formal coach education and professional development when it is required by their sport organization and that they prefer practical tools and support for applying what they learn in the course work. To improve coaches' understanding of the LTD model and ensure it is implemented effectively across all levels of sport in Manitoba there needs to be more emphasis on application and less on theory when teaching the model during coaching courses. Coach education also needs to be mandated across all levels of sport including community, club, and school programs to ensure the knowledge and skills are reaching coaches. The challenge with mandated coach education is that not all programs fall under the direct jurisdiction of the PSO or NSO. Further research into the system factors surrounding privatized sport club is necessary to understand how to implement coach education requirements.

This research also serves as a call to program coordinators, sport organizations, and PSOs/NSOs to support the request of coaches for greater collaboration and communication within and between sports that reflects the standards of long-term development as outlined in the LTD model. Coaches in this study believe that if each sport had clearly defined season and a designated period of down time, athletes would have more flexibility to sample sports without mental or physical overload. This could include working within your sport to create a yearly training plan that identifies the time of year for pre-season training, peak competition, and off-season down time. A comprehensive plan like this would require school, community, club, and high-performance programs within each sport to

collaborate and decide what works best for their sport community. Sports can then compare their yearly outline and identify potential conflicts related to peak competitions and communicate on policies to provide athletes with flexibility to attend other sports during low-participation times of the year.

### **6.3 Future Research**

This study also identified several areas for future research to explore. This study focused on club basketball coaches and provided a window into their detailed beliefs, perceptions and practices regarding sport sampling, sport specialization, and long-term development. Future research could repeat this study with other sports, or other coaching contexts (i.e., school sport) to compare these beliefs across a greater sample of participants. This would be especially interesting given that many coaches in this study pointed at other sports and programs as encouraging specialization and contributing to what they perceive as the problem with sport participation.

A second topic for future research to explore is the relationship between total volume of sport participation and the benefits of sampling. Coaches in this study reported that athletes who play multiple sports are taking on a high training volume that often involves multiple training sessions in one night. They are concerned about the mental and physical load athletes are under between school, sport, and other life situations. Previous research has identified benefits associated with sport sampling such as development of diverse movement skills, an increase in intrinsic motivation, and prevention of injury and burnout. A question for future research is whether these benefits outweigh the potential risks of exceeding the volume recommendations outlined in the LTD model.

Finally, further research is necessary to implement the recommended system changes identified in theme three. Coaches feel that the current basketball programming in Manitoba is not adequately serving all levels of athletes. Some coaches stated that the current system is not challenging our top athletes while other feel that basketball is becoming too focused on the elite, at the expense of the bottom and middle of the pack. Future research is necessary to investigate this topic and confirm these claims so that we can identify possible solutions. Coaches have also called for greater collaboration and communication between sport governing bodies. This is one of the potential applications of the current study. In hearing the feedback of coaches who participated in this research, sport bodies can brainstorm ways to improve the system. This is a huge undertaking that will likely involve additional research into the wider sport system in Manitoba, and the reach of governing bodies like Sport Manitoba, and sport specific PSOs.

## 6.4 Limitations and Delimitations

The risks of early sport specialization have been well publicized in both academic literature and other forms of sports media. It is likely that participating coaches were aware of recommendations against early specialization from such sources as Sport for Life and Physical Literacy for Life. If this is the case, participants may have been hesitant to express views in favour of specialization. I mitigated this limitation as much as possible by carefully crafting interview and questionnaire questions that would elicit an accurate representation of participants' beliefs. Brinkmann and Kvale (2018) believe, "a good interview question should contribute thematically to knowledge production and dynamically to promoting a good interview interaction" (p. 64). Initial questions were asked in a non-judgemental way, encouraging participants to share about themselves and their experiences in sport and coaching. This represented a dynamic approach to keep the flow of the conversation centered on participant experiences. Follow-up and probing questions were used to ensure the research themes were addressed. The aim of this method of questioning was to allow coaches to express what they believe and why they believe it in a natural way. Avoiding participants giving what they perceive as the "correct" or "desired" response based on what they know about sport specialization and long-term development.

A second limitation arose from my dual role as a member of the Manitoba sport community and a researcher. As a basketball coach and former athlete, I was previously acquainted with some of my participants through my own coaching and playing experiences. While I do not believe these prior relationships had a negative impact on the interview process, I was sensitive to ways in which my dual role could be experienced as coercive or imply some inherent bias I have towards the research topic. Detailed field notes were kept and later reviewed to ensure that my previous experiences in the basketball community, or with participants, did not impact the data collection process.

Another factor I was conscious of in this research was my positionality and reflexivity as an objective researcher. As this project stems from a post-positivist ideology, one of the markers of a quality project is objectivity. Given my concerned engagement in the topic, I needed to be aware of my potential influence at every stage of this research and take steps to minimize this influence. To do so, I used several strategies laid out by Zitomer and Goodwin (2014), including triangulation of data collection methods, member checking of interview transcripts, code/theme checking and revision, and self-reflective journaling. I also ensured that results of the research were supported by thick description and examples from the data. In addition to supporting my objective positionality, this method of description and support adds to the credibility of the study and will contribute to its resonance with readers.

In addition to these limitations, certain delimitations were intentionally imposed on this research project to ensure it answered only the research question and remained within the scope that has been laid out in this thesis. Sport specialization and long-term development are topics with a wide range of potential areas of study. This project was concerned specifically with the perceptions of coaches in Manitoba when it comes to these topics. All participants selected for inclusion were coaches who are currently coaching in the Manitoba sport community. This excludes several stakeholders in youth sport, including coaches from outside of Manitoba, athletes, parents, sport organization leaders, and physical educators. I imposed these inclusion requirements based on my concerned engagement in the research topic. As a member of the Manitoba sport community, I sought to elucidate how coaches in this community view the issue of early sport specialization and its impact on long-term development. I hope this research will lead to positive change in a community I am part of and care about deeply.

Participant inclusion criteria was further limited to coaches who are coaching club sport, and who work with athletes in the Train-to-Train stage of the LTD model. These criteria were imposed for two reasons. First, club coaches were selected because they have more freedom to encourage specialization by offering year-round training for their team. Coaches in the school sport system are limited by gym availability, restrictions on number of competitions allowed, and a set competition schedule that accommodates for other sports programming offered in schools. Second, the Train-to-Train stage was selected because it is the last stage of the LTD model that recommends sampling before athletes either commit to one sport competitively and move on to the Podium Pathway, or transition out of competitive sport and move to the Active for Life stage (Higgs et al., 2019). If there were athletes specializing earlier than recommended, it would be reflected at the Train-to-Train stage. In planning this thesis the sport type was limited to common (standard) specialization according to the LTD model, which includes sports where athletes would be peaking in late 20s or early 30s. I began by recruiting basketball coaches and intended to move on to other sports if the recruiting process did not yield enough participants to reach data saturation. As recruitment progressed there was no need to pursue other sport coaches, so my participant pool was limited to basketball coaches only.

A third, and final delimitation, that I set for this research is the method of participant recruitment. I first recruited participants by asking PSOs to advertise my study. This was intended to generate a more random and representative sample of participants than if I had started by approaching coaches that I know personally. Purposeful and snowball sampling were used in two cases because this initial strategy failed to generate an adequate number of participants, additional sampling methods were not necessary as data saturation was reached.

However, despite these limitations to the study, I have identified the values, beliefs, and perceptions of a sample of club basketball coaches regarding sport specialization. Coaches believe that athletes should sample a variety of sports and that doing so will benefit their athletic development, skill development, psychological state, and will prevent injuries. Coaches support these beliefs by accommodating samplers using a variety of strategies (i.e., communicating with athletes, adjusting practice plans, modifying drills, etc.) that indicate an alignment between their beliefs and their coaching practice. Overall this reflects an alignment with the research literature. Coaches are aware of the risks of early specialization and the benefits of sampling a variety of sports and they attempt to support these beliefs through their coaching practice.

I have also achieved my secondary research objective, identifying the degree to which coaches are aware of and applying the recommendations of the LTD model. This study shows that coaches are aware of the LTD model in general but lack the tools necessary to apply it effectively with their teams. This aligns with the research literature from Beaudoin et al. (2019), Frankish et al. (2012), and Millar et al. (2020), who identified barriers to implementation of the LTD model and limited knowledge on long-term development. Further support and more practical coach education resources are necessary to smooth this transition between awareness and application of the model. It is my hope that the results of this research will be used to enhance coach education and will encourage sport organizations to collaborate with one another to create a wholistic sport system in Manitoba that supports the long-term development of its multisport athletes.



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## Appendix A: Invitation to Participate (PSO)

Dear Mr. Wedlake,

My name is Alyssa Cox. I am a master's student at the University of Manitoba. I am working on a research project about youth sport coaches' beliefs regarding sport specialization and sport sampling and the impact of these sport participation patterns on long-term athlete development. I am contacting you as the provincial sport organization for basketball to ask for your help distributing recruitment materials to coaches in your network.

I am looking to recruit club coaches who are currently coaching in Manitoba and who work with female athletes ages 11-15 or male athletes ages 12-16. Interested coaches would be asked to complete a questionnaire and participate in a virtual interview via UM Zoom. This interview would be recorded. The questionnaire should take approximately 15 minutes to complete and the interview is expected to be approximately 45 minutes in length. Upon completion of the interviews I will analyze the data and provide your sport organization and the participants with a summary of the results.

I would like to distribute the attached recruitment poster using your website, newsletter, and social media accounts. I would send the materials to you via email and your role would be to post them on your various platforms. This will help me identify coaches who are interested in being interviewed for my research. This role is only expected to take a few minutes of your time. If you are interested in participating, I will need you to fill in the attached informed consent form and return it to me via email.

If you have any questions or require any further information, please contact me via email or by phone at [REDACTED]. This research has been approved by the Research Ethics Board at the University of Manitoba, Fort Gary campus. If you have any concerns or complaints about this project you may contact my master's thesis supervisor, Dr. Sarah Teetzel at [sarah.teetzel@umanitoba.ca](mailto:sarah.teetzel@umanitoba.ca) or Dr. David Telles-Langdon at [d.telles-langdon@uwinnipeg.ca](mailto:d.telles-langdon@uwinnipeg.ca) or the Human Ethics Coordinator at 204-474-7122 or [humanethics@umanitoba.ca](mailto:humanethics@umanitoba.ca)

Thank you, and I look forward to hearing from you soon.

Alyssa Cox  
Master's Student  
University of Manitoba  
Faculty of Kinesiology and Recreation

## Appendix B: Recruitment Poster



# Faculty of Kinesiology and Recreation

University of Manitoba

## PARTICIPANTS NEEDED

for research in coaching and youth sport participation

The purpose of this research is to explore the beliefs and practices of youth sport coaches regarding sport sampling and sport specialization in order to better understand the sport participation patterns of athletes and the connection this has to their long-term development.

<b>Study Title:</b>	Sample or Specialize? Exploring Youth Sport Coaches' Perceptions and Practices Regarding Sport Sampling and Sport Specialization
<b>Principle Investigator:</b>	Alyssa Cox
<b>Research Team Members:</b>	Sarah Teetzel (Masters Thesis Advisor) <a href="mailto:sarah.teetzel@umanitoba.ca">sarah.teetzel@umanitoba.ca</a> David Telles-Langdon (Masters Thesis Advisor) <a href="mailto:david.telles-langdon@uwinnipeg.ca">david.telles-langdon@uwinnipeg.ca</a>
<b>Are you eligible?</b>	<ul style="list-style-type: none"> <li>• 18 years or older</li> <li>• Currently coaching club basketball in Manitoba</li> <li>• Coaching females ages 11-15 or males ages 12-16</li> </ul>
<b>What is required of participants?</b>	<ul style="list-style-type: none"> <li>• Complete a digital questionnaire via Microsoft Forms</li> <li>• Participate in a 45-minute interview via UM Zoom (to be recorded)</li> <li>• Review interview transcript to check for accuracy</li> </ul>

For more information, interested coaches should contact Alyssa Cox by email at:

[coxal@myumanitoba.ca](mailto:coxal@myumanitoba.ca).

This project has been reviewed and received ethics approval from the Research Ethics Board at the University of Manitoba, Fort Gary campus. If you have any concern or complaints about this project you may contact the above-named researcher or the Human Ethics Coordinator at 204-474-7122.

### Appendix C: Invitation to Participate (participants)

Dear \_\_\_\_\_ (potential participant) \_\_\_\_\_,

My name is Alyssa Cox. I am a master's student at the University of Manitoba. Thank you for contacting me. Please accept this as your official letter of invitation to participate in my research project. This research will examine youth sport coaches' beliefs regarding sport specialization and sport sampling and the impact of these sport participation patterns on long-term athlete development.

Eligibility for this study requires that you must be:

- i. Currently coaching club sport in Manitoba
- ii. Coaching athletes who are in the Train-to-Train stage of Sport for Life's long-term development model (females ages 11-15 or males ages 12-16)
- iii. Coaching a standard sport type according to the long-term development model with athletes peaking in the late 20's or early 30's (e.g., basketball, soccer, volleyball, hockey, etc.)

In order to participate in this study, you will be required to:

- 1) Sign the attached Informed Consent Form
- 2) Complete the online questionnaire via Microsoft Forms
- 3) Agree to an in-person interview which will be recorded
- 4) Agree to review the transcript of your interview to ensure it is accurate

In total this should take approximately 90 minutes of your time. After all interviews are complete and I am finished analyzing the data you will be provided with a summary of the results. If you agree to participate you will have the right to withdraw at any point before the data is analyzed with no consequences. You may do so by contacting me or either of my supervisors.

Alyssa Cox  
[coxal@myumanitoba.ca](mailto:coxal@myumanitoba.ca)

Sarah Teetzel, PhD  
[sarah.teetzel@umanitoba.ca](mailto:sarah.teetzel@umanitoba.ca)

David Telles-Langdon, PhD  
[d.telles-langdon@uwinnipeg.ca](mailto:d.telles-langdon@uwinnipeg.ca)

This research has been approved by the Research Ethics Board at the University of Manitoba, Fort Gary campus. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator at 204-474-7122 or [humanethics@umanitoba.ca](mailto:humanethics@umanitoba.ca)

Thank you, and I look forward to hearing from you soon. Should you have any questions or require any further information please don't hesitate to contact me by email or phone at [REDACTED].

Alyssa Cox  
 Master's Student  
 University of Manitoba  
 Faculty of Kinesiology and Recreation



## Appendix D: Informed Consent Form

**Research Project Title:** Sample or Specialize? Exploring Youth Sport Coaches Perceptions and Practices Regarding Sport Specialization and Sport Sampling.

**Principle Investigator:** Alyssa Cox, M.A. Candidate

Please contact Alyssa Cox if you have any questions:

M.A. Candidate

Faculty of Kinesiology and Recreation

University of Manitoba

Email: [coxal@myumanitoba.ca](mailto:coxal@myumanitoba.ca)

Phone: [REDACTED]

### Research Supervisors:

Sarah Teetzel, PhD

[sarah.teetzel@umanitoba.ca](mailto:sarah.teetzel@umanitoba.ca)

David Telles-Langdon, PhD

[d.telles-langdon@uwinnipeg.ca](mailto:d.telles-langdon@uwinnipeg.ca)

**This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.**

### What is the purpose of the research?

The purpose of this research is to explore the beliefs and practices of youth sport coaches regarding sport sampling and sport specialization. Through this investigation we hope to gain a better understanding of sport participation patterns in Manitoba and how these relate to the long-term development of athletes. A secondary objective of this study is to examine the degree to which coaches are aware of and applying the recommendations for long-term athlete development that are laid out in Sport for Life's *Long-Term Development of Sport and Physical Activity 3.0* framework.

### What am I being asked to do?

If you agree to participate in this study you will be asked to complete a digital questionnaire via Microsoft Forms that will take approximately 15 minutes to complete. You will also be asked to participate in a 45 minute in-person interview which will be recorded using a digital voice recorder and later transcribed verbatim. You will be sent a transcript of your interview by email

within 3 weeks of the completion of your interview. You will have one week to review the transcript and verify the accuracy of it before sending it back via email. This process will take approximately 30 minutes of your time. You can choose to change or remove any information from the transcript. Once you have approved your transcript and returned it to the researchers it will be analyzed using qualitative

research techniques. If we do not receive a response after the one week time period your transcript will be analyzed in its original form.

You may withdraw from the study or stop your interview at any point without any negative consequences by stating that you wish to do so. Your answers supplied prior to the point of withdrawal will only be used if you provide permission to do so. During the interview you will be able to ask questions or choose not to answer any question(s) you are asked by stating that you do not wish to answer. If you change your mind after the interview is over, you can contact me by telephone or email to declare you would like to withdraw from the study, and I will delete your interview recording and destroy the transcript. You may withdraw at any point before the data analysis is complete. After the completion of data analysis, it will no longer be possible to withdraw from the study.

In May 2023, printed transcripts will be shredded, and digital audio files and electronic transcript files will be deleted.

### **What are the benefits to me as a participant?**

There is no payment or other incentive for participating in this research. There are no direct benefits to participants beyond the potential professional development that comes from reflecting on your personal coaching practice and philosophies.

### **What are the risks to me as a participant?**

There are no foreseeable risks to participants beyond those that can be expected in the normal conduct of everyday life. It is possible that some questions may be upsetting or make you uncomfortable. You maintain the right to refuse to answer any question during the course of the interview and the right to withdraw from the study at any time.

### **Will I be identified by name in this project?**

Every effort will be made to protect your identify and maintain confidentiality throughout the duration of the research. Only the principle investigator and the research supervisors will have access to identifying information. To mask your identity, you will choose a pseudonym (e.g., John, Sally, etc.) so that your name and other identifiers will not be associated with your interview. No identifying information will be included in your transcript or any other documents resulting from this study. This includes references to your sports team affiliations. Direct quotes from the transcribed interviews might be used in the final written presentation of the research, however, only pseudonyms will be used and identifying details will be removed in order to protect your confidentiality

All files will be stored in a folder on SharePoint and encrypted. Only the research team members will have access. Hard copies will be kept in a locked filing cabinet. Immediately following the completion of your interview audio recordings will be transferred to a password protected computer and deleted from the digital recording device.

### **Can I withdraw from the study?**

You can withdraw from the study at any time prior to the completion of data analysis by informing Alyssa Cox of your decision in person, by email, or by telephone. Data analysis is expected to finish by March, 2022. If this date changes you will be notified. You also have the right to refuse to answer any question during the interview process and still remain in the study.

**How will results be shared and to who?**

Once the data analysis is complete, a summary of the results will be provided directly to you by email, mail, or another method of your choosing. This summary will be approximately 1-3 pages in length and should be completed before May, 2022. A summary will also be provided to the Provincial Sport Organization and may be published on their website or newsletter. You may also choose to have a copy of the full thesis sent to you at this time. This thesis may be presented at academic conferences or in academic journals and a copy will be provided to the University of Manitoba's Faculty of Graduate Studies.

How would you like to be contacted with the transcript of your interview and the results of the study once they are completed?

Email: \_\_\_\_\_

Mail (address): \_\_\_\_\_

Other (please specify): \_\_\_\_\_

Please select a pseudonym which will be used in the transcript, data analysis, and final written project:

\_\_\_\_\_

I agree to have my interview recorded and then transcribed knowing that the data will be destroyed 1 year after the study is complete (05/23). Initial: \_\_\_\_\_

**Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors,**

**or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.**

**The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.**

**This research has been approved by the Research Ethics Board at the University of Manitoba, Fort Garry campus. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Officer at 204-474-7122 or HumanEthics@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.**

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Researcher's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix E: Questionnaire

### Demographic Information

1. What is the age of athletes you coach? \_\_\_\_\_
2. In which sex category to the athletes you coach compete?
  - A boy's/men's league
  - A girl's/women's league
  - A co-ed league
3. What sport do you coach? \_\_\_\_\_
4. How many athletes are on your team? \_\_\_\_\_

### Program Planning

1. How many months per year do athletes participate for your team (including any training or competition)? \_\_\_\_\_
2. Considering participation on your team only, how many months per year do athletes spend in the following phases of training:
  - Transition (no formal training or competition, "off-season")
  - Preparatory (team training/practice, no formal competition, may include exhibition)
  - Competition (team training/practice, competition, may include travel or tournaments)
3. Considering total participation on all teams including additional sports, how many months per year on average do your athletes spend in the following phases of training:
  - Transition (no formal training or competition, "off-season")
  - Preparatory (team training/practice, no formal competition, may include exhibition)
  - Competition (team training/practice, competition, may include travel or tournaments)
4. Do you offer any optional or informal training opportunities during the Transition phase?

Yes

No

5. If yes, what percentage of your athletes participate in these training opportunities? \_\_\_\_\_

6. A) When in the Preparatory phase how many training/practice sessions does your team average per week?

1-2 sessions per week

3-4 sessions per week

4-5 sessions per week

More than 5 sessions per week

B) Would you consider any of these training/practice sessions cross-training (involving movement or skill patterns that are not directly related to your sport)?

Yes

No

7. When in the Preparatory phase how many total hours of training/practice does your team average per week?

Fewer than 4 hours per week

4-6 hours per week

6-8 hours per week

8-10 hours per week

10-12 hours per week

More than 12 hours per week

8. When in the Competition phase how many training/practice sessions does your team average per week (excluding games)?

1-2 sessions per week

- 3-4 sessions per week
- 4-5 sessions per week
- More than 5 sessions per week

9. When in the Competition phase how many games does your team average per week?

- Fewer than 1 game per week
- 1-2 games per week
- 2-3 games per week
- More than 3 games per week

10. When in the Competition phase how many total hours of participation does your team average per week (including games)?

- Fewer than 4 hours per week
- 4-6 hours per week
- 6-8 hours per week
- 8-10 hours per week
- 10-12 hours per week
- More than 12 hours per week

11. Does your team participate in a league format of competition that involves a pre-determined schedule of competitions (i.e., weekly or bi-weekly games over a given period of time)?

- Yes
- No

12. Does your team participate in tournaments as part of your competition schedule?

- Yes
- No

13. Considering both the Preparatory and Competition phases, what is your estimated training to competition ratio?

- Greater than 70% training
- 70 % training, 30% competition
- 60% training, 40% competition
- 50% training, 50% competition
- 40% training, 60% competition
- 30% training, 70% competition
- Less than 30% training

14. Does your team travel outside of Manitoba for any of your competitions? If yes see questions 15 and 16.

- Yes
- No

15. How many times do you travel outside of Manitoba for competition per year?

- 1-2 times per year
- 3-4 times per year
- 5-6 times per year
- Greater than 6 times per year

16. On average, how what is the duration of these trips?

- 2-3 days (e.g., over a weekend)
- 4-5 days
- Longer than 5 days

### **Athlete Sport Participation**

1. How many of your athletes would you describe as sport specialists (i.e., intensive, year-round training in a single sport at the exclusion of other sports)? \_\_\_\_\_

2. How many of your athletes would you describe as sport samplers (i.e., participating in more than one sport throughout the course of a year)? \_\_\_\_\_
3. How many of your athletes would consider the sport you coach them in to be their main sport? \_\_\_\_\_
4. How many of your athletes play on more than one team in their main sport? \_\_\_\_\_
5. How would you describe the total sport participation of your athletes during the Preparatory phase of your season?
  - All my athletes participate exclusively on my team
  - Most of my athletes participate exclusively on my team
  - Half of my athletes participate exclusively on my team while half participate in at least one other sport/activity
  - Most of my athletes participate in at least one other sport/activity
  - All my athletes participate in at least one other sport/activity
  - Unsure
6. How would you describe the total sport participation of your athletes during the Competition phase of your season?
  - All my athletes participate exclusively on my team
  - Most of my athletes participate exclusively on my team
  - Half of my athletes participate exclusively on my team while half participate in at least one other sport/activity
  - Most of my athletes participate in at least one other sport/activity
  - All my athletes participate in at least one other sport/activity
  - Unsure



## Appendix F: Interview Guide

### Participant Background

1. Tell me about your background in sport and coaching.
  - a. Can you describe your personal experiences as an athlete?
  - b. How did you become involved in coaching?
  - c. What demographic of athlete that you have the most experience coaching?
2. How would you describe your motivation for coaching?
  - a. What goals do you have for yourself as a coach?
3. What kind of formal coach education/training have you received? Can you describe what that training was like?
  - a. What motivated you to pursue the training opportunity?
  - b. How do you think that training influenced your coaching practice?
4. What is your understanding of the Long-Term Development Model?
  - a. Do you think this is an effective model for coaches? Why/why not?
  - b. How do you implement the model in your current practice?

### Program Details

2. Tell me about the program you are currently coaching in.
  - a. How many different age/gender groups does the club offer?
  - b. What is the financial model of your program? Cost to athletes? What are athlete fees used for? How many of your coaches volunteer, how many are paid?
3. How do you see your program in the greater context of your athlete's sport experience?
  - a. How many of your athletes would consider this their main sport? Their main team?
  - b. How many athletes on your team play other sports?
  - c. Describe any considerations you make in program planning based on your athletes' participation in other sports, activities, or commitments.
4. How would you describe the range of commitment and motivation your current group of athletes has for your team?
  - a. What do you perceive as your athletes' reasons for participating on your team?
  - b. How is this represented at the extreme ends of the spectrum?
  - c. What are the benefits for an athlete participating on your team?
5. What expectations do you have for athletes who participate on your team?

- a. How do you perceive an athlete who decides to miss a training session?
- b. What do you feel is a justified reason for missing a training session?
- c. Are there any penalties or consequences for athletes who miss training?

### **Sport Participation**

1. Describe what you believe a typical year of sport participation looks like for the demographic of athlete you coach.
  - a. Number of sports, off-season/in-season timing, volume of training
  - b. How is this different for your most/least committed athlete?
2. Describe what you believe would be the ideal year of sport participation for this demographic of athlete.
  - a. How does your program planning, as outlined in your questionnaire results, reflect your beliefs about sport participation?
3. Do you believe athletes you coach should be playing other sports? Why or why not?
  - a. What do you do to encourage sampling with your athletes?
  - b. Based on your program planning, as outlined in your questionnaire results, do you believe your athletes have the flexibility to participate in other sports or activities?
4. How do you think your sport has changed over the years, specifically regarding sport participation and player training?
5. What do you feel are the implications of this change?
  - a. What are the benefits/risks of focusing primarily on one sport?
6. What do you believe is the ideal progression for athletes' training and participation in sport?
  - a. Are there any factors that might influence or change this progression?
7. What do you believe are the biggest influences on athletes' decisions to play other sports or focus exclusively on one sport?
8. How do you think the sport system in Manitoba is influencing player development and/or sport participation?
  - a. Player identification, elite team selection, season timing and coordination
  - b. What has been the result of this system for athletes?

### Appendix G: Summary of Themes, Subthemes, and Associated Codes

Theme 1: Athletes Should Sample	
Subthemes	Codes
Overall athleticism	<ul style="list-style-type: none"> <li>• Develop different areas of fitness</li> <li>• Learn different movement patterns</li> <li>• Build physical literacy</li> <li>• Keeps kids in shape</li> <li>• More well-rounded fitness profile</li> <li>• Top athletes are multi-sport</li> </ul>
Transferable skills	<ul style="list-style-type: none"> <li>• Develop movement skills</li> <li>• Develop manipulation skills</li> <li>• Develop knowledge of strategy and tactics</li> <li>• Develop personal management skills</li> <li>• Well-rounded skill profile</li> <li>• Skills in one sport will benefit another</li> </ul>
Injury prevention	<ul style="list-style-type: none"> <li>• Early specialization leads to overuse injury</li> <li>• Benefits of training the body in different ways</li> <li>• Overtraining in one sport leads to injury</li> <li>• Athletic development training prevents injury</li> <li>• Athletes will get burnt out playing only one sport</li> </ul>
Psychological benefits	<ul style="list-style-type: none"> <li>• Break from the pressure of a main sport</li> <li>• Sampling has social benefits</li> <li>• Greater levels of sport enjoyment</li> <li>• Prevents mental burnout and dropout</li> <li>• Playing one sport all year is boring</li> <li>• More accurate view of one's self and ability</li> <li>• Exposure to different coaching perspectives</li> <li>• Finding what you're good at and enjoy</li> </ul>
Contexts for sampling	<ul style="list-style-type: none"> <li>• Having a main sport</li> <li>• Playing other sports for fun</li> </ul>

	<ul style="list-style-type: none"> <li>• Sampling through school sport</li> <li>• Sports/activities to benefit a main sport</li> <li>• Different sports at different times of year</li> <li>• Sampling built into a team's programming</li> <li>• Community teams as an introduction to the sport</li> <li>• Club sport requires more commitment and investment</li> </ul>
Theme 2: Athletes are Doing Too Much	
Subthemes	Codes
Limited rest and recovery	<ul style="list-style-type: none"> <li>• Kids need free, unstructured time</li> <li>• Parents and coaches enforcing rest</li> <li>• Athletes play sport year-round</li> <li>• There is no off-season</li> <li>• Athletes need a longer preparatory period</li> <li>• Basketball needs a longer off-season</li> <li>• Playing on multiple teams leads to overtraining</li> <li>• Athletes need more in-season recovery</li> </ul>
Availability of training	<ul style="list-style-type: none"> <li>• More club basketball teams than in the past</li> <li>• More athletic development training opportunities</li> <li>• More individual skill training opportunities</li> <li>• More exposure to the game through media</li> <li>• More outreach to rural areas</li> <li>• Athletic development built into team programming</li> <li>• Programs "selling the dream" (i.e., charging for training with a promise of success)</li> </ul>
Making it work	<ul style="list-style-type: none"> <li>• Ideal volume is athlete-dependent</li> <li>• Athletes learn time-management (i.e., school-sport balance)</li> <li>• Athletes want to stay busy</li> <li>• Athletes/families figure out what they can handle</li> <li>• Prioritizing different teams/sports at different times of year</li> <li>• Parental support helps athletes manage</li> <li>• Club basketball pauses for school season</li> </ul>

	<ul style="list-style-type: none"> <li>• Volume of training in one sport makes sampling difficult</li> </ul>
Influences on specialization	<ul style="list-style-type: none"> <li>• Encouragement from coaches and parents</li> <li>• Clubs that operate for profit</li> <li>• Athletes experiencing success</li> <li>• Goal to play at the next level</li> <li>• Athlete interest</li> <li>• Social connections</li> <li>• When sampling increases injury risk (e.g., contact sports)</li> <li>• Penalties for missing practices/games</li> <li>• Specialization should wait until late adolescence</li> </ul>
Theme 3: The System is Broken	
Subthemes	Codes
Other people are the problem	<ul style="list-style-type: none"> <li>• High performance programs encourage specialization</li> <li>• Other sports encourage specialization</li> <li>• Club teams encourage specialization</li> <li>• High school teams don't want club to overlap</li> <li>• Coaches and parents "selling the dream"</li> <li>• We accommodate but others don't</li> <li>• Need clear definition between sport seasons</li> <li>• Teams and coaches compete for the same athletes</li> <li>• Other sports have stronger grassroots programming</li> </ul>
Need for better programming	<ul style="list-style-type: none"> <li>• Quality coaches leads to good programming</li> <li>• The quality of coaching is higher than in the past</li> <li>• Basketball needs stronger grassroots programming</li> <li>• Top teams have nowhere to compete</li> <li>• Timing of sport seasons hinders basketball</li> <li>• Sport organizations need to coordinate better</li> <li>• Double season (fall/spring) in club basketball is challenging</li> <li>• Basketball is becoming more specialized</li> <li>• Recruiting is a problem in club basketball</li> </ul>

<p>Serving the top without killing the middle</p>	<ul style="list-style-type: none"> <li>• More time/resources are spent on the elite</li> <li>• Large gap between the top and the rest</li> <li>• Recruiting creates “super teams”</li> <li>• “Super teams” are common in school and club</li> <li>• Lack of local competition for our top athletes</li> <li>• Top athletes should be spread out to even the playing field</li> <li>• Top athletes should be kept together to push each other</li> <li>• If you keep the top together, they have no one to compete against</li> <li>• Elite programming dominates, creating a poor experience for others</li> <li>• Single sport specialization leads to elitism</li> </ul>
<p>Theme 4: Coaches Prefer Practical Training</p>	
<p>Subthemes</p>	<p>Codes</p>
<p>Professional development sources</p>	<ul style="list-style-type: none"> <li>• NCCP courses</li> <li>• Formal clinics</li> <li>• Learning from other coaches during clinics/courses</li> <li>• Learning from other coaches through experience</li> <li>• Independent research</li> <li>• Physical education courses and PD</li> <li>• Learning through your own coaching experience</li> <li>• Basketball PD is facilitated and promoted by Basketball MB</li> </ul>
<p>Why seek professional development?</p>	<ul style="list-style-type: none"> <li>• Courses taken as a requirement to coach a certain team</li> <li>• Not taking courses because they haven’t been required</li> <li>• Courses taken in preparation to coach at a higher level</li> <li>• Coaches want to stay current as the game changes</li> <li>• Matching athlete commitment to improve</li> <li>• Enjoy connecting with other coaches</li> <li>• Intrinsic desire to learn</li> <li>• Builds confidence, affirms practice</li> </ul>
<p>Key take-aways</p>	<ul style="list-style-type: none"> <li>• Practical tools and drills</li> <li>• Different teaching styles and techniques</li> </ul>

	<ul style="list-style-type: none"> <li>• How to plan and structure a practice</li> <li>• How to plan and structure a season</li> <li>• Affirming current coaching practice</li> <li>• Stealing stuff from other coaches</li> <li>• Learning the theory is less engaging</li> </ul>
LTD model awareness and understanding	<ul style="list-style-type: none"> <li>• Basic understanding of LTD model</li> <li>• Unaware of the LTD model</li> <li>• Limited awareness of LTD model</li> <li>• Develop younger athletes broadly</li> <li>• Emphasize enjoyment over winning</li> <li>• Emphasize skill development over tactics and structure</li> <li>• Focus on physical literacy development</li> <li>• Goal to get/keep kids involved in sport</li> <li>• Following the LTD model will prevent overtraining and injury</li> <li>• LTD model outlines timing of when to specialize</li> </ul>
Theme 5: Coaching Practice Reflects Sport Participation Beliefs	
Subthemes	Codes
Accommodating samplers	<ul style="list-style-type: none"> <li>• Encouraging athletes to sample</li> <li>• Allowing athletes to miss for other sports</li> <li>• Allowing athletes to miss for personal reasons</li> <li>• Missing is ok if there is a good reason why</li> <li>• Communication is key</li> <li>• Keeping practice players to provide flexibility</li> <li>• Building program schedule around athlete interest and motivation</li> <li>• Adapting training to manage physical mental loads</li> <li>• Adjusting practice plans (e.g., skill work instead of tactics)</li> <li>• Our training will benefit athlete performance with other teams/sports</li> <li>• Frustration with lack of flexibility from other programs</li> </ul>
Understanding program expectations	<ul style="list-style-type: none"> <li>• Communicate with coaches</li> <li>• Work hard</li> <li>• Demonstrate a desire to improve</li> </ul>

- Bring a positive attitude
- Responsibility to school and family
- Coach expectations are informal
- Player and coach expectations need to align
- Responsibility to teammates (i.e., missing practice hurts the team)
- Coaches want athletes to value the training
- Putting in extra work reflects commitment
- Playing club reflects a higher degree of commitment to the sport
- Implicit understanding of expectations at different levels (i.e., community versus club)

Coaches  
motivated by  
passion

- Love for the game
- Love for competition
- Giving back to the basketball community
- Building relationships with athletes
- Stepping up to coach family members
- Want to provide good programming
- Unhappy with current or former coach
- Former players paying it forward
- Intrinsic enjoyment of coaching
- Basketball coaches are not in it for the money